

# Sawyer Street 2015 Groundwater Monitoring Technical Memorandum

## Environmental Monitoring, Sampling, and Analysis New Bedford Harbor Superfund Site New Bedford, Massachusetts

Contract No. W912WJ-12-D-0004

DRAFT FINAL

Prepared for  
U.S. Army Corps of Engineers  
New England District  
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May 2016



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DATE: May 16, 2016  
TO: Peter Hugh/U.S. Army Corps of Engineers New England District  
FROM: Deirdre Dahlen/Battelle  
SUBJECT: Draft Final Technical Memorandum, Sawyer Street 2015  
Groundwater Monitoring Results

## Introduction

This Technical Memorandum summarizes the groundwater monitoring activities conducted at the Sawyer Street Confined Disposal Facility (CDF) in New Bedford, Massachusetts during the 2015 monitoring period. The 2015 study is a continuation of a multi-year program to monitor six groundwater monitoring wells located around the perimeter of the CDF. Results from the monitoring study are used to evaluate the integrity of the CDF and assess potential trends in concentrations of polychlorinated biphenyls (PCBs) as Aroclors, selected metals (cadmium, chromium, copper, and lead), and volatile organic compounds (VOCs). Total suspended solids (TSS) concentrations are also measured.

## Field Activity Summary

Groundwater samples were collected from the following six wells located around the perimeter of the CDF in the fall of 2015: MW-1, MW-3, MW-4A, MW-5, MW-6, and MW-7A (Figure 1). All field activities were conducted according to the Field Sampling Plan (FSP) developed for this investigation (AECOM, 2015). All field activities were performed by AECOM.

Groundwater sampling was performed on December 2-3, 2015 according to the United States Environmental Protection Agency (EPA) Region 1 Low Stress (flow) Purging and Sampling Groundwater Procedure for the Collection of Groundwater Samples from Monitoring Wells, Rev. 3 (EPA, 2010). A bladder pump (equipped with dedicated Teflon® bladders) was used for sampling all wells except MW-3. A peristaltic pump was used to sample groundwater at well MW-3 (this well was also sampled in 2014 using a peristaltic pump because a bladder pump could not be lowered into the well due to an obstruction in the well casing). Dedicated sample tubing was used at each well to minimize the risk of cross contamination between wells. Upon arrival for sample collection, the water level in each well was measured with a cleaned water level tape and the well volume was calculated. The water level tape was cleaned between wells following decontamination procedures described in the FSP (AECOM, 2015). The well was purged and in situ water quality parameters (i.e., temperature, specific conductivity, dissolved oxygen [DO], pH, oxidation reduction potential [ORP], and turbidity) were monitored until they achieved a steady state. All measurements were recorded on field log sheets. After purging, groundwater samples were collected for PCBs (as Aroclors), metals, VOC, and TSS analysis.

Field-based quality assurance/quality control (QA/QC) samples included one field replicate sample (from MW-5), one equipment blank, and one trip blank (the trip blank was analyzed for VOCs only). Additional groundwater was collected from one well (MW-4A) for the preparation of laboratory-based QC samples (i.e., matrix spike and matrix spike duplicate). An inter-laboratory QA/QC sample was collected from one well (MW-6). Field measurements and sample collection details were recorded on field logs sheets, which are provided in Appendix A.



Figure 1. Sawyer Street CDF Monitoring Well Locations

## In Situ Water Quality Summary

Water quality parameters were measured during the initial pumping of groundwater from the wells before groundwater sample collection. In situ measurements were made using a Yellow Springs Instruments (YSI®) multi-meter sonde and a flow-through cell. The YSI® sonde was calibrated and used according to the manufacturer's specifications. Once the diagnostic parameters had stabilized, sample collection was initiated. In situ measurements are summarized in Table 1.

**Table 1. Summary of In Situ Groundwater Data Collected Immediately Prior to Sampling**

Parameter	Units	Well ID					
		MW-1	MW-3	MW-4A	MW-5	MW-6	MW-7A
<b>December 2015 Event</b>							
Sample Date/ Time	—	12/2/2015 11:32	12/3/2015 10:40	12/2/2015 10:40	12/2/2015 13:30	12/2/2015 14:10	12/3/2015 10:25
Depth to Water	ft	19.37	12.52	8.44	7.26	12.57	10.58
pH	—	7.06	6.32	7.21	7.77	7.34	6.75
Specific Conductivity	µS/cm	845	15009	4998	2903	1393	742
Temperature	°C	14.8	12.0	14.1	14.1	14.0	14.0
DO	mg/L	2.39	0.64	0.11	0.19	0.29	1.21
Turbidity	NTU	1.99	1.03	3.71	5.01	88.4	0.79
ORP	mV	-44.0	123.9	-284.1	-297.1	-175.2	-11.3
Purge Volume	gal	4.5	2.5	3.5	4.0	3.5	2.5
Flow Rate	mL/min	100	100	250	200	150	200
Color/Odor	—	Clear, no odor	Clear, no odor	clear	Clear/ sewage odor	Orange, no odor	Clear, no odor

**Key:**

ft: feet; µS/cm: microsiemens per centimeter; mg/L: milligrams per liter; NTU: nephelometric turbidity unit; mV: millivolts; gal: gallons; mL/min: milliliter per minute

## Chemistry Water Quality Summary

Chemical analyses were performed according to the project Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP) Addendum (Battelle, 2015). Groundwater samples were analyzed for PCBs (as Aroclors), metals, VOCs, and TSS. PCB Aroclor and VOC analyses were performed by Katahdin Analytical in Scarborough, Maine. Metals and TSS analyses were performed by Alpha Analytical in Mansfield, Massachusetts.

Sample results are summarized in Table 2, and are compared to the Massachusetts Contingency Plan (MCP) Method 1 Category GW-3 criteria for groundwater that has a potential to discharge to a surface water body (Massachusetts Department of Environmental Protection [MADEP], 2014). Complete laboratory data packages with test results are provided in Appendix B.

Consistent with results from previous monitoring years, total PCB and metals concentrations in all groundwater samples collected in December 2015 were below the applicable MCP GW-3 criteria with the exception of cadmium in MW-3 (Table 2). Individual PCB Aroclors were undetected in all groundwater samples (Appendix B). Cadmium was undetected in groundwater samples from all wells except MW-1 and MW-3. The cadmium concentration was below the applicable MCP GW-3 criteria at well MW-1, but was above it at well MW-3 (Table 2). Results from the equipment and laboratory blanks suggest that potential field and/or laboratory contamination did not contribute to the elevated cadmium concentration in the sample from well MW-3. USACE personnel visually inspected well MW-3 in February 2016 and found no obvious signs that the well had been compromised,

however, as noted above an obstruction in the well casing required the use of a peristaltic pump rather than a bladder pump at this well. This well will be resampled in spring 2016 with the annual groundwater monitoring and the data will be reviewed. Copper was detected in the samples from all wells, and chromium was detected in samples from four of the six wells. Lead was not detected in any sample.

With the exception of tetrachloroethene, target VOCs were not detected in the groundwater samples collected in December 2015 (Appendix B). Tetrachloroethene concentrations ranged from non-detect to 4.9 µg/L (Table 2); all detected concentrations were three to four orders of magnitude lower than the MCP GW-3 criteria (Table 2).

**Table 2. PCB, Metal, VOC and TSS Groundwater Results with Final Qualifiers, December 2015 Sampling Event**

Parameter	Units	Well ID						MCP GW-3 Criteria (c)	Equipment Blank	Trip Blank
		MW-1	MW-3	MW-4A	MW-5	MW-6	MW-7A			
Total PCB (a)	µg/L	— U (b)	— U (b)	— U (b)	— U (b)	— U (b)	— U (b)	10	— U (b)	NA
Cadmium	µg/L	0.66	29.4 D	0.5 U	0.5 U	0.5 U	0.5 U	4	0.5 U	NA
Chromium	µg/L	1.43 J	5 DU	2.08 J	2.56 J	1.65 J	1 U	300	1 U	NA
Copper	µg/L	4.13	73.6 D	14	11.6	9.37	4.84	NA	2.01	NA
Lead	µg/L	1 U	5 DU	1 U	1 U	1 U	1 U	10	1 U	NA
Tetrachloroethene	µg/L	4.9 J	1.3 J	4.9 J	4.9 J	4.9J	0.5 UJ	30,000	0.5 UJ	0.5 UJ
TSS	mg/L	2.8	11	1 U	1.3	21	1 U	NA	1 U	NA

**Notes:**

(a) Total PCB calculated as the sum of Aroclors 1016, 1221, 1232, 1242, 1248, 1254 and 1260; a value of zero (0) used in summation for non-detects.

(b) PCB Aroclors undetected in the study samples at concentrations above the laboratory reporting limit (see Appendix B).

(c) MCP: Massachusetts Contingency Plan, Method 1 MCP GW-3 standard from 310 CMR 40.0974(2).

**Key:**

µg/L: micrograms per liter; mg/L: milligrams per liter; U: Chemical not detected at concentration above the laboratory reporting limit; D: results reported from a diluted sample; J: Estimated value; NA: Not applicable

## Quality Control

Field and laboratory QC results for the 2015 Groundwater Study are summarized below. The types of QC samples used to assess data quality are summarized in Table 3. Data quality was assessed in terms of accuracy/bias and precision using third-party validation conducted by Environmental Data Validation Inc. The project QAPP defined the validation levels as Tier 1 Stage 2A (PCB Aroclors, metals and VOC) or Tier 1 Stage 1 (TSS). Validation followed the EPA New England, Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance Procedures (EQADR-Supplement 0, April 2013). Results of the third-party validation are summarized in Table 4, and complete data validation reports are provided in Appendix C.

### Field Quality Control Results

Three types of field QC samples were collected for the 2015 Groundwater Study: equipment blank, trip blank (VOC only) and field duplicate (Table 3). The equipment and trip blank results met the QAPP criteria (<reporting limit [RL]) for all parameters except copper (Table 4). Copper in the equipment blank was detected above the RL but below the concentrations detected in field samples; therefore, validation qualifiers were not assigned. One field replicate was collected at well MW-5 for the study. The relative percent difference (RPD) was achieved for all parameters except TSS (Table 5). Validation data qualifiers were not assigned to the TSS data because the validation level (Tier 1 Stage 1) does not include assessment of QC samples. The high RPD for TSS may be due

to the relatively low sample concentrations at MW-5 (detected values <2x the RL). The field QC sample results indicate that the overall field and laboratory process was in control.

### Laboratory Quality Control Results

A full suite of laboratory QC samples was processed and analyzed in the laboratory with the 2015 Groundwater Study samples (Table 3). Samples were analyzed in one analytical batch, by test parameter. For PCB Aroclors and VOCs, all laboratory QC samples analyzed met the QAPP acceptance criteria except that the sample temperature upon receipt at the laboratory was 9.8°C, which is outside the requirement of 4°C ±2° (ice was present in the cooler upon receipt; samples could still have been in the cool down process resulting in the elevated temperature on receipt) (Table 4). Therefore, validation qualifiers indicating that results are estimated were assigned to all VOC results. For metals, all laboratory QC samples met the QAPP acceptance criteria with the exception of slightly high chromium recovery in the matrix spike/matrix spike duplicate samples (Table 4). Validation qualifiers were added to indicate that chromium results greater than the RL are estimated values. For TSS, all laboratory QC samples met the QAPP acceptance criteria (Table 4), except that the laboratory duplicate QC sample required by the QAPP was not analyzed because there was insufficient sample volume available for analysis. The laboratory QC sample results indicate that the overall laboratory process was in control. However, due to the sample receipt temperature exceedance the VOC data could be biased low and should be used with caution.

The results of the inter-laboratory comparison samples are provided in Appendix D. The samples are evaluated independently by the USACE Project Chemist.

**Table 3. Summary Quality Control Samples, December 2015 Sampling Event**

Quality Control Sample Type	Test Parameter			
	PCB Aroclors	Metals	VOC	TSS
<b>Field Quality Control Samples</b>				
Equipment Blank	✓	✓	✓	✓ <sup>a</sup>
Trip Blank			✓	
Field Replicate	✓	✓	✓	✓
<b>Laboratory Quality Control Samples</b>				
Method Blank	✓	✓	✓	✓
Laboratory Duplicate		✓ <sup>a</sup>		
Laboratory Control Sample	✓	✓	✓	
Laboratory Control Sample Duplicate	✓	✓	✓	
Matrix Spike	✓	✓	✓	
Matrix Spike Duplicate	✓	✓	✓	

**Notes:**

<sup>a</sup> Not required by the QAPP but processed and analyzed by the laboratory. Not included in data validation.

**Table 4. PCB Aroclors, Metals, VOC and TSS Validation Summary, December 2015 Sampling Event**

Quality Control Element	QAPP Requirements by Test Parameter				Sample Results
	PCB Aroclors	Metals	VOC	TSS	
Sample Receipt Conditions; Holding Time	Ice, 4°C ± 2°C; 30 days to extraction; 40 days to analysis	Ice, 4°C ± 2°C pH<2; 6 months to analysis	Ice, 4°C ± 2°C pH ≤ 2 at receipt; 14 days to analysis	Ice, 4°C ± 2°C; 7 days to analysis	Achieved for metals and TSS samples  PCB - Elevated sample cooler temperature. Sample integrity not compromised as they are PCBs. No qualifier  VOC - Elevated temperature on sample coolers. All detects qualified "J" and non-detects "UJ."
Field Equipment Blank	<RL (0.5 µg/L)	<RL	<RL	NA	Achieved for all PCB and VOC samples Cu results > RL but less than detected values. No samples qualified
Field Trip Blank	NA	NA	<RL	NA	Achieved for VOC samples
Field Replicates	RPD ≤ 30%	RPD ≤30%	RPD ≤30%	RPD ≤30%	Achieved for all parameters except TSS The field duplicate pair is MW-5-120215 and MW-5-120215-REP (see Table 5)
Laboratory Method/Reagent Blank	<RL (0.5 µg/L)	<RL	Acetone, 2-Butanone, & Methylene Chloride ≤ 2x RL; all other analytes < RL	<RL	Achieved for all samples
Laboratory Duplicate	NA	NA	NA	RPD ≤ 5% for results >5x RL	A laboratory duplicate was not prepared for TSS because there was insufficient sample volume available for analysis
Laboratory Control Sample/ Laboratory Control Sample Duplicate	Aroclor 1016 and Aroclor 1260 %R within lab limits; RPD ≤30%	80-120 %R (LCS only)	%R is within lab limits; RPD ≤ 20%	NA	Achieved for all PCB, metals and VOC samples
Matrix Spike/Matrix Spike Duplicate	Aroclor 1016 and Aroclor 1260 %R within lab limits; RPD ≤ 30%	75-125 %R; RPD ≤ 20% for metals >5x background	%R is within lab limits; RPD ≤ 20%	NA	Achieved for all PCB and VOC samples  Chromium >125% recovery in both the MS and MSD
Surrogate Recovery	%R within lab limits	NA	%R is within lab limits	NA	Achieved for all PCB and VOC samples



**Table 4. PCB Aroclors, Metals, VOC and TSS Validation Summary, December 2015 Sampling Event**

Quality Control Element	QAPP Requirements by Test Parameter				Sample Results
	PCB Aroclors	Metals	VOC	TSS	
Internal Standards	NA	70-120 %R	-50% to +100% of area counts at ICAL	NA	Achieved for all metals and VOC samples
Serial Dilution Sample	NA	±10% agreement between 1:5 dilution and undiluted sample for results >50xMDL	NA	NA	Achieved for all metals samples
USACE QA Split	Refer to Jacobs (2009) QAPP	Refer to Jacobs (2009) QAPP	Refer to Jacobs (2009) QAPP	Refer to Jacobs (2009) QAPP	See Appendix D

**Key:**

ICAL: Initial Calibration; MDL: Method detection limit; NA: Not applicable (either not required by the QAPP or not required for QAPP validation level); %R: Percent recovery; RL: Reporting limit; RPD: Relative percent difference; QAPP: Quality Assurance Project Plan; TSS: Total suspended solids; µg/L: micrograms per liter

**Table 5. Field Replicate Results, December 2015 Sampling Event**

Well ID	Parameter	Units	Result		RPD
			Sample	Replicate	
Well MW-5	Total PCB (a)	µg/L	U (b)	U (b)	NA
	Cadmium		0.5 U	0.5 U	NA
	Chromium		2.56 J	2.36 J	8%
	Copper		11.6	8.65	29%
	Lead		1 U	1 U	NA
	Tetrachloroethene		4.9 J	0.5 U	NA
	TSS	mg/L	1.3	2	42%

**Notes:**

(a) Total PCB calculated as the sum of Aroclors 1016, 1221, 1232, 1242, 1248, 1254 and 1260; a value of zero (0) used in summation for non-detects.

(b) PCB Aroclors undetected in the study samples at concentrations above the laboratory reporting limit (see Appendix B).

**Key:**

µg/L: micrograms per liter; mg/L: milligrams per liter; U: Chemical not detected at concentration above the laboratory reporting limit; J: Estimated value; NA: Not applicable; RPD: relative percent difference

## Summary

Monitoring was performed in December 2015 at the Sawyer Street CDF as part of an ongoing groundwater monitoring program. Groundwater levels, water quality parameters, organic contaminants, and metals were monitored in all six wells at the facility. Analysis of groundwater samples collected in December 2015 indicates that PCB Aroclors, metals, and VOCs, where detected, were measured at concentrations below the applicable MCP GW-3 criteria with the exception of cadmium in the sample from well MW-3. Visual inspection of well MW-3 showed no signs that the well had been compromised, and monitoring data from the next sampling event will be used to verify the December 2015 measurement. Overall, the groundwater data collected during the 2015 monitoring suggest that the integrity of the CDF is currently maintained.

## References

AECOM. 2015. Draft Final 2015 Field Sampling Plan, Sawyer Street CDF Groundwater Monitoring, New Bedford Harbor Superfund Site, New Bedford, Massachusetts. Prepared under Contract No. W912WJ-12-D-0004 Task Order No. 10 for the U.S. Army Corps of Engineers New England District, Concord, Massachusetts. November.

Battelle. 2015. Draft Final Quality Assurance Project Plan Addendum Revision 8.0, Environmental Monitoring, Sampling, and Analysis, New Bedford Harbor Superfund Site, New Bedford, Massachusetts. Prepared under Contract No. W912WJ-12-D-0004 Task Order No. 10 for the U.S. Army Corps of Engineers New England District, Concord, Massachusetts. October.

Jacobs. 2009. Final Quality Assurance Project Plan, New Bedford Harbor Superfund Site, New Bedford, Massachusetts, revision 2. Prepared under Contract No. ACE-J23-35BG0702-M3-0009 for the U.S. Army Corps of Engineers New England District, Concord, Massachusetts. March.

Massachusetts Department of Environmental Protection (MADEP). 2014. MCP Method 1 Groundwater Standards. 310 CMR 40.0974(2). <http://www.mass.gov/eea/agencies/massdep/cleanup/regulations/mcp-method-1-groundwater-standards.html>

United States Environmental Protection Agency (EPA). 2010. EPA Region 1 Low Stress (flow) Purging and Sampling Groundwater Procedure for the Collection of Groundwater Samples from Monitoring Wells, Rev. 3, January 19.

## Appendices

- Appendix A, Field Summary and Log Sheets
- Appendix B, Laboratory Data Packages (provided on CD)
- Appendix C, Data Validation Report
- Appendix D, Inter-laboratory Comparison Results

# **Appendix A**

## **Field Summary and Log Sheets**

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## Memorandum

To: Deirdre Dahlen, Jessica Tenzar

Page 1 of 2

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Subject: New Bedford Harbor Groundwater Monitoring – December 2015 Summary

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From: Maura Surprenant

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Date: 12/30/15; revised 2/11/16

Project Number: 60336540

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This Technical Report presents a summary of the groundwater monitoring activities conducted at the Sawyer Street Confined Disposal Facility (CDF) in New Bedford, Massachusetts during the Fall 2015 monitoring period. The six groundwater wells that are located around the perimeter of the CDF were sampled in December 2015, continuing the monitoring program that has been ongoing since 2001.

The objective of the monitoring program is to provide data that can be used to evaluate the integrity of the Sawyer Street CDF, as well as assess trends in groundwater concentrations of polychlorinated biphenyls (PCBs) as Aroclors, selected metals (cadmium, chromium, copper, and lead), volatile organic compounds (VOCs), and total suspended solids (TSS). Results from the sampling will be used to support compliance of ongoing remediation activities at the Site.

The Fall groundwater sampling took place on 2 and 3 December, 2015 at the six monitoring well locations around the perimeter of the CDF, including MW-1, MW-3, MW-4A, MW-5, MW-6, and MW-7A (Figure 1). Monitoring wells were not re-developed prior to the initiation of the Fall 2015 sampling event. Groundwater was removed from the each monitoring well except MW-3 using a bladder pump system and dedicated Teflon bladders/ tubing. Groundwater samples were removed via peristaltic pump from MW-3. Groundwater was slowly purged from each of the wells prior to sampling until it was representative of groundwater within the aquifer. This determination was made by taking successive measurements of water quality parameters (dissolved oxygen [DO], temperature, conductivity, ORP, pH, and turbidity) to ensure that the groundwater had reached a steady state condition prior to sampling. Groundwater levels were measured throughout the purging and sampling of the wells to ensure that drawdown was minimized during the pumping and water was withdrawn from approximately the middle of the well screen or the middle of the water column (if the screened interval was not identifiable). Sampling logs are included as Attachment A.

Upon arrival for sample collection, the water level in each well was measured with a decontaminated water level tape and the well volume was calculated. The bladder pump was then connected to the dedicated tubing, placed in the well, and activated for pumping at a low rate. The pumping rate was adjusted intermittently when required to ensure that the drawdown in the well was minimized. In-situ measurements were made using a calibrated YSI® multi-meter with a flow-thru cell, used in accordance with the manufacturer's specifications. The flow-thru cell was disconnected from the discharge line during sample collection. Certified clean sample containers were provided by the analytical laboratories. Sample bottles were pre-preserved by the analytical

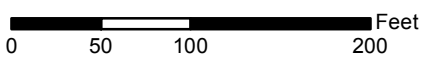
lab using a preservative type and volume suitable to the analysis performed. Cross-contamination was avoided by using dedicated Teflon bladders and tubing in each of the wells. In this way, the water samples never came in contact with a bladder or piece of tubing that had contact with water from any other well. Decontamination procedures were followed for the bladder pumps and water level tape which were used on more than one well to remove any potential contaminants.

Representative water samples were collected from each of the wells, and sample integrity was maintained until the samples were received by the analytical laboratories. A Field Replicate was collected from MW-5. A MS/MSD sample was collected from MW-4A. An inter-laboratory QA sample was collected from MW-6. VOC and PCB Aroclor samples were sent via courier to Katahdin Analytical in Scarborough, ME. Metals and TSS samples were sent via courier to Alpha Analytical in Mansfield, MA. The inter-laboratory QA sample was sent via FedEx to Test America in Burlington, VT. All sampling was conducted in accordance with the FSP (AECOM, 2015) and Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP) Addendum (Battelle, 2015). No deviations from the FSP were noted.

## References

- AECOM, 2015. Draft Final 2015 Field Sampling Plan, Sawyer Street CDF Groundwater Monitoring, New Bedford Harbor Superfund Site, New Bedford, MA. Prepared under Contract No. W912WJ-12-D-0004 Task Order No.10 for the U.S. Army Corps of Engineers New England District, Concord, MA.
- Battelle, 2015. Draft Final Quality Assurance Project Plan Addendum Revision 8.0, Environmental Monitoring, Sampling, and Analysis, New Bedford Harbor Superfund Site, New Bedford, MA. Prepared under Contract W912WJ-12-D-0004 Task Order 0010 for the U.S. Army Corps of Engineers New England District, Concord, MA.

**Figure 1**



### Well Locations

New Bedford Harbor  
Sawyer Street CDF  
Groundwater Well Locations

SCALE	DATE	PROJECT NO.
1:1300	12/15	60317716

**AECOM**

Figure Number

1



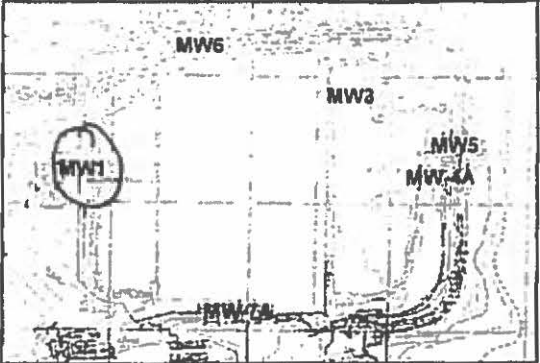
**Attachment A**

**Monitoring Well Sampling Logs**

**Groundwater Sample Collection Record**

Client: U.S. Army Corps of Engineers Date: 12/02/15 Time: Start 1027 am/pm  
 Project No: 60336540 Finish 1200 am/pm  
 Site Location: New Bedford, MA - Sawyer Street  
 Weather Conds: light rain ~400f Collector(s): Rachel MacPhee

**1. GROUNDWATER WELL LOCATION SKETCH/DESCRIPTION**

Depth to Well Bottom	=	<u>23.99</u>	feet	
Initial depth to Water	=	<u>19.37</u>	feet	
Calculated Water Column Height	=	<u>8.62</u>	feet	
Calculated Water Column Volume	=	<u>1.40</u>	gallons	
1 foot of water in a 2" well	=	<u>0.1632</u>	gallons	

**2. SAMPLE COLLECTION**

a. Method: Low Flow - bladder pump

b. Field Testing Equipment used

Make	Model	Serial Number
<u>YSI</u>	<u>Pro plus</u>	<u>10P100342</u>
<u>Hatch turb</u>	<u>2100 G</u>	<u>141206033599</u>

Time (24hr)	Temp (°C)	Spec. Cond. (µS/cm)	DO (mg/l)	pH	ORP (mv)	Turbidity (NTU)	Volume Removed (gallons)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1055	15.1	734	5.02	6.94	-0.6	11.43	0.2	200	17.40	clear/none
1100	15.3	717	5.26	6.96	10.1	9.97	0.8	150	19.05	clear/none
1105	14.7	730	6.37	7.03	-15.8	7.46	1	100	19.00	clear/none
1110	14.7	830	7.48	7.09	-33.5	5.18	1.5	100	18.51	clear/none
1115	14.7	844	7.64	7.10	-38.6	4.36	2	100	18.25	clear/none
1120	14.7	847	7.64	7.09	-40.7	3.33	2.5	100	18.05	clear/none
1125	14.8	848	7.44	7.08	-47.6	2.40	3.6	100	17.85	clear/none
1132	14.8	845	7.39	7.06	-44.0	1.99	4.5	100	17.82	clear/none

**3. SAMPLE COLLECTION: Method: Low Flow - Bladder pump**

Sample ID	No. of Containers	Container type	Preservation	Analysis Req.	Time
<u>MW-01-120215</u>	<u>7</u>	<u>PBS, metals, VOCs, TSS</u>	<u>PBS, metals, VOCs, TSS</u>	<u>1145</u>	<u>1145</u>

Notes:

Signature [Signature] Date 12/02/15

**Groundwater Sample Collection Record**

Client: U.S. Army Corps of Engineers Date: 12/03/15 Time: Start 0950 am/pm  
 Project No: 60336540 Finish 10:42 am/pm  
 Site Location: New Bedford, MA - Sawyer Street  
 Weather Conds: Sunny - 50°F Collector(s): Rachel MacPhee

**1. GROUNDWATER WELL LOCATION SKETCH/DESCRIPTION**

Depth to Well Bottom	=	23.91	feet
Initial depth to Water	=	12.52	feet
Calculated Water Column Height	=	11.39	feet
Calculated Water Column Volume	=	1.86	gallons
1 foot of water in a 2" well	=	0.1632	gallons

**2. SAMPLE COLLECTION**

a. Method: \_\_\_\_\_  
 b. Field Testing Equipment used: Low flow - Peristaltic Pump

Make	Model	Serial Number
<u>YSI</u>	<u>FRO Plus</u>	<u>10E100342</u>
<u>Hatch Turb</u>	<u>2100 G</u>	<u>1412.0C037599</u>

Time (24hr)	Temp (°C)	Spec. Cond. (µS/cm)	DO (mg/l)	pH	ORP (mV)	Turbidity (NTU)	Volume		Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
							Removed (ml)	Flow Rate (ml/min)			
10:05	12.6	15068	0.63	6.35	148.5	3.72	0	200	13.71	clear/none	
10:10	12.6	15033	0.62	6.32	138.8	5.53	0.4	200	15.95	clear/none	
10:15	12.2	15021	0.62	6.31	130.5	4.27	0.9	150	17.60	clear/none	
10:20	12.5	15040	0.59	6.31	129.1	2.81	1.0	100	15.01	clear/none	
10:25	12.2	15045	0.66	6.32	126.7	1.46	1.2	100	18.45	clear/none	
10:30	12.2	15008	0.69	6.31	125.2	1.91	1.6	100	18.98	clear/none	
10:35	12.2	15003	0.70	6.32	124.1	1.04	1.9	100	19.45	clear/none	
10:40	12.0	15009	0.68	6.32	123.9	1.03	2.5	100	20.03	clear/none	

**3. SAMPLE COLLECTION: Method: Low flow - Peristaltic Pump**

Sample ID	No. of Containers	Container type	Preservation	Analysis Req.	Time
<u>MW-03-120315</u>	<u>7</u>		<u>PCBs, Metals, VOCs, TSS</u>		<u>1042</u>

Notes: No well cover or T-Plug. Open PVC pipe. Loose riser.

Signature: [Signature] Date: 12/03/15

**Groundwater Sample Collection Record**

Client: U.S. Army Corps of Engineers Date: 12/2/15 Time: Start 0945 am/pm  
 Project No: 60336540 Finish 1130 am/pm  
 Site Location: New Bedford, MA - Sawyer Street  
 Weather Conds: overcast light rain 45°F Collector(s): H. Jones

**1. GROUNDWATER WELL LOCATION SKETCH/DESCRIPTION**

Depth to Well Bottom	=	23.64	feet
Initial depth to Water	=	8.44	feet
Calculated Water Column Height	=	15.2	feet
Calculated Water Column Volume	=	2.47	gallons
1 foot of water in a 2" well	=	0.1632	gallons

**2. SAMPLE COLLECTION**

a. Method low flow - bladder

b. Field Testing Equipment used	Make	Model	Serial Number
<u>Itach</u>		<u>2100 Q</u>	<u>13080027834</u>
<u>ISI</u>		<u>Professional Plus</u>	<u>10E100123</u>

Time (24hr)	Temp (°C)	Spec. Cond. (µS/cm)	DO (mg/l)	pH	ORP (mV)	Turbidity (NTU)	Volume Removed (gallons)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0945	13.6	6543	2.53	7.00	-242.3	11.6	0.25	2.50	9.23	
1010	14.0	6204	0.23	7.03	-253.6	4.03	0.4		9.91	
1015	14.1	5755	0.18	7.10	-266.0	4.01	1.0		11.50	
1020	14.2	5398	0.20	7.15	-270.8	3.84	1.4		12.10	
1025	14.1	5316	0.18	7.15	-272.8	3.83	1.4		13.30	
1030	14.1	5205	0.16	7.17	-278.8	3.84	2.0		14.25	
1035	14.1	5020	0.14	7.20	-282.2	3.71	2.4		15.20	
1040	14.1	4948	0.11	7.21	-284.1	3.71	3.5 gal		15.89	✓

**3. SAMPLE COLLECTION: Method: low flow - bladder**

Sample ID	No. of Containers	Container type	Preservation	Analysis Req.	Time
<del>mw-4A-120215</del>				<u>see coc</u>	<u>1045</u>
<del>mw-4A-120215-MS</del>				<u>see coc</u>	<u>1050</u>
<del>mw-4A-120215-MSD</del>				<u>see coc</u>	<u>1055</u>

Notes: Collected ms/msd

Signature Helen A. J. Date 12/2/15

**Groundwater Sample Collection Record**

Client: U.S. Army Corps of Engineers Date: 12/2/15 Time: Start 1240 am/pm  
 Project No: 60336540 Finish 1400 am/pm  
 Site Location: New Bedford, MA - Sawyer Street  
 Weather Conds: Overcast, light rain, 45°F Collector(s): H. Jones

**1. GROUNDWATER WELL LOCATION SKETCH/DESCRIPTION**

Depth to Well Bottom	=	18.35	feet
Initial depth to water	=	7.26	feet
Calculated Water Column Height	=	11.09	feet
Calculated Water Column Volume	=	1.80	gallons
1 foot of water in a 2" well	=	0.1632	gallons

**2. SAMPLE COLLECTION**

a Method low flow - bladder

b. Field Testing Equipment used

Make	Model	Serial Number
<u>Hach</u>	<u>2100Q</u>	<u>13080 C027834</u>
<u>YSI</u>	<u>Professional Plus</u>	<u>10E100123</u>

Time (24hr)	Temp (°C)	Spec. Cond. (µS/cm)	DO (mg/l)	pH	ORP (mV)	Turbidity (NTU)	Volume Removed (Liters)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1150	13.7	2698	1.87	7.81	-177.4	15.7	0.5	200	7.89	clear, sewage odor
1155	14.0	2644	1.22	7.78	-194.1	12.0	1		8.65	
1200	14.1	2608	0.163	7.81	-234.5	10.5	1.6		9.63	
1205	14.2	2548	0.30	7.82	-244.4	8.67	2		10.71	
1210	14.1	2046	0.19	7.83	-260.0	7.20	2.5		11.72	
1215	14.1	2646	0.20	7.81	-277.7	6.71	3		12.36	
1220	14.1	2706	0.23	7.80	-285.4	6.50	3.4		12.70	
1225	14.1	2856	0.20	7.78	-294.3	5.61	3.8		13.30	
1230	14.1	2903	0.19	7.77	-297.1	5.01	4.2		13.60	

**3. SAMPLE COLLECTION: Method: low flow - bladder**

Sample ID	No. of Containers	Container type	Preservation	Analysis Req.	Time
<u>MWS-120215</u>				<u>See Col</u>	<u>1335</u>
<u>MWS-120215-REP</u>				<u>See Col</u>	<u>1340</u>

Notes: Collected field duplicate, few black particles in water

Signature [Signature] Date 12/2/15

**Groundwater Sample Collection Record**

Client: U.S. Army Corps of Engineers Date: 12/02/15 Time: Start 1215 am/pm  
 Project No: 60336540 Finish 1445 am/pm  
 Site Location: New Bedford, MA - Sawyer Street  
 Weather Conds: light rain ~40°F Collector(s): Rachel MacPhee

**1. GROUNDWATER WELL LOCATION SKETCH/DESCRIPTION**

Depth to Well Bottom	=	18.88	feet
Initial depth to Water	=	12.57	feet
Calculated Water Column Height	=	6.31	feet
Calculated Water Column Volume	=		gallons
1 foot of water in a 2" well	=	1.02	gallons
		0.1632	

**2. SAMPLE COLLECTION**

a. Method Low Flow - bladder Pump  
 b. Field Testing Equipment used

Make	Model	Serial Number
<u>YST</u>	<u>Pro Plus</u>	<u>10E100342</u>
<u>Hatch turbo</u>	<u>7100 G</u>	<u>141200037599</u>

Time (24hr)	Temp (°C)	Spec. Cond. (µS/cm)	DO (mg/l)	pH	ORP (mV)	Turbidity (NTU)	Volume		Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
							Removed (gallons)	Flow Rate (gallons)			
1235	13.7	730	4.33	7.59	-180.3	296	0.5	200	13.07	orange/none	
1240	13.7	1006	1.39	7.40	-172.6	200	1.0	150	13.15	orange/none	
1245	13.8	1246	0.94	7.33	-172.6	187	1.5	150	13.00	orange/none	
1250	13.9	1312	0.49	7.34	-173.2	118	2.0	150	13.02	orange/none	
1255	13.9	1346	0.37	7.34	-171.9	100.6	2.2	150	13.02	orange/none	
1300	13.9	1360	0.53	7.35	-173.2	99.4	2.5	150	13.02	orange/none	
1405	13.9	1377	0.56	7.36	-172.6	89.6	3.0	150	13.02	orange/none	
1410	14.0	1393	0.29	7.34	-173.2	88.4	3.5	150	13.02	orange/none	

**3. SAMPLE COLLECTION: Method: Low Flow - Bladder Pump**

Sample ID	No. of Containers	Container type	Preservation	Analysis Req.	Time
<u>MW-06-120215</u>	<u>7</u>		<u>PCBS</u>	<u>TSS, Metals, VOCs</u>	<u>1430</u>
<u>MW-06-120215-QA</u>	<u>7</u>		<u>PCBS</u>	<u>TSS, Metals, VOCs</u>	<u>1435</u>

Notes

Signature [Signature] Date 12/02/15

**Groundwater Sample Collection Record**

Client: U.S. Army Corps of Engineers Date: 12/3/15 Time: Start 0930 am/pm  
 Project No: 60336540 Finish 1110 am/pm  
 Site Location: New Bedford, MA - Sawyer Street  
 Weather Conds: partly cloudy, 50°F Collector(s): H Jones

**1. GROUNDWATER WELL LOCATION SKETCH/DESCRIPTION**

Depth to Well Bottom	=	14.18	feet
Initial depth to Water	=	10.58	feet
Calculated Water Column Height	=	3.6	feet
Calculated Water Column Volume	=	0.58	gallons
1 foot of water in a 2" well	=	0.1632	gallons

**2. SAMPLE COLLECTION**

a. Method low flow - bladder

b. Field Testing Equipment used

Make	Model	Serial Number
<u>Heich</u>	<u>2100 Q</u>	<u>130800027534</u>
<u>YSI</u>	<u>Professional Plus</u>	<u>10E160123</u>

Time (24hr)	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/l)	pH	ORP (mV)	Turbidity (NTU)	Volume		Drawdown (feet)	Color/Odor
							Removed (Liters)	Flow Rate (ml/min)		
0950	14.2	786	4.01	6.81	40.0	4.62	0.2	200	10.72	clear, no odor
0955	14.1	772	3.30	6.77	48.7	4.41	0.4		10.67	
1000	14.0	764	2.75	6.76	48.7	2.87	0.5		10.70	
1005	13.9	753	2.13	6.75	44.7	1.17	1.0		10.71	
1010	13.9	750	1.86	6.75	36.9	0.87	1.4		10.72	
1015	13.8	743	1.55	6.75	11.6	0.85	1.6		10.74	
1020	13.9	742	1.34	6.75	-10.4	0.81	1.9		10.75	
1025	14.0	742	1.21	6.75	-11.3	0.79	2.5 gal		10.77	

**3. SAMPLE COLLECTION:**

Method: low flow - bladder

Sample ID	No. of Containers	Container type	Preservation	Analysis Req.	Time
<u>MW-7A-120315</u>				<u>See Col</u>	<u>1030</u>

**Notes:** Note there was a partial obstruction ~ halfway down which made it difficult to lower bladder pump into well.

Signature [Handwritten Signature] Date 12/3/15

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## **Appendix B**

# **Laboratory Data Packages (provided on CD)**

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**Data Package– Batch # L1531802  
TSS and Metals Analysis**

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[www.alphalab.com](http://www.alphalab.com)



Lab Number: L1531802

Client: Battelle

ATTN: Deirdre Dahlen

Project Name: NEW BEDFORD HARBOR SAWYER

Project Number: W912WJ-12-D-0004

*The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.*

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# **Sample Delivery Group Information**



# Sample Delivery Group Form

Laboratory Job number: L1531802

Project Manager: Elizabeth Porta

Review Date: 12/07/2015

Project Number: W912WJ-12-D-0004

Project Name: NEW BEDFORD HARBOR SAWYER ST C

Received: 12/03/2015 14:39

Client Account: Battelle

Received by: RR/RS & RM

Samples Delivered by: COURIER

Call Tracker #

Bill Of Laden N/A

Trackingnum

Coc Present Present

Container Status Intact

Sample IDs Samples rec'd in Mansfield 12/04/15@4:00 at 2.8c (9829).

All Containers Accounted For? Yes

samples rec'd in westboro 12/7/15@ 20:15 at 3.0c(9886)

Were Extra Samples Received? No

Do Sample Labels and COC agree? Yes

Are Samples in Appropriate Containers? Yes

Are Samples Received within Holding time? Yes

pH of Samples upon Receipt <2,8

Are samples Properly Preserved? Yes

Initial pH preserved in house with

Final pH

Other Issues

Chlorine Check N/A

Are VOA/VPH Vials Present? No

Aqueous: Do Vials Contain Head Space? N/A

Soils: Is MeOHCovering the Soil? N/A

Reagent H2O Preserved vials Frozen on N/A

Frozen by Client N/A

Cooler	Seal	Ice Present	Blue Ice Present	Temp. (Celsius)	Frozen upon Receipt	Delivered Direct from Site
A	Absent	Yes	No	3.4 - IR Gun	No	No



# **LIMS Chain of Custody**

ALPHA ANALYTICAL LABORATORIES, INC.  
LOGIN CHAIN OF CUSTODY REPORT  
Jan 27 2016, 02:20 pm

Login Number: L1531802

Account: BATDUX BattelleProject: W912WJ-12-D-0004 New Bedford Harbor Water Quality Monitoring

Sample # Client ID Received: 03DEC15 Due Date: 17DEC15  
Mat PR Collected Container

L1531802-01 MW-4A-120215 1 S0 02DEC15 10:45 1-Plastic-A1,3-Plastic-C.25

Lab: provide a method summary in the case narrative for all methods reported. Please read PCF Samples are GW not SW - special filters are not required for TSS, Chelate not required for Metals L1531802-01 MS L1531802-01 MSD A2-DPKG-FULL Package Due Date: 12/17/15

A2-CD-6020T,A2-CR-6020T,A2-CU-6020T,A2-DPKG-FULL,A2-MS/MSD,A2-PB-6020T,TSS-2540-LOW

L1531802-02 MW-5-120215 1 S0 02DEC15 13:35 1-Plastic-A1,1-Plastic-C.25

Lab: provide a method summary in the case narrative for all methods reported. Please read PCF Samples are GW not SW - special filters are not required for TSS, Chelate not required for Metals Package Due Date: 12/17/15

A2-CD-6020T,A2-CR-6020T,A2-CU-6020T,A2-PB-6020T,TSS-2540-LOW

L1531802-03 MW-5-120215-REP 1 S0 02DEC15 13:40 1-Plastic-A1,1-Plastic-C.25

Lab: provide a method summary in the case narrative for all methods reported. Please read PCF Samples are GW not SW - special filters are not required for TSS, Chelate not required for Metals Package Due Date: 12/17/15

A2-CD-6020T,A2-CR-6020T,A2-CU-6020T,A2-PB-6020T,TSS-2540-LOW

L1531802-04 MW-01-120215 1 S0 02DEC15 11:45 1-Plastic-A1,1-Plastic-C.25

Lab: provide a method summary in the case narrative for all methods reported. Please read PCF Samples are GW not SW - special filters are not required for TSS, Chelate not required for Metals Package Due Date: 12/17/15

A2-CD-6020T,A2-CR-6020T,A2-CU-6020T,A2-PB-6020T,TSS-2540-LOW

L1531802-05 MW-06-120215 1 S0 02DEC15 14:30 1-Plastic-A1,1-Plastic-C.25

Lab: provide a method summary in the case narrative for all methods reported. Please read PCF Samples are GW not SW - special filters are not required for TSS, Chelate not required for Metals Package Due Date: 12/17/15

ALPHA ANALYTICAL LABORATORIES, INC.  
LOGIN CHAIN OF CUSTODY REPORT  
Jan 27 2016, 02:20 pm

Login Number: L1531802

Account: BATDUX BattelleProject: W912WJ-12-D-0004 New Bedford Harbor Water Quality Monitoring

Sample #	Client ID	Received: 03DEC15 Mat PR Collected	Due Date: 17DEC15 Container
----------	-----------	---------------------------------------	--------------------------------

A2-CD-6020T,A2-CR-6020T,A2-CU-6020T,A2-PB-6020T,TSS-2540-LOW

L1531802-06 MW-7A-120315 1 S0 03DEC15 10:30 1-Plastic-A1,1-Plastic-C.25

Lab: provide a method summary in the case narrative for all methods reported. Please read PCF Samples are GW not SW - special filters are not required for TSS, Chelate not required for Metals Package Due Date: 12/17/15

A2-CD-6020T,A2-CR-6020T,A2-CU-6020T,A2-PB-6020T,TSS-2540-LOW

L1531802-07 MW-03-120315 1 S0 03DEC15 11:42 1-Plastic-A1,1-Plastic-C.25

Lab: provide a method summary in the case narrative for all methods reported. Please read PCF Samples are GW not SW - special filters are not required for TSS, Chelate not required for Metals Package Due Date: 12/17/15

A2-CD-6020T,A2-CR-6020T,A2-CU-6020T,A2-PB-6020T,TSS-2540-LOW

L1531802-08 EB-001-120315 1 S0 03DEC15 08:15 1-Plastic-A1,1-Plastic-C.25

Lab: provide a method summary in the case narrative for all methods reported. Please read PCF Samples are GW not SW - special filters are not required for TSS, Chelate not required for Metals Package Due Date: 12/17/15

A2-CD-6020T,A2-CR-6020T,A2-CU-6020T,A2-PB-6020T,TSS-2540-LOW

# Container Tracking

**ALPHA ANALYTICAL LABORATORIES**  
**Container Tracking Report**

Container ID	Type	Status	Transaction Date	From Response	Location	To Operator	Response	Location	Operator
L1531802-01A	Plastic-A1	EMPTY	08-DEC-15	WETCHEM	WETCHEM	Andrew Schult	CUSTODY	WETCHEM	CUSTODY Andrew Schult
L1531802-01A	Plastic-A1	INTACT	08-DEC-15		CUSTODY	Deb Whelan	WETCHEM	WETCHEM	Deb Whelan
L1531802-01A	Plastic-A1	INTACT	08-DEC-15	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Ryan Morrissey	CUSTODY	CUSTODY	Ryan Morrissey
L1531802-01A	Plastic-A1	INTACT	07-DEC-15	A2-CUSTODY-REFRIDGE	A2-CUSTODY-NOAA5	Kim L. Bailey	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Kim L. Bailey
L1531802-01A	Plastic-A1	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue ONeil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue ONeil
L1531802-01A	Plastic-A1	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-01A	Plastic-A1	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-01B	Plastic-C.25	DISPOSED	11-JAN-16	A2-CUSTODY	A2-CUSTODY-NOAA5	Jason Willett	A2-DISPOSAL	A2-DISPOSAL	Jason Willett
L1531802-01B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-METALS PREP	Lauren Connolly	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Lauren Connolly
L1531802-01B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-CUSTODY-NOAA5	Lauren Connolly	A2-METALS PREP	A2-METALS PREP	Lauren Connolly
L1531802-01B	Plastic-C.25	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue ONeil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue ONeil
L1531802-01B	Plastic-C.25	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-01B	Plastic-C.25	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-01B1	Plastic-C.25	DISPOSED	11-JAN-16	A2-CUSTODY	A2-CUSTODY-NOAA5	Jason Willett	A2-DISPOSAL	A2-DISPOSAL	Jason Willett
L1531802-01B1	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-METALS PREP	Lauren Connolly	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Lauren Connolly
L1531802-01B1	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-CUSTODY-NOAA5	Lauren Connolly	A2-METALS PREP	A2-METALS PREP	Lauren Connolly
L1531802-01B1	Plastic-C.25	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue ONeil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue ONeil
L1531802-01B1	Plastic-C.25	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-01B1	Plastic-C.25	INTACT	03-DEC-15	LOGIN	LOGIN	Roobenso Romain	CUSTODY	CUSTODY	Roobenso Romain
L1531802-01B2	Plastic-C.25	DISPOSED	11-JAN-16	A2-CUSTODY	A2-CUSTODY-NOAA5	Jason Willett	A2-DISPOSAL	A2-DISPOSAL	Jason Willett
L1531802-01B2	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-METALS PREP	Lauren Connolly	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Lauren Connolly
L1531802-01B2	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-CUSTODY-NOAA5	Lauren Connolly	A2-METALS PREP	A2-METALS PREP	Lauren Connolly
L1531802-01B2	Plastic-C.25	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue ONeil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue ONeil
L1531802-01B2	Plastic-C.25	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-01B2	Plastic-C.25	INTACT	03-DEC-15	LOGIN	LOGIN	Roobenso Romain	CUSTODY	CUSTODY	Roobenso Romain

Container ID	Type	Status	Transaction Date	From Response	Location	To Operator	Response	Location	Operator
L1531802-02A	Plastic-A1	EMPTY	08-DEC-15	WETCHEM	WETCHEM	Andrew Schult	CUSTODY	WETCHEM	CUSTODY Andrew Schult
L1531802-02A	Plastic-A1	INTACT	08-DEC-15		CUSTODY	Deb Whelan	WETCHEM	WETCHEM	Deb Whelan
L1531802-02A	Plastic-A1	INTACT	08-DEC-15	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Ryan Morrissey	CUSTODY	CUSTODY	Ryan Morrissey
L1531802-02A	Plastic-A1	INTACT	07-DEC-15	A2-CUSTODY-REFRIDGE	A2-CUSTODY-NOAA5	Kim L. Bailey	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Kim L. Bailey
L1531802-02A	Plastic-A1	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue O'Neil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue O'Neil
L1531802-02A	Plastic-A1	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-02A	Plastic-A1	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-02B	Plastic-C.25	DISPOSED	11-JAN-16	A2-CUSTODY	A2-CUSTODY-NOAA5	Jason Willett	A2-DISPOSAL	A2-DISPOSAL	Jason Willett
L1531802-02B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-METALS PREP	Lauren Connolly	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Lauren Connolly
L1531802-02B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-CUSTODY-NOAA5	Lauren Connolly	A2-METALS PREP	A2-METALS PREP	Lauren Connolly
L1531802-02B	Plastic-C.25	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue O'Neil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue O'Neil
L1531802-02B	Plastic-C.25	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-02B	Plastic-C.25	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-03A	Plastic-A1	EMPTY	08-DEC-15	WETCHEM	WETCHEM	Andrew Schult	CUSTODY	WETCHEM	CUSTODY Andrew Schult
L1531802-03A	Plastic-A1	INTACT	08-DEC-15		CUSTODY	Deb Whelan	WETCHEM	WETCHEM	Deb Whelan
L1531802-03A	Plastic-A1	INTACT	08-DEC-15	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Ryan Morrissey	CUSTODY	CUSTODY	Ryan Morrissey
L1531802-03A	Plastic-A1	INTACT	07-DEC-15	A2-CUSTODY-REFRIDGE	A2-CUSTODY-NOAA5	Kim L. Bailey	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Kim L. Bailey
L1531802-03A	Plastic-A1	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue O'Neil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue O'Neil
L1531802-03A	Plastic-A1	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-03A	Plastic-A1	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-03B	Plastic-C.25	DISPOSED	11-JAN-16	A2-CUSTODY	A2-CUSTODY-NOAA5	Jason Willett	A2-DISPOSAL	A2-DISPOSAL	Jason Willett
L1531802-03B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-METALS PREP	Lauren Connolly	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Lauren Connolly
L1531802-03B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-CUSTODY-NOAA5	Lauren Connolly	A2-METALS PREP	A2-METALS PREP	Lauren Connolly
L1531802-03B	Plastic-C.25	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue O'Neil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue O'Neil
L1531802-03B	Plastic-C.25	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain

Container ID	Type	Status	Transaction Date	From Response	Location	To Operator	Response	Location	Operator
L1531802-03B	Plastic-C.25	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-04A	Plastic-A1	EMPTY	08-DEC-15	WETCHEM	WETCHEM	Andrew Schult	CUSTODY	WETCHEM CUSTODY	Andrew Schult
L1531802-04A	Plastic-A1	INTACT	08-DEC-15		CUSTODY	Deb Whelan	WETCHEM	WETCHEM	Deb Whelan
L1531802-04A	Plastic-A1	INTACT	08-DEC-15	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Ryan Morrissey	CUSTODY	CUSTODY	Ryan Morrissey
L1531802-04A	Plastic-A1	INTACT	07-DEC-15	A2-CUSTODY-REFRIDGE	A2-CUSTODY-NOAA5	Kim L. Bailey	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Kim L. Bailey
L1531802-04A	Plastic-A1	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue ONeil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue ONeil
L1531802-04A	Plastic-A1	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-04A	Plastic-A1	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-04B	Plastic-C.25	DISPOSED	11-JAN-16	A2-CUSTODY	A2-CUSTODY-NOAA5	Jason Willett	A2-DISPOSAL	A2-DISPOSAL	Jason Willett
L1531802-04B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-METALS PREP	Lauren Connolly	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Lauren Connolly
L1531802-04B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-CUSTODY-NOAA5	Lauren Connolly	A2-METALS PREP	A2-METALS PREP	Lauren Connolly
L1531802-04B	Plastic-C.25	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue ONeil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue ONeil
L1531802-04B	Plastic-C.25	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-04B	Plastic-C.25	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-05A	Plastic-A1	EMPTY	08-DEC-15	WETCHEM	WETCHEM	Andrew Schult	CUSTODY	WETCHEM CUSTODY	Andrew Schult
L1531802-05A	Plastic-A1	INTACT	08-DEC-15		CUSTODY	Deb Whelan	WETCHEM	WETCHEM	Deb Whelan
L1531802-05A	Plastic-A1	INTACT	08-DEC-15	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Ryan Morrissey	CUSTODY	CUSTODY	Ryan Morrissey
L1531802-05A	Plastic-A1	INTACT	07-DEC-15	A2-CUSTODY-REFRIDGE	A2-CUSTODY-NOAA5	Kim L. Bailey	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Kim L. Bailey
L1531802-05A	Plastic-A1	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue ONeil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue ONeil
L1531802-05A	Plastic-A1	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-05A	Plastic-A1	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-05B	Plastic-C.25	DISPOSED	11-JAN-16	A2-CUSTODY	A2-CUSTODY-NOAA5	Jason Willett	A2-DISPOSAL	A2-DISPOSAL	Jason Willett
L1531802-05B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-METALS PREP	Lauren Connolly	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Lauren Connolly
L1531802-05B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-CUSTODY-NOAA5	Lauren Connolly	A2-METALS PREP	A2-METALS PREP	Lauren Connolly
L1531802-05B	Plastic-C.25	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue ONeil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue ONeil

Container ID	Type	Status	Transaction Date	From Response	Location	To Operator	Response	Location	Operator
L1531802-05B	Plastic-C.25	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-05B	Plastic-C.25	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-06A	Plastic-A1	EMPTY	08-DEC-15	WETCHEM	WETCHEM	Andrew Schult	CUSTODY	WETCHEM	Andrew Schult
L1531802-06A	Plastic-A1	INTACT	08-DEC-15		CUSTODY	Deb Whelan	WETCHEM	WETCHEM	Deb Whelan
L1531802-06A	Plastic-A1	INTACT	08-DEC-15	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Ryan Morrissey	CUSTODY	CUSTODY	Ryan Morrissey
L1531802-06A	Plastic-A1	INTACT	07-DEC-15	A2-CUSTODY-REFRIDGE	A2-CUSTODY-NOAA5	Kim L. Bailey	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Kim L. Bailey
L1531802-06A	Plastic-A1	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue ONeil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue ONeil
L1531802-06A	Plastic-A1	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-06A	Plastic-A1	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-06B	Plastic-C.25	DISPOSED	11-JAN-16	A2-CUSTODY	A2-CUSTODY-NOAA5	Jason Willett	A2-DISPOSAL	A2-DISPOSAL	Jason Willett
L1531802-06B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-METALS PREP	Lauren Connolly	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Lauren Connolly
L1531802-06B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-CUSTODY-NOAA5	Lauren Connolly	A2-METALS PREP	A2-METALS PREP	Lauren Connolly
L1531802-06B	Plastic-C.25	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue ONeil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue ONeil
L1531802-06B	Plastic-C.25	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-06B	Plastic-C.25	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-07A	Plastic-A1	EMPTY	08-DEC-15	WETCHEM	WETCHEM	Andrew Schult	CUSTODY	WETCHEM	Andrew Schult
L1531802-07A	Plastic-A1	INTACT	08-DEC-15		CUSTODY	Deb Whelan	WETCHEM	WETCHEM	Deb Whelan
L1531802-07A	Plastic-A1	INTACT	08-DEC-15	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Ryan Morrissey	CUSTODY	CUSTODY	Ryan Morrissey
L1531802-07A	Plastic-A1	INTACT	07-DEC-15	A2-CUSTODY-REFRIDGE	A2-CUSTODY-NOAA5	Kim L. Bailey	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Kim L. Bailey
L1531802-07A	Plastic-A1	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue ONeil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue ONeil
L1531802-07A	Plastic-A1	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-07A	Plastic-A1	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-07B	Plastic-C.25	DISPOSED	11-JAN-16	A2-CUSTODY	A2-CUSTODY-NOAA5	Jason Willett	A2-DISPOSAL	A2-DISPOSAL	Jason Willett
L1531802-07B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-METALS PREP	Lauren Connolly	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Lauren Connolly
L1531802-07B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-CUSTODY-NOAA5	Lauren Connolly	A2-METALS PREP	A2-METALS PREP	Lauren Connolly



Container ID	Type	Status	Transaction Date	From Response	Location	To Operator	Response	Location	Operator
L1531802-07B	Plastic-C.25	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue O'Neil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue O'Neil
L1531802-07B	Plastic-C.25	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-07B	Plastic-C.25	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-08A	Plastic-A1	EMPTY	08-DEC-15	WETCHEM	WETCHEM	Andrew Schult	CUSTODY	WETCHEM	CUSTODY Andrew Schult
L1531802-08A	Plastic-A1	INTACT	08-DEC-15		CUSTODY	Deb Whelan	WETCHEM	WETCHEM	Deb Whelan
L1531802-08A	Plastic-A1	INTACT	08-DEC-15	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Ryan Morrissey	CUSTODY	CUSTODY	Ryan Morrissey
L1531802-08A	Plastic-A1	INTACT	07-DEC-15	A2-CUSTODY-REFRIDGE	A2-CUSTODY-NOAA5	Kim L. Bailey	TRANSFER - WESTBORO	TRANSFER - WESTBORO	Kim L. Bailey
L1531802-08A	Plastic-A1	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue O'Neil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue O'Neil
L1531802-08A	Plastic-A1	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-08A	Plastic-A1	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta
L1531802-08B	Plastic-C.25	DISPOSED	11-JAN-16	A2-CUSTODY	A2-DISPOSAL	Jason Willett	A2-DISPOSAL	A2-DISPOSAL	Jason Willett
L1531802-08B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-METALS PREP	Lauren Connolly	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Lauren Connolly
L1531802-08B	Plastic-C.25	INTACT	07-DEC-15	CUSTODY	A2-CUSTODY-NOAA5	Lauren Connolly	A2-METALS PREP	A2-METALS PREP	Lauren Connolly
L1531802-08B	Plastic-C.25	INTACT	04-DEC-15	CUSTODY	TRANSFER - MANSFIELD	Sue O'Neil	A2-CUSTODY-NOAA5	A2-CUSTODY-NOAA5	Sue O'Neil
L1531802-08B	Plastic-C.25	INTACT	03-DEC-15	CUSTODY	CUSTODY	Roobenso Romain	TRANSFER - MANSFIELD	TRANSFER - MANSFIELD	Roobenso Romain
L1531802-08B	Plastic-C.25	INTACT	03-DEC-15	LOGIN	LOGIN	Elizabeth Porta	CUSTODY	CUSTODY	Elizabeth Porta

# Chain of Custody





# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/3/15

ALPHA Job #: C1531802

8 Walkup Drive  
Westboro, MA 01581  
Tel: 508-898-9220

320 Forbes Blvd  
Mansfield, MA 02048  
Tel: 508-822-9300

**Project Information**

Project Name: *New Bedford Harbor Sawaya Street CAP*

Project Location: *New Bedford, MA*

Project #: \_\_\_\_\_

Project Manager: *Maura Surprenant*

ALPHA Quote #: \_\_\_\_\_

**Report Information - Data Deliverables**
 ADEX     EMAIL
**Billing Information**
 Same as Client info    PO #: \_\_\_\_\_
**Client Information**

Client: *AECOM*

Address: *250 Apollo Dr. Chelmsford MA 01824*

Phone: *508-833-6960*

Email: \_\_\_\_\_

**Turn-Around Time**
 Standard     RUSH (only confirmed if pre-approved!)  
Date Due: \_\_\_\_\_
**Regulatory Requirements & Project Information Requirements**
 Yes  No MA MCP Analytical Methods     Yes  No CT RCP Analytical Methods  
 Yes  No Matrix Spike Required on this SDG? (Required for MCP Inorganics)  
 Yes  No GW1 Standards (Info Required for Metals & EPH with Targets)  
 Yes  No NPDES RGP  
 Other State /Fed Program \_\_\_\_\_ Criteria \_\_\_\_\_
**Additional Project Information:**

Report to Deirdre Dahlen at Batelle

ANALYSIS	VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	METALS: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15	EPH: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8	VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> PP13	<input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	<input type="checkbox"/> PCB <input type="checkbox"/> PEST	TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint	TSS	Metals	SAMPLE INFO	Filtration <input type="checkbox"/> Field <input type="checkbox"/> Lab to do	Preservation <input type="checkbox"/> Lab to do	TOTAL # BOTTLES
	Sample Comments													

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
<i>3/802-01</i>	<i>MW-4A-120215</i>	<i>12/2/15</i>	<i>1045</i>	<i>GW</i>	<i>HJ</i>
<i>01</i>	<i>MW-4A-120215-MS</i>	<i>12/2/15</i>	<i>1050</i>	<i>GW</i>	<i>HJ</i>
<i>01</i>	<i>MW-4A-120215-MSD</i>	<i>12/2/15</i>	<i>1055</i>	<i>GW</i>	<i>HJ</i>
<i>02</i>	<i>MW-5-120215</i>	<i>12/2/15</i>	<i>1335</i>	<i>GW</i>	<i>HJ</i>
<i>03</i>	<i>MW-5-120215-REP</i>	<i>12/2/15</i>	<i>1340</i>	<i>GW</i>	<i>HJ</i>
<i>04</i>	<i>MW-01-120215</i>	<i>12/2/15</i>	<i>1145</i>	<i>GW</i>	<i>RM</i>
<i>05</i>	<i>MW-06-120215</i>	<i>12/2/15</i>	<i>1430</i>	<i>GW</i>	<i>RM</i>
<i>06</i>	<i>MW-7A-120315</i>	<i>12/3/15</i>	<i>1030</i>	<i>GW</i>	<i>HJ</i>
<i>07</i>	<i>MW-03-120315</i>	<i>12/3/15</i>	<i>1142</i>	<i>GW</i>	<i>RM</i>
<i>08</i>	<i>EB-001-120315</i>	<i>12/3/15</i>	<i>0815</i>	<i>Ag</i>	<i>HJ</i>

**Container Type**  
P= Plastic  
A= Amber glass  
V= Vial  
G= Glass  
B= Bacteria cup  
C= Cube  
O= Other  
E= Encore  
D= BOD Bottle

**Preservative**  
A= None  
B= HCl  
C= HNO<sub>3</sub>  
D= H<sub>2</sub>SO<sub>4</sub>  
E= NaOH  
F= MeOH  
G= NaHSO<sub>4</sub>  
H= Na<sub>2</sub>S<sub>2</sub>O<sub>8</sub>  
I= Ascorbic Acid  
J= NH<sub>4</sub>Cl  
K= Zn Acetate  
O= Other

Container Type																			
Preservative																			

Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	<i>12/3/15 1430</i>	<i>[Signature]</i>	<i>12/3/15 1430</i>
<i>[Signature]</i>	<i>12/3/15 1725</i>	<i>[Signature]</i>	<i>12/3/15 1725</i>
<i>[Signature]</i>	<i>12/3/15 2010</i>	<i>[Signature]</i>	<i>12/3/15 2010</i>
<i>[Signature]</i>	<i>12/4/15 0900</i>	<i>[Signature]</i>	<i>12/4/15 0900</i>

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.  
FORM NO: 01-01 (rev. 12-Mar-2012)



# CHAIN OF CUSTODY

PAGE 1 OF 18 Walkup Drive  
Westboro, MA 01581  
Tel: 508-898-9220320 Forbes Blvd  
Mansfield, MA 02048  
Tel: 508-822-9300Date Rec'd in Lab: 12/3/15ALPHA Job #: C1531802**Project Information**Project Name: New Bedford Harbor Sawyer Street COPProject Location: New Bedford, MA

Project #:

Project Manager: Maura Surprenant

ALPHA Quote #:

**Report Information - Data Deliverables** ADEx  EMAIL**Billing Information** Same as Client info PO #:**Client Information**Client: AECOMAddress: 250 Apollo Dr.  
Chelmsford MA 01824Phone: 508-833-6960

Email:

Additional Project Information:  
Report to Deirdre Dahlen at Batelle**Turn-Around Time** Standard  RUSH (only confirmed if pre-approved!)

Date Due:

**Regulatory Requirements & Project Information Requirements** Yes  No MA MCP Analytical Methods  Yes  No CT RCP Analytical Methods  
 Yes  No Matrix Spike Required on this SDG? (Required for MCP Inorganics)  
 Yes  No GW1 Standards (Info Required for Metals & EPH with Targets)  
 Yes  No NPDES RGP  
 Other State /Fed Program \_\_\_\_\_ Criteria \_\_\_\_\_

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	ANALYSIS		VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15	EPH: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8 <input type="checkbox"/> PPT13	VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	<input type="checkbox"/> PCB <input type="checkbox"/> PEST	TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint	TSS	Metals	SAMPLE INFO	Filtration <input type="checkbox"/> Field <input type="checkbox"/> Lab to do	Preservation <input type="checkbox"/> Lab to do	TOTAL # BOTTLES	
		Date	Time			VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2															
<u>3/802-01</u>	<u>MW-4A-120215</u>	<u>12/2/15</u>	<u>1045</u>	<u>GW</u>	<u>HJ</u>																
<u>01</u>	<u>MW-4A-120215-MS</u>	<u>12/2/15</u>	<u>1050</u>	<u>GW</u>	<u>HJ</u>																<u>MS</u>
<u>01</u>	<u>MW-4A-120215-MSD</u>	<u>12/2/15</u>	<u>1055</u>	<u>GW</u>	<u>HJ</u>																<u>MSD</u>
<u>02</u>	<u>MW-5-120215</u>	<u>12/2/15</u>	<u>1335</u>	<u>GW</u>	<u>HJ</u>																
<u>03</u>	<u>MW-5-120215-REP</u>	<u>12/2/15</u>	<u>1340</u>	<u>GW</u>	<u>HJ</u>																
<u>04</u>	<u>MW-01-120215</u>	<u>12/2/15</u>	<u>1145</u>	<u>GW</u>	<u>RM</u>																
<u>05</u>	<u>MW-06-120215</u>	<u>12/2/15</u>	<u>1430</u>	<u>GW</u>	<u>RM</u>																
<u>06</u>	<u>MW-7A-120315</u>	<u>12/3/15</u>	<u>1030</u>	<u>GW</u>	<u>HJ</u>																
<u>07</u>	<u>MW-03-120315</u>	<u>12/3/15</u>	<u>1142</u>	<u>GW</u>	<u>RM</u>																
<u>08</u>	<u>EB-001-120315</u>	<u>12/3/15</u>	<u>0815</u>	<u>Ag</u>	<u>HJ</u>																

Container Type	Preservative	Container Type	Preservative
P= Plastic A= Amber glass V= Vial G= Glass B= Bacteria cup C= Cube O= Other E= Encore D= BOD Bottle	A= None B= HCl C= HNO3 D= H2SO4 E= NaOH F= MeOH G= NaHSO4 H= Na2S2O3 I= Ascorbic Acid J= NH4Cl K= Zn Acetate O= Other		

Relinquished By:	Date/Time	Received By:	Date/Time	All samples submitted are subject to Alpha's Terms and Conditions. See reverse side. FORM NO 01-01 (rev. 12-Mar-2012)
<u>[Signature]</u>	<u>1439 12/3/15</u>	<u>[Signature]</u>	<u>12/3/15 1435</u>	
<u>[Signature]</u>	<u>12/3/15 1725</u>	<u>[Signature]</u>	<u>12/3/15 1725</u>	
<u>[Signature]</u>	<u>12/3/15 20:10</u>	<u>[Signature]</u>	<u>12/3/15 20:10</u>	

# Metals

# **ICPMS Analysis**

# Sequence Logs



# Dataset Report

User Name: metals-instrument

Computer Name: A2-00887

Dataset File Path: C:\Elandata\DataSet\WG848586\

Report Date/Time: Thursday, December 10, 2015 15:49:26

## The Dataset

Batch ID	Sample ID	Date and Time	Read Type
	Blank	14:21:14 Thu 10-Dec-15	Blank
	Standard 1	14:22:46 Thu 10-Dec-15	Standard #1
	Standard 2	14:24:17 Thu 10-Dec-15	Standard #3
	QC Std 1	14:25:52 Thu 10-Dec-15	QC Std #1
	QC Std 2	14:27:31 Thu 10-Dec-15	QC Std #2
	QC Std 2	14:29:32 Thu 10-Dec-15	QC Std #2
	QC Std 3	14:31:13 Thu 10-Dec-15	QC Std #3
	QC Std 7	14:33:09 Thu 10-Dec-15	QC Std #7
	QC Std 8	14:34:52 Thu 10-Dec-15	QC Std #8
	QC Std 13	14:36:40 Thu 10-Dec-15	QC Std #13
	QC Std 14	14:38:24 Thu 10-Dec-15	QC Std #14
WG847373	WG847373-1-T	14:40:19 Thu 10-Dec-15	Sample
WG847373	WG847373-2-T	14:41:51 Thu 10-Dec-15	Sample
WG847373	L1530889-01-T	14:43:22 Thu 10-Dec-15	Sample
WG847373	L1530890-01-T	14:44:54 Thu 10-Dec-15	Sample
WG847373	L1531802-01-T	14:46:25 Thu 10-Dec-15	Sample
	QC Std 5	14:47:59 Thu 10-Dec-15	QC Std #5
	QC Std 6	14:50:25 Thu 10-Dec-15	QC Std #6
	QC Std 6	14:53:33 Thu 10-Dec-15	QC Std #6
WG847373	WG847373-6-T-D5	14:55:17 Thu 10-Dec-15	Sample
WG847373	WG847373-3-T	14:56:49 Thu 10-Dec-15	Sample
WG847373	WG847373-4-T	14:58:20 Thu 10-Dec-15	Sample
WG847373	WG847373-5-T	15:00:32 Thu 10-Dec-15	Sample
WG847373	L1531802-02-T	15:02:03 Thu 10-Dec-15	Sample
WG847373	L1531802-03-T	15:03:35 Thu 10-Dec-15	Sample
WG847373	L1531802-04-T	15:05:06 Thu 10-Dec-15	Sample
WG847373	L1531802-05-T	15:06:38 Thu 10-Dec-15	Sample
WG847373	L1531802-06-T	15:08:09 Thu 10-Dec-15	Sample
WG847373	L1531802-07-T	15:09:41 Thu 10-Dec-15	Sample
	QC Std 5	15:11:14 Thu 10-Dec-15	QC Std #5
	QC Std 6	15:20:23 Thu 10-Dec-15	QC Std #6
WG847373	L1531802-08-T	15:22:14 Thu 10-Dec-15	Sample
WG847373	WG847373-1-T	15:28:01 Thu 10-Dec-15	Sample
WG847373	L1530889-01-T	15:29:33 Thu 10-Dec-15	Sample
WG847373	L1530890-01-T	15:31:04 Thu 10-Dec-15	Sample
WG847373	L1531802-07-T-D5	15:34:41 Thu 10-Dec-15	Sample
WG847373	L1530890-01-T	15:36:16 Thu 10-Dec-15	Sample
WG847373	L1531802-08-T	15:37:48 Thu 10-Dec-15	Sample
	QC Std 5	15:39:31 Thu 10-Dec-15	QC Std #5
	QC Std 5	15:42:57 Thu 10-Dec-15	QC Std #5
	QC Std 6	15:46:32 Thu 10-Dec-15	QC Std #6
	QC Std 9	15:48:12 Thu 10-Dec-15	QC Std #9

# **Work Group**

ALPHA ANALYTICAL LABORATORIES, INC.  
 Metals Batch Report - Total Metals (Mass Spec) - A2-6020T Batch WG847373 for dept. 5  
 Dec 14, 2015 15:12

Sample No.	Client No.	Sample I.D.	Mat	Due	As	Ba	Cd	Cu	Ni	Ag	Tl	Ti	Fe	Ca	Al	Na	V	Si	Ha	Zr	
					Sb	B	Be	Cr	Pb	Se	Sr	Sn	Zn	Mn	Mg	K	Co	Mo	W	W	
L1530889-01	EBVT		1	1216	X	X		X	X	X	X	X	X								
L1530890-01	EBNY		1	1216	X			X		X											
L1531802-01	MW-4A-120215		1	1217				X	X	X											
L1531802-02	MW-5-120215		1	1217				X	X	X											
L1531802-03	MW-5-120215-REP		1	1217				X	X	X											
L1531802-04	MW-01-120215		1	1217				X	X	X											
L1531802-05	MW-06-120215		1	1217				X	X	X											
L1531802-06	MW-7A-120315		1	1217				X	X	X											
L1531802-07	MW-03-120315		1	1217				X	X	X											
L1531802-08	EB-001-120315		1	1217				X	X	X											
WG847373-1	Laboratory Method	1			X	X		X	X	X	X	X	X								
WG847373-2	Laboratory Contro	1			X	X		X	X	X	X	X	X								
WG847373-3	Duplicate Sample	1			X	X		X	X	X	X	X	X								
WG847373-4	Matrix Spike	1			X	X		X	X	X	X	X	X								
WG847373-5	Matrix Spike Dupl	1			X	X		X	X	X	X	X	X								
WG847373-6	Serial Dilution	1			X	X		X	X	X	X	X	X								

Comments:

WG847373-3 L1531802-01  
 WG847373-4 L1531802-01  
 WG847373-5 L1531802-01  
 WG847373-6 L1531802-01

# **Tune**

# Instrument Tuning Report

File Name: default.tun  
File Path: C:\Elandata\Tuning\default.tun  
Number of Replicates: 5

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
Be	9.012	9.025 ✓	2014	2075	0.678 ✓
Co	58.933	58.925 ✓	14138	2040	0.694 ✓
In	114.904	114.925 ✓	27756	2019	0.692 ✓
Tl	204.975	204.925 ✓	49648	1980	0.726 ✓
U	238.050	238.125 ✓	57706	1963	0.708 ✓

## Relative Std. Dev.

Mass	Meas. Intens. RSD
<del>3.000</del>	<del>14.922</del>
9.000	1.433 ✓
59.000	1.111 ✓
115.000	1.401 ✓
205.000	1.419 ✓
238.000	1.537 ✓

WJ3  
12/10/15

# Sample Raw Data

# Sample/Batch Report

Sample File: C:\Elandata\Sample\L1519693.sam  
Method File: C:\Elandata\Method\6020\_trc\_aq.mth  
Dataset File: C:\Elandata\DataSet\WG848586\  
Report Date/Time: Thursday, December 10, 2015 15:49:31

A/S Loc.	Sample ID	Standards/Reagents
14	WG847373-1-T	CAL=C042815M1
15	WG847373-2-T	ICV=I042815M1
16	L1530889-01-T	IS=IS032615
17	L1530890-01-T	ICSA=042815ICSA1
18	L1531802-01-T	ICSAB=042815ICSAB1
19	WG847373-6-T-D5	ACID=MW042815A
20	WG847373-3-T	ICPMS2
21	WG847373-4-T	
22	WG847373-5-T	
23	L1531802-02-T	
24	L1531802-03-T	
25	L1531802-04-T	
26	L1531802-05-T	
27	L1531802-06-T	
28	L1531802-07-T	
29	L1531802-08-T	
30	WG847373-1-T	
31	L1530889-01-T	
32	L1530890-01-T	
33	L1531802-07-T-D5	
34	L1530890-01-T	
35	L1531802-08-T	

## Calibration Report

Analyte	Mass	Curve Type	Slope	Intercept	Corr Coeff
Cr	51.941	Linear Thru Zero	0.011941	0.000	1.000000
Fe	56.935	Linear Thru Zero	0.000358	0.000	1.000000
Ni	59.933	Linear Thru Zero	0.003099	0.000	1.000000
Cu	62.930	Linear Thru Zero	0.007039	0.000	1.000000
Zn	65.926	Linear Thru Zero	0.001653	0.000	1.000000
Ge	73.922	Linear Thru Zero	0.000000	0.000	0.000000
As	74.922	Linear Thru Zero	0.001965	0.000	1.000000
Se	81.917	Linear Thru Zero	0.000192	0.000	1.000000
Ag	106.905	Linear Thru Zero	0.017014	0.000	1.000000
Cd	113.904	Linear Thru Zero	0.007998	0.000	1.000000
In	114.904	Linear Thru Zero	0.000000	0.000	0.000000
Sb	120.904	Linear Thru Zero	0.010565	0.000	1.000000
Tb	158.925	Linear Thru Zero	0.000000	0.000	0.000000
Tl	204.975	Linear Thru Zero	0.028315	0.000	1.000000
Pb	207.977	Linear Thru Zero	0.037784	0.000	1.000000



## Method 6020A - Summary Report

### Sample ID: Blank

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\Blank.001

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:21:14

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	13941.098		0.555			ug/L
Fe	57	13801.723		2.358			ug/L
Ni	60	42.917		13.134			ug/L
Cu	63	194.585		11.426			ug/L
Zn	66	203.336		3.706			ug/L
Ge	74	727819.330		0.723			ug/L
As	75	153.072		21.279			ug/L
Se	82	32.639		40.844			ug/L
Ag	107	26.250		9.524			ug/L
Cd	114	22.287		10.373			ug/L
In	115	467711.089		1.375			ug/L
Sb	121	258.337		18.954			ug/L
Tb	159	554877.614		1.185			ug/L
Tl	205	252.920		13.448			ug/L
Pb	208	177.084		9.584			ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
Ge	74					
As	75					
Se	82					
Ag	107					
Cd	114					
In	115					
Sb	121					
Tb	159					
Tl	205					
Pb	208					

Sample ID: Blank

Report Date/Time: Thursday, December 10, 2015 14:22:07

Page 1

## Method 6020A - Summary Report

### Sample ID: Standard 1

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\Standard 1.002

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:22:46

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	868995.654	1.194	1.035	100.00000	1.40	ug/L
Fe	57	2600680.302	3.612	1.442	10100.00000	0.61	ug/L
Ni	60	222010.734	0.310	0.558	100.00000	1.17	ug/L
Cu	63	504377.411	0.704	0.944	100.00000	0.50	ug/L
Zn	66	118607.935	0.165	1.007	100.00000	0.97	ug/L
> Ge	74	716309.247	716309.247	1.154			ug/L
As	75	140911.179	0.197	0.226	100.00000	0.94	ug/L
Se	82	13774.387	0.019	2.468	100.00000	3.61	ug/L
Ag	107	25.833	0.000	2.794			ug/L
Cd	114	365094.834	0.800	0.936	100.00000	1.44	ug/L
> In	115	456477.466	456477.466	1.458			ug/L
Sb	121	482471.983	1.057	0.318	100.00000	1.19	ug/L
> Tb	159	555924.714	555924.714	0.547			ug/L
Tl	205	1574374.203	2.832	0.726	100.00000	0.19	ug/L
Pb	208	2100646.223	3.778	1.021	100.00000	0.96	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74					
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115					
Sb	121					
> Tb	159					
Tl	205					
Pb	208					

Sample ID: Standard 1

Report Date/Time: Thursday, December 10, 2015 14:23:39

Page 1

## Method 6020A - Summary Report

### Sample ID: Standard 2

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\Standard 2.003

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:24:17

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	13604.756	-0.001	0.460	-0.05996	8.21	ug/L
Fe	57	14117.203	0.000	0.754	0.47481	32.38	ug/L
Ni	60	63.750	0.000	26.380	0.00888	84.81	ug/L
Cu	63	318.339	0.000	8.731	0.02331	22.47	ug/L
Zn	66	487.513	0.000	2.473	0.23071	4.71	ug/L
> Ge	74	737851.456	737851.456	0.755			ug/L
As	75	328.494	0.000	15.608	0.11956	29.92	ug/L
Se	82	127.666	0.000	22.838	0.66814	31.07	ug/L
Ag	107	813655.775	1.701	0.925	100.00000	1.69	ug/L
Cd	114	45.955	0.000	20.369	0.00606	40.29	ug/L
> In	115	478282.415	478282.415	1.521			ug/L
Sb	121	7140.325	0.014	10.852	1.36246	12.72	ug/L
> Tb	159	561307.963	561307.963	0.559			ug/L
Tl	205	619.605	0.001	11.068	0.02288	18.21	ug/L
Pb	208	397.503	0.000	4.088	0.01030	7.88	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74					
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115					
Sb	121					
> Tb	159					
Tl	205					
Pb	208					

Sample ID: Standard 2

Report Date/Time: Thursday, December 10, 2015 14:25:10

Page 1

Method 6020A - Summary Report

Sample ID: QC Std 1

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 1.004

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:25:52

Batch ID:

Operator ID:DB

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	454577.942	0.607	1.022	50.84639	1.11	ug/L
Fe	57	1343312.931	1.832	1.077	5122.53502	0.62	ug/L
Ni	60	112176.205	0.154	0.716	49.85239	0.69	ug/L
Cu	63	257213.532	0.354	0.773	50.30847	0.69	ug/L
Zn	66	58569.747	0.080	1.036	48.64542	0.90	ug/L
> Ge	74	725816.586	725816.586	0.526			ug/L
As	75	71302.594	0.098	1.206	49.88027	0.82	ug/L
Se	82	6904.127	0.009	1.282	49.33474	1.12	ug/L
Ag	107	366209.952	0.790	1.313	46.45318	0.86	ug/L
Cd	114	185460.073	0.400	1.995	50.03450	0.36	ug/L
> In	115	463360.313	463360.313	1.921			ug/L
Sb	121	221198.829	0.477	0.699	45.14721	2.61	ug/L
> Tb	159	559052.468	559052.468	0.736			ug/L
Tl	205	792278.151	1.417	0.941	50.03533	1.04	ug/L
Pb	208	1101077.098	1.969	1.279	52.11727	0.63	ug/L

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52	101.693				
Fe	57	101.436				
Ni	60	99.705				
Cu	63	100.617				
Zn	66	97.291				
> Ge	74		99.725			
As	75	99.761				
Se	82	98.669				
Ag	107	92.906				
Cd	114	100.069				
> In	115		99.070			
Sb	121	90.294				
> Tb	159		100.752			
Tl	205	100.071				
Pb	208	104.235				

Sample ID: QC Std 1

Report Date/Time: Thursday, December 10, 2015 14:26:44

Page 1

## Method 6020A - Summary Report

### Sample ID: QC Std 2

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 2.005

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:27:31

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	13601.001	-0.001	0.863	-0.06710	8.64	ug/L
Fe	57	13959.878	-0.000	1.094	-0.35111	99.15	ug/L
Ni	60	50.417	0.000	5.161	0.00293	43.36	ug/L
Cu	63	222.919	0.000	7.572	0.00476	69.19	ug/L
Zn	66	218.336	0.000	8.764	0.00930	179.77	ug/L
> Ge	74	741057.730	741057.730	0.654			ug/L
As	75	208.073	0.000	18.768	0.03582	74.13	ug/L
Se	82	80.973	0.000	17.109	0.33539	28.14	ug/L
Ag	107	116.251	0.000	19.355	0.01111	25.64	ug/L
Cd	114	38.276	0.000	34.460	0.00414	85.21	ug/L
> In	115	474579.760	474579.760	0.424			ug/L
Sb	121	16839.039	0.035	10.956	3.30591	11.01	ug/L
> Tb	159	563420.889	563420.889	1.889			ug/L
Tl	205	446.261	0.000	5.511	0.01188	13.04	ug/L
Pb	208	260.835	0.000	5.169	0.00381	19.49	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		101.819			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		101.469			
Sb	121					
> Tb	159		101.540			
Tl	205					
Pb	208					

Sample ID: QC Std 2

Report Date/Time: Thursday, December 10, 2015 14:28:24

Page 1

## Method 6020A - Summary Report

### Sample ID: QC Std 2

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 2.006

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:29:32

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	13505.024	-0.001	0.470	-0.07705	14.39	ug/L
Fe	57	13543.416	-0.001	1.868	-1.88616	74.55	ug/L
Ni	60	35.833	-0.000	22.697	-0.00341	105.44	ug/L
Cu	63	185.002	-0.000	1.788	-0.00250	16.98	ug/L
Zn	66	187.919	-0.000	11.831	-0.01547	121.73	ug/L
> Ge	74	740655.949	740655.949	0.877			ug/L
As	75	113.071	-0.000	13.404	-0.02929	37.37	ug/L
Se	82	23.482	-0.000	51.800	-0.06895	121.92	ug/L
Ag	107	37.917	0.000	22.440	0.00146	73.45	ug/L
Cd	114	20.825	-0.000	54.796	-0.00040	766.99	ug/L
> In	115	468267.358	468267.358	0.792			ug/L
Sb	121	3001.749	0.006	10.812	0.55464	12.28	ug/L
> Tb	159	556882.936	556882.936	2.188			ug/L
Tl	205	247.920	-0.000	1.269	-0.00037	51.62	ug/L
Pb	208	181.667	0.000	10.329	0.00020	525.07	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		101.764			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		100.119			
Sb	121					
> Tb	159		100.361			
Tl	205					
Pb	208					

Sample ID: QC Std 2

Report Date/Time: Thursday, December 10, 2015 14:30:24

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## Method 6020A - Summary Report

### Sample ID: QC Std 3

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 3.007

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:31:13

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	18264.164	0.006	1.396	0.48758	6.53	ug/L
Fe	57	16279.571	0.003	2.882	9.22405	17.83	ug/L
Ni	60	1291.758	0.002	2.081	0.55104	2.74	ug/L
Cu	63	3144.294	0.004	2.174	0.57287	2.05	ug/L
Zn	66	6266.326	0.008	1.475	5.01496	1.87	ug/L
> Ge	74	731283.900	731283.900	1.087			ug/L
As	75	836.861	0.001	5.902	0.47529	7.08	ug/L
Se	82	155.968	0.000	8.075	0.87808	10.91	ug/L
Ag	107	2016.057	0.004	3.402	0.24218	2.90	ug/L
Cd	114	815.835	0.002	3.483	0.20537	3.58	ug/L
> In	115	482664.784	482664.784	0.841			ug/L
Sb	121	4344.789	0.008	4.430	0.79962	4.11	ug/L
> Tb	159	565512.589	565512.589	1.452			ug/L
Tl	205	3697.836	0.006	3.171	0.21480	1.85	ug/L
Pb	208	4873.847	0.008	1.276	0.21969	1.97	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52	97.516				
Fe	57	92.241				
Ni	60	110.208				
Cu	63	114.575				
Zn	66	100.299				
> Ge	74		100.476			
As	75	95.058				
Se	82	87.808				
Ag	107	121.090				
Cd	114	102.686				
> In	115		103.197			
Sb	121	159.924				
> Tb	159		101.917			
Tl	205	107.398				
Pb	208	109.843				

Sample ID: QC Std 3

Report Date/Time: Thursday, December 10, 2015 14:32:06

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**Method 6020A - Summary Report**

**Sample ID: QC Std 7**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 7.008

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:33:09

Batch ID:

Operator ID:DB

*Concentration Results*

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	41998.046	0.060	1.151	5.05865	0.96	ug/L
Fe	57	47118819.800	89.241	1.578	249562.81291	1.31	ug/L
Ni	60	18990.651	0.036	1.458	11.58941	1.06	ug/L
Cu	63	26171.384	0.049	2.566	7.00526	2.18	ug/L
Zn	66	5448.299	0.010	1.191	6.07466	1.29	ug/L
Ge	74	527875.392	527875.392	0.628			ug/L
As	75	10990.982	0.021	1.620	10.48794	1.64	ug/L
Se	82	-146.409	-0.000	16.107	-1.67837	13.55	ug/L
Ag	107	406.676	0.001	5.156	0.06442	5.45	ug/L
Cd	114	15514.926	0.044	2.682	5.48937	2.67	ug/L
In	115	352976.849	352976.849	0.033			ug/L
Sb	121	1721.414	0.004	10.447	0.40933	11.82	ug/L
Tb	159	445918.470	445918.470	0.905			ug/L
Tl	205	870.875	0.001	11.484	0.05292	16.13	ug/L
Pb	208	2063.843	0.004	2.734	0.11407	3.89	ug/L

*QC Calculated Values*

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57	99.825				
Ni	60					
Cu	63					
Zn	66					
Ge	74		72.528			
As	75					
Se	82					
Ag	107					
Cd	114					
In	115		75.469			
Sb	121					
Tb	159		80.363			
Tl	205					
Pb	208					

Sample ID: QC Std 7

Report Date/Time: Thursday, December 10, 2015 14:34:02

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Method 6020A - Summary Report

Sample ID: QC Std 8

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 8.009

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:34:52

Batch ID:

Operator ID:DB

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	693745.725	1.267	1.066	106.09300	0.83	ug/L
Fe	57	46582983.649	86.332	1.465	241426.88830	1.24	ug/L
Ni	60	177912.860	0.330	0.765	106.40294	0.84	ug/L
Cu	63	372334.219	0.690	1.261	98.01977	1.30	ug/L
Zn	66	87290.835	0.162	0.386	97.71726	0.62	ug/L
> Ge	74	539453.225	539453.225	0.343			ug/L
As	75	125089.734	0.232	0.820	117.88473	0.49	ug/L
Se	82	10802.089	0.020	0.841	104.11190	0.50	ug/L
Ag	107	267452.553	0.736	1.243	43.22977	0.84	ug/L
Cd	114	294144.775	0.809	0.601	101.13646	0.06	ug/L
> In	115	363595.651	363595.651	0.541			ug/L
Sb	121	394778.281	1.085	0.825	102.71593	0.61	ug/L
> Tb	159	453651.430	453651.430	0.331			ug/L
Tl	205	1270186.252	2.799	0.302	98.86912	0.61	ug/L
Pb	208	1657699.046	3.654	1.084	96.70626	1.38	ug/L

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52	106.093				
Fe	57	96.571				
Ni	60	106.403				
Cu	63	98.020				
Zn	66	97.717				
> Ge	74		74.119			
As	75	117.885				
Se	82	104.112				
Ag	107	86.460				
Cd	114	101.136				
> In	115		77.739			
Sb	121	102.716				
> Tb	159		81.757			
Tl	205	98.869				
Pb	208	96.706				

Sample ID: QC Std 8

Report Date/Time: Thursday, December 10, 2015 14:35:45

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**Method 6020A - Summary Report**

**Sample ID: QC Std 13**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 13.010

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:36:40

Batch ID:

Operator ID:DB

*Concentration Results*

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	13063.129	-0.001	0.347	-0.11498	12.74	ug/L
Fe	57	22416.789	0.012	3.188	32.30885	9.65	ug/L
Ni	60	51.250	0.000	25.697	0.00348	164.95	ug/L
Cu	63	329.173	0.000	3.529	0.02568	10.47	ug/L
Zn	66	272.504	0.000	7.209	0.05535	28.06	ug/L
> Ge	74	734672.538	734672.538	0.688			ug/L
As	75	403.080	0.000	7.603	0.17208	11.28	ug/L
Se	82	81.380	0.000	48.062	0.34229	80.17	ug/L
Ag	107	47.500	0.000	9.116	0.00258	19.80	ug/L
Cd	114	135.336	0.000	18.035	0.02968	22.46	ug/L
> In	115	475171.307	475171.307	0.779			ug/L
Sb	121	3393.138	0.007	11.031	0.62364	12.03	ug/L
> Tb	159	560231.616	560231.616	0.851			ug/L
Tl	205	458.345	0.000	8.868	0.01279	19.44	ug/L
Pb	208	361.253	0.000	8.419	0.00861	15.36	ug/L

*QC Calculated Values*

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		100.942			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		101.595			
Sb	121					
> Tb	159		100.965			
Tl	205					
Pb	208					

Sample ID: QC Std 13

Report Date/Time: Thursday, December 10, 2015 14:37:33

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## Method 6020A - Summary Report

### Sample ID: QC Std 14

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 14.011

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:38:24

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	13497.931	-0.001	1.395	-0.08810	25.02	ug/L
Fe	57	16024.111	0.003	0.796	7.06890	9.59	ug/L
Ni	60	40.000	-0.000	5.413	-0.00172	44.57	ug/L
Cu	63	265.421	0.000	11.482	0.01255	42.19	ug/L
Zn	66	219.586	0.000	10.252	0.00909	192.48	ug/L
> Ge	74	745662.278	745662.278	0.960			ug/L
As	75	183.906	0.000	3.421	0.01846	17.10	ug/L
Se	82	20.076	-0.000	79.742	-0.09356	119.86	ug/L
Ag	107	31.250	0.000	24.000	0.00051	188.75	ug/L
Cd	114	44.263	0.000	12.380	0.00549	24.13	ug/L
> In	115	483241.742	483241.742	1.692			ug/L
Sb	121	1589.307	0.003	12.015	0.25949	16.50	ug/L
> Tb	159	562132.955	562132.955	2.163			ug/L
Tl	205	273.337	0.000	2.757	0.00107	9.91	ug/L
Pb	208	237.085	0.000	8.922	0.00273	44.93	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		102.452			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		103.321			
Sb	121					
> Tb	159		101.308			
Tl	205					
Pb	208					

Sample ID: QC Std 14

Report Date/Time: Thursday, December 10, 2015 14:39:17

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## Method 6020A - Summary Report

**Sample ID: WG847373-1-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\WG847373-1-T.012

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:40:19

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	16182.307	0.003	0.570	0.21190	7.20	ug/L
Fe	57	17024.260	0.004	1.061	10.76758	8.39	ug/L
Ni	60	241.253	0.000	8.530	0.08534	11.44	ug/L
Cu	63	5779.754	0.007	1.676	1.06228	1.16	ug/L
Zn	66	4912.994	0.006	1.628	3.81429	3.04	ug/L
> Ge	74	746307.905	746307.905	1.403			ug/L
As	75	195.990	0.000	7.715	0.02659	36.21	ug/L
Se	82	5.483	-0.000	252.917	-0.19456	50.20	ug/L
Ag	107	42.083	0.000	30.485	0.00175	92.41	ug/L
Cd	114	-82.740	-0.000	60.310	-0.02706	47.01	ug/L
> In	115	491113.083	491113.083	1.588			ug/L
Sb	121	1241.752	0.002	12.616	0.18739	18.18	ug/L
> Tb	159	574435.826	574435.826	1.515			ug/L
Tl	205	211.252	-0.000	4.622	-0.00310	23.00	ug/L
Pb	208	2444.711	0.004	1.085	0.10420	1.28	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		102.540			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		105.004			
Sb	121					
> Tb	159		103.525			
Tl	205					
Pb	208					

Sample ID: WG847373-1-T

Report Date/Time: Thursday, December 10, 2015 14:41:12

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## Method 6020A - Summary Report

### Sample ID: WG847373-2-T

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\WG847373-2-T.013

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:41:51

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	9753669.878	13.576	1.589	1136.90655	1.50	ug/L
Fe	57	1284929.640	1.772	0.224	4955.46134	0.47	ug/L
Ni	60	2515455.337	3.506	0.767	1131.34442	0.80	ug/L
Cu	63	5688009.711	7.928	0.965	1126.29759	0.87	ug/L
Zn	66	1235672.820	1.722	0.242	1041.70706	0.30	ug/L
> Ge	74	717448.148	717448.148	0.253			ug/L
As	75	1529054.509	2.131	1.059	1084.35679	0.81	ug/L
Se	82	148118.335	0.206	1.208	1075.59130	1.13	ug/L
Ag	107	169526.167	0.356	1.069	20.94789	0.21	ug/L
Cd	114	2075618.654	4.364	2.587	545.59765	1.71	ug/L
> In	115	475578.645	475578.645	0.990			ug/L
Sb	121	115365.735	0.242	0.413	22.90901	0.63	ug/L
> Tb	159	584557.070	584557.070	1.777			ug/L
Tl	205	18850481.628	32.251	0.740	1139.00069	1.05	ug/L
Pb	208	25445298.497	43.543	0.873	1152.42305	2.67	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		98.575			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		101.682			
Sb	121					
> Tb	159		105.349			
Tl	205					
Pb	208					

Sample ID: WG847373-2-T

Report Date/Time: Thursday, December 10, 2015 14:42:44

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## Method 6020A - Summary Report

**Sample ID: L1530889-01-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1530889-01-T.014

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:43:22

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	26144.624	0.016	0.376	1.37051	1.86	ug/L
Fe	57	26591.334	0.017	0.527	47.99608	1.22	ug/L
Ni	60	465.845	0.001	4.263	0.18522	5.24	ug/L
Cu	63	3647.399	0.005	4.415	0.66611	5.19	ug/L
Zn	66	4350.207	0.006	0.707	3.40621	1.16	ug/L
> Ge	74	736078.706	736078.706	0.487			ug/L
As	75	2470.500	0.003	16.737	1.60001	17.40	ug/L
Se	82	611.751	0.001	16.857	4.09515	17.37	ug/L
Ag	107	55.000	0.000	14.193	0.00326	27.61	ug/L
Cd	114	98.521	0.000	35.267	0.01901	45.36	ug/L
> In	115	492591.045	492591.045	0.657			ug/L
Sb	121	1020.058	0.002	10.303	0.14381	14.84	ug/L
> Tb	159	578778.660	578778.660	3.169			ug/L
Tl	205	2276.957	0.003	16.153	0.12334	21.64	ug/L
Pb	208	2604.316	0.004	7.771	0.11088	11.44	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		101.135			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		105.320			
Sb	121					
> Tb	159		104.307			
Tl	205					
Pb	208					

Sample ID: L1530889-01-T

Report Date/Time: Thursday, December 10, 2015 14:44:15

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Method 6020A - Summary Report

Sample ID: L1530890-01-T

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1530890-01-T.015

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:44:54

Batch ID: WG847373

Operator ID:DB

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	14858.389	-0.009	2.779	-0.76602	6.19	ug/L
Fe	57	10006.863	-0.012	17.174	-33.98988	14.32	ug/L
Ni	60	268.754	0.000	21.350	0.03904	24.82	ug/L
Cu	63	1037.977	0.000	12.468	0.06135	21.34	ug/L
Zn	66	663.358	0.000	13.493	0.10230	47.45	ug/L
> Ge	74	1488870.203	1488870.203	7.672			ug/L
As	75	996.878	0.000	13.607	0.23503	22.26	ug/L
Se	82	95.504	0.000	32.126	0.10734	128.78	ug/L
Ag	107	21.250	-0.000	5.882	-0.00169	4.18	ug/L
Cd	114	144.179	0.000	26.515	0.01725	33.77	ug/L
> In	115	774479.858	774479.858	1.789			ug/L
Sb	121	430.011	0.000	23.917	0.00014	8330.54	ug/L
> Tb	159	934223.925	934223.925	3.333			ug/L
Tl	205	1248.003	0.001	10.999	0.03101	12.55	ug/L
Pb	208	1650.059	0.001	16.989	0.03823	18.78	ug/L

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		204.566			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		165.589			
Sb	121					
> Tb	159		168.366			
Tl	205					
Pb	208					

Sample ID: L1530890-01-T

Report Date/Time: Thursday, December 10, 2015 14:45:47

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Method 6020A - Summary Report

Sample ID: L1531802-01-T

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1531802-01-T.016

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:46:25

Batch ID: WG847373

Operator ID:DB

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	23996.631	0.025	0.831	2.08535	1.59	ug/L
Fe	57	137445.826	0.233	0.453	652.63705	0.76	ug/L
Ni	60	15817.916	0.029	0.499	9.35175	0.65	ug/L
Cu	63	53659.989	0.098	0.695	13.95811	0.98	ug/L
Zn	66	7551.886	0.014	1.546	8.21792	1.48	ug/L
> Ge	74	544693.083	544693.083	0.308			ug/L
As	75	6175.596	0.011	1.850	5.66204	1.64	ug/L
Se	82	2094.825	0.004	2.745	19.80682	2.60	ug/L
Ag	107	62.917	0.000	16.181	0.00682	23.49	ug/L
Cd	114	110.146	0.000	21.222	0.03168	24.22	ug/L
> In	115	365444.602	365444.602	0.803			ug/L
Sb	121	1146.739	0.003	5.812	0.24483	7.98	ug/L
> Tb	159	470708.129	470708.129	1.009			ug/L
Tl	205	513.765	0.001	9.720	0.02247	17.91	ug/L
Pb	208	3717.799	0.008	2.305	0.20059	2.09	ug/L

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		74.839			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		78.135			
Sb	121					
> Tb	159		84.831			
Tl	205					
Pb	208					

Sample ID: L1531802-01-T

Report Date/Time: Thursday, December 10, 2015 14:47:18

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## Method 6020A - Summary Report

### Sample ID: QC Std 5

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 5.017

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:47:59

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	454208.965	0.611	0.721	51.18081	1.68	ug/L
Fe	57	1360049.705	1.868	1.008	5225.02406	2.03	ug/L
Ni	60	112838.920	0.157	0.794	50.50881	1.78	ug/L
Cu	63	258235.185	0.358	0.652	50.86969	0.97	ug/L
Zn	66	59087.289	0.082	2.093	49.42398	1.39	ug/L
> Ge	74	720698.823	720698.823	0.999			ug/L
As	75	72292.443	0.100	1.008	50.93746	1.22	ug/L
Se	82	6944.519	0.010	1.374	49.98550	2.20	ug/L
Ag	107	369233.202	0.796	0.889	46.77061	0.59	ug/L
Cd	114	186397.517	0.402	0.848	50.22262	1.05	ug/L
> In	115	463968.522	463968.522	0.350			ug/L
Sb	121	220845.933	0.475	1.887	45.00102	1.88	ug/L
> Tb	159	559057.986	559057.986	1.386			ug/L
Tl	205	802974.859	1.436	2.722	50.70308	1.36	ug/L
Pb	208	1117666.044	1.999	0.117	52.90979	1.33	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52	102.362				
Fe	57	103.466				
Ni	60	101.018				
Cu	63	101.739				
Zn	66	98.848				
> Ge	74		99.022			
As	75	101.875				
Se	82	99.971				
Ag	107	93.541				
Cd	114	100.445				
> In	115		99.200			
Sb	121	90.002				
> Tb	159		100.753			
Tl	205	101.406				
Pb	208	105.820				

Sample ID: QC Std 5

Report Date/Time: Thursday, December 10, 2015 14:48:52

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## Method 6020A - Summary Report

### Sample ID: QC Std 6

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 6.018

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:50:25

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	13823.419	-0.000	0.271	-0.03839	33.94	ug/L
Fe	57	14106.773	0.000	2.018	0.33167	464.05	ug/L
Ni	60	58.334	0.000	6.186	0.00642	20.28	ug/L
Cu	63	355.424	0.000	10.582	0.03036	25.75	ug/L
Zn	66	237.086	0.000	5.066	0.02491	32.21	ug/L
> Ge	74	739413.967	739413.967	1.046			ug/L
As	75	218.074	0.000	18.423	0.04326	67.16	ug/L
Se	82	72.984	0.000	20.768	0.28118	39.32	ug/L
Ag	107	83.750	0.000	23.457	0.00734	34.37	ug/L
Cd	114	34.011	0.000	33.526	0.00324	96.00	ug/L
> In	115	462769.647	462769.647	0.241			ug/L
Sb	121	14396.826	0.031	4.937	2.89213	4.82	ug/L
> Tb	159	558629.189	558629.189	0.683			ug/L
Tl	205	468.762	0.000	9.791	0.01353	20.40	ug/L
Pb	208	315.836	0.000	7.719	0.00651	16.97	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		101.593			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		98.943			
Sb	121					
> Tb	159		100.676			
Tl	205					
Pb	208					

Sample ID: QC Std 6

Report Date/Time: Thursday, December 10, 2015 14:51:18

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## Method 6020A - Summary Report

### Sample ID: QC Std 6

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 6.019

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:53:33

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	13897.700	-0.000	1.419	-0.04117	29.47	ug/L
Fe	57	13950.279	-0.000	0.963	-0.64072	19.09	ug/L
Ni	60	36.667	-0.000	10.415	-0.00315	48.84	ug/L
Cu	63	245.837	0.000	11.430	0.00893	61.22	ug/L
Zn	66	206.669	-0.000	2.444	-0.00109	473.71	ug/L
Ge	74	744644.276	744644.276	0.795			ug/L
As	75	145.572	-0.000	10.411	-0.00758	129.61	ug/L
Se	82	21.307	-0.000	34.665	-0.08484	59.85	ug/L
Ag	107	27.917	0.000	21.160	0.00020	387.80	ug/L
Cd	114	25.487	0.000	23.399	0.00083	191.02	ug/L
In	115	469525.448	469525.448	1.794			ug/L
Sb	121	2692.069	0.005	12.614	0.48971	12.02	ug/L
Tb	159	548156.897	548156.897	0.789			ug/L
Tl	205	239.170	-0.000	12.250	-0.00070	252.39	ug/L
Pb	208	197.918	0.000	6.069	0.00111	47.17	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
Ge	74		102.312			
As	75					
Se	82					
Ag	107					
Cd	114					
In	115		100.388			
Sb	121					
Tb	159		98.789			
Tl	205					
Pb	208					

Sample ID: QC Std 6

Report Date/Time: Thursday, December 10, 2015 14:54:26

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## Method 6020A - Summary Report

**Sample ID: WG847373-6-T-D5**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\WG847373-6-T-D5.020

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:55:17

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	16842.256	0.006	1.391	0.46442	6.21	ug/L
Fe	57	42348.432	0.043	1.942	120.65388	2.97	ug/L
Ni	60	3839.978	0.006	3.469	1.79800	3.05	ug/L
Cu	63	12687.180	0.018	0.386	2.60553	1.10	ug/L
Zn	66	1992.719	0.003	3.841	1.59925	5.09	ug/L
> Ge	74	681892.835	681892.835	1.093			ug/L
As	75	1300.666	0.002	7.774	0.86312	7.55	ug/L
Se	82	479.716	0.001	12.972	3.43247	13.88	ug/L
Ag	107	23.333	-0.000	18.814	-0.00015	382.71	ug/L
Cd	114	39.601	0.000	58.270	0.00539	122.64	ug/L
> In	115	436269.218	436269.218	0.070			ug/L
Sb	121	1857.275	0.004	11.511	0.35065	13.16	ug/L
> Tb	159	538367.219	538367.219	1.829			ug/L
Tl	205	233.753	-0.000	15.341	-0.00074	346.58	ug/L
Pb	208	998.772	0.002	2.500	0.04065	1.32	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		93.690			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		93.278			
Sb	121					
> Tb	159		97.024			
Tl	205					
Pb	208					

Sample ID: WG847373-6-T-D5

Report Date/Time: Thursday, December 10, 2015 14:56:10

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Method 6020A - Summary Report

Sample ID: WG847373-3-T

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\WG847373-3-T.021

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:56:49

Batch ID: WG847373

Operator ID:DB

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	21195.516	0.020	1.389	1.64304	1.83	ug/L
Fe	57	133249.472	0.225	0.672	628.71410	1.70	ug/L
Ni	60	15764.490	0.029	0.417	9.28733	1.05	ug/L
Cu	63	45423.623	0.083	1.016	11.76769	0.93	ug/L
Zn	66	3308.102	0.006	2.996	3.49256	3.94	ug/L
> Ge	74	546638.681	546638.681	0.922			ug/L
As	75	6224.796	0.011	1.323	5.68800	1.99	ug/L
Se	82	1894.003	0.003	2.799	17.82383	3.32	ug/L
Ag	107	57.084	0.000	34.785	0.00594	55.34	ug/L
Cd	114	158.193	0.000	10.535	0.04843	11.63	ug/L
> In	115	363643.290	363643.290	0.746			ug/L
Sb	121	1786.843	0.004	5.191	0.41288	6.32	ug/L
> Tb	159	469232.121	469232.121	2.200			ug/L
Tl	205	382.091	0.000	2.298	0.01267	7.75	ug/L
Pb	208	2024.673	0.004	1.676	0.10582	4.20	ug/L

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		75.106			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		77.750			
Sb	121					
> Tb	159		84.565			
Tl	205					
Pb	208					

Sample ID: WG847373-3-T

Report Date/Time: Thursday, December 10, 2015 14:57:42

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**Method 6020A - Summary Report**

**Sample ID: WG847373-4-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\WG847373-4-T.022

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 14:58:20

Batch ID: WG847373

Operator ID:DB

*Concentration Results*

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	8470094.722	15.816	1.579	1324.53346	1.47	ug/L
Fe	57	1200758.827	2.226	0.548	6225.04936	1.12	ug/L
Ni	60	1951922.509	3.649	0.185	1177.55922	0.85	ug/L
Cu	63	4376839.088	8.183	1.427	1162.50196	1.54	ug/L
Zn	66	942932.769	1.763	0.555	1066.25673	0.82	ug/L
> Ge	74	534889.000	534889.000	0.668			ug/L
As	75	1284580.398	2.401	0.814	1221.92956	0.30	ug/L
Se	82	108027.902	0.202	0.915	1052.21549	0.81	ug/L
Ag	107	122904.420	0.341	0.737	20.03296	0.47	ug/L
Cd	114	1579461.601	4.381	0.695	547.72579	1.07	ug/L
> In	115	360535.442	360535.442	0.622			ug/L
Sb	121	92707.002	0.257	1.005	24.28693	1.35	ug/L
> Tb	159	474575.396	474575.396	2.077			ug/L
Tl	205	14742131.575	31.065	2.128	1097.09917	1.19	ug/L
Pb	208	19443032.681	40.974	2.575	1084.43029	2.40	ug/L

*QC Calculated Values*

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		73.492			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		77.085			
Sb	121					
> Tb	159		85.528			
Tl	205					
Pb	208					

Sample ID: WG847373-4-T

Report Date/Time: Thursday, December 10, 2015 14:59:13

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**Method 6020A - Summary Report**

**Sample ID: WG847373-5-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\WG847373-5-T.023

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:00:32

Batch ID: WG847373

Operator ID:DB

*Concentration Results*

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	8433784.239	15.629	0.908	1308.83718	1.30	ug/L
Fe	57	1200632.898	2.209	0.553	6176.47157	0.93	ug/L
Ni	60	1930946.321	3.583	0.466	1156.01912	0.85	ug/L
Cu	63	4407229.853	8.177	1.612	1161.67187	1.85	ug/L
Zn	66	951767.964	1.766	0.880	1068.03899	0.98	ug/L
> Ge	74	538991.513	538991.513	0.388			ug/L
As	75	1276721.196	2.369	0.740	1205.24866	1.13	ug/L
Se	82	109170.647	0.203	0.321	1055.25069	0.38	ug/L
Ag	107	123197.066	0.341	0.265	20.05942	1.10	ug/L
Cd	114	1568909.296	4.347	1.184	543.44544	1.01	ug/L
> In	115	360950.836	360950.836	1.308			ug/L
Sb	121	92936.816	0.257	0.714	24.32021	1.13	ug/L
> Tb	159	478479.029	478479.029	0.327			ug/L
Tl	205	14988135.216	31.325	1.734	1106.29794	1.95	ug/L
Pb	208	19754574.153	41.287	0.922	1092.71377	1.13	ug/L

*QC Calculated Values*

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		74.056			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		77.174			
Sb	121					
> Tb	159		86.231			
Tl	205					
Pb	208					

Sample ID: WG847373-5-T

Report Date/Time: Thursday, December 10, 2015 15:01:25

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## Method 6020A - Summary Report

**Sample ID: L1531802-02-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1531802-02-T.024

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:02:03

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	28518.419	0.031	1.596	2.56074	2.19	ug/L
Fe	57	163644.323	0.266	0.273	745.03932	0.52	ug/L
Ni	60	15279.918	0.027	2.131	8.57976	2.42	ug/L
Cu	63	46831.157	0.081	1.132	11.56495	1.42	ug/L
Zn	66	10431.815	0.018	0.337	10.83582	0.18	ug/L
Ge	74	573427.484	573427.484	0.288			ug/L
As	75	6911.967	0.012	6.153	6.02586	5.98	ug/L
Se	82	2298.577	0.004	7.287	20.65251	7.13	ug/L
Ag	107	52.083	0.000	15.430	0.00483	27.60	ug/L
Cd	114	232.207	0.001	4.899	0.07102	5.80	ug/L
In	115	377226.528	377226.528	1.334			ug/L
Sb	121	1228.000	0.003	7.215	0.25607	10.16	ug/L
Tb	159	499824.280	499824.280	0.930			ug/L
Tl	205	5093.098	0.010	7.587	0.34396	8.93	ug/L
Pb	208	4834.258	0.009	5.664	0.24764	6.83	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
Ge	74		78.787			
As	75					
Se	82					
Ag	107					
Cd	114					
In	115		80.654			
Sb	121					
Tb	159		90.078			
Tl	205					
Pb	208					

Sample ID: L1531802-02-T

Report Date/Time: Thursday, December 10, 2015 15:02:56

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**Method 6020A - Summary Report**

**Sample ID: L1531802-03-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1531802-03-T.025

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:03:35

Batch ID: WG847373

Operator ID:DB

*Concentration Results*

Analyte	Mass	Meas. Intens.	Mean	Net Intens.	Mean	Meas. Intens.	RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	26805.297		0.028		1.031		2.36309	0.95	ug/L
Fe	57	159582.716		0.263		0.879		735.66879	0.87	ug/L
Ni	60	14759.889		0.026		0.709		8.39828	0.85	ug/L
Cu	63	34597.800		0.061		1.185		8.64893	1.33	ug/L
Zn	66	3053.846		0.005		1.177		3.09574	0.78	ug/L
> Ge	74	565837.356		565837.356		0.516				ug/L
As	75	5257.937		0.009		5.844		4.62049	5.47	ug/L
Se	82	1770.602		0.003		4.437		16.07088	4.10	ug/L
Ag	107	35.833		0.000		14.523		0.00228	35.55	ug/L
Cd	114	143.564		0.000		14.149		0.04153	15.02	ug/L
> In	115	377653.912		377653.912		0.976				ug/L
Sb	121	845.456		0.002		10.892		0.15952	13.53	ug/L
> Tb	159	491413.961		491413.961		0.716				ug/L
Tl	205	1658.902		0.003		6.735		0.10310	7.19	ug/L
Pb	208	1921.330		0.004		2.626		0.09502	2.18	ug/L

*QC Calculated Values*

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		77.744			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		80.745			
Sb	121					
> Tb	159		88.563			
Tl	205					
Pb	208					

Sample ID: L1531802-03-T

Report Date/Time: Thursday, December 10, 2015 15:04:28

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## Method 6020A - Summary Report

**Sample ID: L1531802-04-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1531802-04-T.026

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:05:06

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	23786.079	0.017	0.986	1.43142	2.93	ug/L
Fe	57	546918.059	0.814	1.655	2277.49303	1.21	ug/L
Ni	60	30189.218	0.046	1.526	14.82479	1.09	ug/L
Cu	63	19237.001	0.029	1.206	4.12680	1.69	ug/L
Zn	66	125999.704	0.192	0.815	115.98191	1.32	ug/L
> Ge	74	656248.858	656248.858	0.543			ug/L
As	75	3525.010	0.005	1.569	2.62632	1.82	ug/L
Se	82	382.113	0.001	7.449	2.80142	8.63	ug/L
Ag	107	62.500	0.000	14.422	0.00518	22.31	ug/L
Cd	114	2336.668	0.005	4.214	0.66891	3.66	ug/L
> In	115	432857.473	432857.473	1.816			ug/L
Sb	121	2243.194	0.005	4.704	0.43826	5.14	ug/L
> Tb	159	552083.749	552083.749	0.789			ug/L
Tl	205	1845.604	0.003	2.849	0.10195	2.50	ug/L
Pb	208	20720.118	0.037	1.671	0.98499	2.45	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		90.166			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		92.548			
Sb	121					
> Tb	159		99.496			
Tl	205					
Pb	208					

Sample ID: L1531802-04-T

Report Date/Time: Thursday, December 10, 2015 15:05:59

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## Method 6020A - Summary Report

**Sample ID: L1531802-05-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1531802-05-T.027

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:06:38

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	24712.714	0.020	1.285	1.65137	1.08	ug/L
Fe	57	3251822.967	5.096	1.107	14251.60925	0.14	ug/L
Ni	60	10273.303	0.016	1.747	5.19534	0.77	ug/L
Cu	63	42083.439	0.066	1.085	9.36679	0.33	ug/L
Zn	66	21079.412	0.033	0.858	19.89119	1.51	ug/L
> Ge	74	635717.258	635717.258	1.074			ug/L
As	75	9301.177	0.014	1.166	7.33821	1.14	ug/L
Se	82	1032.713	0.002	6.118	8.23411	6.88	ug/L
Ag	107	71.667	0.000	6.125	0.00679	9.73	ug/L
Cd	114	109.050	0.000	13.644	0.02670	16.16	ug/L
> In	115	417496.192	417496.192	2.535			ug/L
Sb	121	1135.904	0.002	4.848	0.20514	2.99	ug/L
> Tb	159	527108.809	527108.809	2.592			ug/L
Tl	205	721.695	0.001	4.839	0.03231	10.40	ug/L
Pb	208	11054.739	0.021	1.305	0.54679	2.12	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		87.345			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		89.264			
Sb	121					
> Tb	159		94.996			
Tl	205					
Pb	208					

Sample ID: L1531802-05-T

Report Date/Time: Thursday, December 10, 2015 15:07:31

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## Method 6020A - Summary Report

**Sample ID: L1531802-06-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1531802-06-T.028

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:08:09

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	17184.145	0.007	1.639	0.57361	6.23	ug/L
Fe	57	127718.446	0.174	0.872	487.45041	0.92	ug/L
Ni	60	65644.506	0.099	1.118	32.03554	1.25	ug/L
Cu	63	22715.010	0.034	0.563	4.84543	0.42	ug/L
Zn	66	531515.719	0.804	1.094	486.38039	0.97	ug/L
> Ge	74	660826.811	660826.811	0.157			ug/L
As	75	1238.574	0.002	3.208	0.84674	3.79	ug/L
Se	82	211.744	0.000	16.772	1.43596	19.43	ug/L
Ag	107	40.833	0.000	17.937	0.00211	45.71	ug/L
Cd	114	1514.890	0.003	1.168	0.42091	1.01	ug/L
> In	115	443690.984	443690.984	0.615			ug/L
Sb	121	5680.525	0.012	1.902	1.15947	1.40	ug/L
> Tb	159	549532.703	549532.703	2.293			ug/L
Tl	205	889.627	0.001	3.374	0.04111	7.04	ug/L
Pb	208	3611.529	0.006	1.838	0.16557	3.56	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		90.795			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		94.864			
Sb	121					
> Tb	159		99.037			
Tl	205					
Pb	208					

Sample ID: L1531802-06-T

Report Date/Time: Thursday, December 10, 2015 15:09:02

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## Method 6020A - Summary Report

**Sample ID: L1531802-07-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1531802-07-T.029

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:09:41

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	18562.686	0.033	1.728	2.76158	2.84	ug/L
Fe	57	380077.996	1.048	0.923	2931.92185	1.06	ug/L
Ni	60	91671.552	0.257	0.282	83.05299	0.17	ug/L
Cu	63	203675.391	0.572	6.681	81.22857	6.82	ug/L
Zn	66	567440.591	1.593	1.116	963.81332	1.13	ug/L
> Ge	74	356085.100	356085.100	0.142			ug/L
As	75	26279.398	0.074	2.621	37.44742	2.77	ug/L
Se	82	6217.230	0.017	2.573	90.75127	2.59	ug/L
Ag	107	354.590	0.001	3.039	0.08153	3.45	ug/L
Cd	114	47257.079	0.192	0.970	24.03950	0.61	ug/L
> In	115	245709.752	245709.752	0.589			ug/L
Sb	121	1413.860	0.005	1.004	0.49237	1.33	ug/L
> Tl	159	342217.612	342217.612	0.992			ug/L
Tl	205	4602.416	0.013	4.535	0.45891	4.89	ug/L
Pb	208	4347.070	0.012	0.383	0.32777	0.90	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		48.925			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		52.535			
Sb	121					
> Tl	159		61.674			
Tl	205					
Pb	208					

Sample ID: L1531802-07-T

Report Date/Time: Thursday, December 10, 2015 15:10:34

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## Method 6020A - Summary Report

### Sample ID: QC Std 5

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 5.030

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:11:14

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	461974.596	0.634	1.218	53.10365	2.37	ug/L
Fe	57	1369022.534	1.917	0.423	5360.20875	1.25	ug/L
Ni	60	111797.859	0.158	1.000	50.98713	1.08	ug/L
Cu	63	259332.034	0.366	0.740	52.05803	1.75	ug/L
Zn	66	58640.620	0.083	1.112	49.99366	2.44	ug/L
> Ge	74	707318.630	707318.630	1.377			ug/L
As	75	69936.214	0.099	1.426	50.20651	0.90	ug/L
Se	82	7316.058	0.010	0.864	53.66899	0.68	ug/L
Ag	107	364509.194	0.799	1.098	46.93902	2.18	ug/L
Cd	114	185933.013	0.407	0.881	50.92151	0.63	ug/L
> In	115	456477.578	456477.578	1.406			ug/L
Sb	121	218793.590	0.479	2.120	45.31499	1.67	ug/L
> Tb	159	577922.720	577922.720	1.548			ug/L
Tl	205	845709.377	1.463	2.634	51.66101	1.47	ug/L
Pb	208	1183394.813	2.048	1.403	54.19193	1.66	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52	106.207				
Fe	57	106.143				
Ni	60	101.974				
Cu	63	104.116				
Zn	66	99.987				
> Ge	74		97.183			
As	75	100.413				
Se	82	107.338				
Ag	107	93.878				
Cd	114	101.843				
> In	115		97.598			
Sb	121	90.630				
> Tb	159		104.153			
Tl	205	103.322				
Pb	208	108.384				

Sample ID: QC Std 5

Report Date/Time: Thursday, December 10, 2015 15:12:07

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## Method 6020A - Summary Report

### Sample ID: QC Std 6

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 6.031

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:20:23

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	14040.836	-0.000	1.189	-0.02489	75.09	ug/L
Fe	57	13650.241	-0.001	0.979	-1.75746	57.27	ug/L
Ni	60	58.750	0.000	7.370	0.00644	30.84	ug/L
Cu	63	645.440	0.001	5.971	0.08512	7.11	ug/L
Zn	66	435.427	0.000	9.609	0.18479	18.76	ug/L
> Ge	74	744611.065	744611.065	1.175			ug/L
As	75	156.822	0.000	18.264	0.00010	19808.73	ug/L
Se	82	28.856	-0.000	80.476	-0.03174	514.73	ug/L
Ag	107	17.083	-0.000	11.177	-0.00121	21.55	ug/L
Cd	114	2.428	-0.000	677.749	-0.00528	82.13	ug/L
> In	115	480171.346	480171.346	1.623			ug/L
Sb	121	2130.671	0.004	17.390	0.36843	21.39	ug/L
> Tb	159	576532.585	576532.585	1.532			ug/L
Tl	205	286.255	0.000	5.575	0.00143	53.90	ug/L
Pb	208	276.668	0.000	1.710	0.00425	4.10	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		102.307			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		102.664			
Sb	121					
> Tb	159		103.903			
Tl	205					
Pb	208					

Sample ID: QC Std 6

Report Date/Time: Thursday, December 10, 2015 15:21:16

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## Method 6020A - Summary Report

**Sample ID: L1531802-08-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1531802-08-T.032

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:22:14

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	19637.856	0.007	0.990	0.58849	7.23	ug/L
Fe	57	18305.077	0.005	0.365	15.21739	7.46	ug/L
Ni	60	427.510	0.001	6.042	0.16485	6.34	ug/L
Cu	63	19895.498	0.026	1.013	3.73060	2.29	ug/L
Zn	66	3925.848	0.005	1.794	2.99670	1.14	ug/L
> Ge	74	750177.440	750177.440	1.388			ug/L
As	75	210.990	0.000	3.571	0.03616	19.37	ug/L
Se	82	33.085	-0.000	26.382	-0.00367	1676.47	ug/L
Ag	107	45.000	0.000	13.889	0.00202	32.45	ug/L
Cd	114	27.019	0.000	39.011	0.00082	310.00	ug/L
> In	115	496742.542	496742.542	1.593			ug/L
Sb	121	1996.888	0.003	10.969	0.32806	11.82	ug/L
> Tb	159	597651.245	597651.245	2.199			ug/L
Tl	205	291.255	0.000	6.907	0.00113	124.08	ug/L
Pb	208	5291.441	0.009	0.938	0.22597	2.77	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		103.072			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		106.207			
Sb	121					
> Tb	159		107.709			
Tl	205					
Pb	208					

Sample ID: L1531802-08-T

Report Date/Time: Thursday, December 10, 2015 15:23:07

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**Method 6020A - Summary Report**

**Sample ID: WG847373-1-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\WG847373-1-T.033

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:28:01

Batch ID: WG847373

Operator ID:DB

*Concentration Results*

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[ Cr	52	14700.627	0.000	0.594	0.02207	58.78	ug/L
[ Fe	57	14277.035	-0.000	0.197	-0.29271	15.20	ug/L
[ Ni	60	140.001	0.000	14.698	0.04063	21.21	ug/L
[ Cu	63	2166.091	0.003	1.669	0.36851	2.10	ug/L
[ Zn	66	2213.186	0.003	1.862	1.59947	2.25	ug/L
> [ Ge	74	757063.819	757063.819	0.237			ug/L
[ As	75	129.322	-0.000	18.365	-0.02012	78.36	ug/L
[ Se	82	16.759	-0.000	26.901	-0.11832	26.28	ug/L
[ Ag	107	10.833	-0.000	24.019	-0.00197	17.08	ug/L
[ Cd	114	-22.422	-0.000	90.963	-0.01174	44.53	ug/L
> [ In	115	479436.577	479436.577	2.630			ug/L
[ Sb	121	604.604	0.001	13.338	0.06740	27.76	ug/L
> [ Tb	159	585730.864	585730.864	2.323			ug/L
[ Tl	205	197.502	-0.000	7.905	-0.00419	19.37	ug/L
[ Pb	208	988.355	0.001	2.181	0.03624	5.12	ug/L

*QC Calculated Values*

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[ Cr	52					
[ Fe	57					
[ Ni	60					
[ Cu	63					
[ Zn	66					
> [ Ge	74		104.018			
[ As	75					
[ Se	82					
[ Ag	107					
[ Cd	114					
> [ In	115		102.507			
[ Sb	121					
> [ Tb	159		105.560			
[ Tl	205					
[ Pb	208					

Sample ID: WG847373-1-T

Report Date/Time: Thursday, December 10, 2015 15:28:54

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## Method 6020A - Summary Report

**Sample ID: L1530889-01-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1530889-01-T.034

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:29:33

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	28053.219	0.018	0.809	1.52346	2.64	ug/L
Fe	57	27759.834	0.018	2.312	50.31152	4.64	ug/L
Ni	60	437.927	0.001	3.052	0.16907	2.86	ug/L
Cu	63	3516.514	0.004	2.309	0.62705	2.13	ug/L
Zn	66	4514.871	0.006	1.238	3.46673	1.22	ug/L
> Ge	74	751200.475	751200.475	0.492			ug/L
As	75	188.906	0.000	4.305	0.02093	23.86	ug/L
Se	82	22.202	-0.000	109.759	-0.07929	213.99	ug/L
Ag	107	20.417	-0.000	7.070	-0.00082	17.22	ug/L
Cd	114	16.320	-0.000	66.232	-0.00176	156.41	ug/L
> In	115	484122.917	484122.917	1.412			ug/L
Sb	121	602.937	0.001	15.166	0.06548	25.37	ug/L
> Tl	159	604756.365	604756.365	1.004			ug/L
Tl	205	223.753	-0.000	4.218	-0.00303	19.22	ug/L
Pb	208	1598.805	0.002	1.920	0.06152	1.54	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		103.212			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		103.509			
Sb	121					
> Tl	159		108.989			
Tl	205					
Pb	208					

Sample ID: L1530889-01-T

Report Date/Time: Thursday, December 10, 2015 15:30:26

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## Method 6020A - Summary Report

**Sample ID: L1530890-01-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1530890-01-T.035

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:31:04

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	17193.745	0.004	0.943	0.30382	8.81	ug/L
Fe	57	17525.628	0.004	0.938	11.91185	8.55	ug/L
Ni	60	516.265	0.001	5.786	0.20168	5.93	ug/L
Cu	63	12646.709	0.016	1.817	2.34313	3.11	ug/L
Zn	66	9580.462	0.012	0.707	7.50995	0.59	ug/L
> Ge	74	754755.494	754755.494	1.234			ug/L
As	75	167.239	0.000	11.683	0.00571	222.63	ug/L
Se	82	24.705	-0.000	10.853	-0.06297	32.16	ug/L
Ag	107	43.750	0.000	2.857	0.00192	6.58	ug/L
Cd	114	-7.509	-0.000	364.758	-0.00787	88.58	ug/L
> In	115	492385.799	492385.799	0.581			ug/L
Sb	121	532.516	0.001	11.531	0.05005	22.68	ug/L
> Tb	159	596611.382	596611.382	2.538			ug/L
Tl	205	168.335	-0.000	4.090	-0.00614	2.54	ug/L
Pb	208	2444.296	0.004	0.370	0.10004	3.11	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		103.701			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		105.276			
Sb	121					
> Tb	159		107.521			
Tl	205					
Pb	208					

Sample ID: L1530890-01-T

Report Date/Time: Thursday, December 10, 2015 15:31:57

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## Method 6020A - Summary Report

**Sample ID: L1531802-07-T-D5**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1531802-07-T-D5.036

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:34:41

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	15799.554	0.008	1.886	0.70118	5.15	ug/L
Fe	57	133803.910	0.214	1.586	598.90624	1.38	ug/L
Ni	60	32451.988	0.056	0.686	18.22610	0.46	ug/L
Cu	63	59639.272	0.104	3.034	14.72387	2.73	ug/L
Zn	66	222415.878	0.387	1.645	234.24785	1.33	ug/L
> Ge	74	573940.066	573940.066	0.320			ug/L
As	75	6043.424	0.010	3.012	5.25071	2.75	ug/L
Se	82	2125.268	0.004	1.621	19.06242	1.55	ug/L
Ag	107	131.251	0.000	19.119	0.01698	23.24	ug/L
Cd	114	17881.604	0.047	0.275	5.86992	0.15	ug/L
> In	115	380475.858	380475.858	0.411			ug/L
Sb	121	752.948	0.001	5.812	0.13505	8.33	ug/L
> Tb	159	500320.864	500320.864	1.332			ug/L
Tl	205	1775.174	0.003	4.856	0.10927	6.88	ug/L
Pb	208	2446.797	0.005	11.507	0.12087	10.86	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		78.857			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		81.348			
Sb	121					
> Tb	159		90.168			
Tl	205					
Pb	208					

Sample ID: L1531802-07-T-D5

Report Date/Time: Thursday, December 10, 2015 15:35:34

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## Method 6020A - Summary Report

**Sample ID: L1530890-01-T**

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1530890-01-T.037

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:36:16

Batch ID: WG847373

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	17809.094	0.004	0.705	0.37175	4.49	ug/L
Fe	57	18533.876	0.006	1.461	15.63705	8.16	ug/L
Ni	60	511.681	0.001	4.949	0.19971	5.39	ug/L
Cu	63	12915.001	0.017	0.199	2.39279	0.21	ug/L
Zn	66	9849.082	0.013	0.603	7.72406	0.45	ug/L
> Ge	74	754834.930	754834.930	0.401			ug/L
As	75	199.323	0.000	12.729	0.02736	63.08	ug/L
Se	82	70.533	0.000	27.869	0.25317	53.53	ug/L
Ag	107	49.583	0.000	12.937	0.00270	27.89	ug/L
Cd	114	22.488	-0.000	64.926	-0.00017	2231.18	ug/L
> In	115	485561.325	485561.325	0.435			ug/L
Sb	121	410.843	0.000	12.546	0.02778	35.01	ug/L
> Tb	159	589649.306	589649.306	2.111			ug/L
Tl	205	184.585	-0.000	9.868	-0.00504	22.55	ug/L
Pb	208	2423.878	0.004	0.694	0.10037	1.78	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		103.712			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		103.817			
Sb	121					
> Tb	159		106.267			
Tl	205					
Pb	208					

Sample ID: L1530890-01-T

Report Date/Time: Thursday, December 10, 2015 15:37:09

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Method 6020A - Summary Report

Sample ID: L1531802-08-T

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\L1531802-08-T.038

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:37:48

Batch ID: WG847373

Operator ID:DB

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	17518.948	0.004	1.010	0.32540	10.47	ug/L
Fe	57	16799.676	0.003	1.073	8.75216	7.79	ug/L
Ni	60	292.505	0.000	5.181	0.10513	6.99	ug/L
Cu	63	10949.925	0.014	1.290	2.00774	0.86	ug/L
Zn	66	2669.142	0.003	1.217	1.95428	0.72	ug/L
> Ge	74	760451.636	760451.636	1.189			ug/L
As	75	152.655	-0.000	15.673	-0.00495	305.33	ug/L
Se	82	27.990	-0.000	59.218	-0.04100	283.61	ug/L
Ag	107	25.000	-0.000	18.028	-0.00031	151.36	ug/L
Cd	114	24.017	0.000	55.360	0.00013	2494.38	ug/L
> In	115	491087.853	491087.853	3.529			ug/L
Sb	121	356.674	0.000	13.194	0.01633	44.07	ug/L
> Tb	159	596485.950	596485.950	2.306			ug/L
Tl	205	239.586	-0.000	4.217	-0.00191	35.41	ug/L
Pb	208	2841.008	0.004	2.447	0.11770	4.94	ug/L

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		104.484			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		104.998			
Sb	121					
> Tb	159		107.499			
Tl	205					
Pb	208					

Sample ID: L1531802-08-T

Report Date/Time: Thursday, December 10, 2015 15:38:41

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## Method 6020A - Summary Report

### Sample ID: QC Std 5

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 5.039

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:39:31

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	468435.480	0.607	1.431	50.86703	1.49	ug/L
Fe	57	1401215.206	1.855	0.679	5188.12334	0.66	ug/L
Ni	60	115482.224	0.154	0.819	49.82243	0.47	ug/L
Cu	63	261852.728	0.350	0.617	49.71996	0.48	ug/L
Zn	66	59627.000	0.079	0.884	48.07635	1.00	ug/L
> Ge	74	747643.857	747643.857	0.414			ug/L
As	75	72638.529	0.097	1.242	49.33063	1.09	ug/L
Se	82	6987.874	0.009	1.590	48.47412	2.00	ug/L
Ag	107	375142.122	0.788	0.953	46.30225	1.07	ug/L
Cd	114	186402.903	0.391	0.946	48.94026	1.85	ug/L
> In	115	476234.922	476234.922	2.010			ug/L
Sb	121	219553.609	0.461	2.560	43.59668	3.37	ug/L
> Tb	159	582524.123	582524.123	0.691			ug/L
Tl	205	816738.924	1.402	0.311	49.50135	0.44	ug/L
Pb	208	1142100.570	1.961	2.556	51.88973	3.23	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52	101.734				
Fe	57	102.735				
Ni	60	99.645				
Cu	63	99.440				
Zn	66	96.153				
> Ge	74		102.724			
As	75	98.661				
Se	82	96.948				
Ag	107	92.604				
Cd	114	97.881				
> In	115		101.822			
Sb	121	87.193				
> Tb	159		104.982			
Tl	205	99.003				
Pb	208	103.779				

Sample ID: QC Std 5

Report Date/Time: Thursday, December 10, 2015 15:40:24

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Method 6020A - Summary Report

Sample ID: QC Std 5

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 5.040

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:42:57

Batch ID:

Operator ID:DB

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	473056.087	0.603	0.889	50.53034	0.38	ug/L
Fe	57	1410524.473	1.837	1.681	5137.79459	1.27	ug/L
Ni	60	116553.248	0.153	0.598	49.47600	0.78	ug/L
Cu	63	266083.732	0.350	0.370	49.71002	0.17	ug/L
Zn	66	60298.071	0.079	0.858	47.83355	0.86	ug/L
> Ge	74	759879.786	759879.786	0.527			ug/L
As	75	72917.811	0.096	0.498	48.72196	0.07	ug/L
Se	82	7022.502	0.009	0.348	47.92562	0.64	ug/L
Ag	107	376073.628	0.790	1.625	46.42859	1.17	ug/L
Cd	114	186842.175	0.392	1.369	49.06431	0.95	ug/L
> In	115	476033.189	476033.189	0.455			ug/L
Sb	121	236742.607	0.497	1.549	47.01853	1.17	ug/L
> Tb	159	589474.418	589474.418	0.968			ug/L
Tl	205	834127.917	1.415	3.320	49.95706	3.06	ug/L
Pb	208	1138420.212	1.931	1.297	51.10415	0.52	ug/L

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52	101.061				
Fe	57	101.739				
Ni	60	98.952				
Cu	63	99.420				
Zn	66	95.667				
> Ge	74		104.405			
As	75	97.444				
Se	82	95.851				
Ag	107	92.857				
Cd	114	98.129				
> In	115		101.779			
Sb	121	94.037				
> Tb	159		106.235			
Tl	205	99.914				
Pb	208	102.208				

Sample ID: QC Std 5

Report Date/Time: Thursday, December 10, 2015 15:43:49

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## Method 6020A - Summary Report

### Sample ID: QC Std 6

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 6.041

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:46:32

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	14457.321	-0.000	1.169	-0.03159	111.44	ug/L
Fe	57	14058.362	-0.001	1.069	-1.96751	60.35	ug/L
Ni	60	63.334	0.000	8.900	0.00750	29.13	ug/L
Cu	63	424.177	0.000	1.454	0.04027	1.33	ug/L
Zn	66	411.259	0.000	5.917	0.15414	13.44	ug/L
> Ge	74	770068.869	770068.869	1.268			ug/L
As	75	105.571	-0.000	7.104	-0.03729	10.93	ug/L
Se	82	23.094	-0.000	100.941	-0.07846	200.51	ug/L
Ag	107	35.417	0.000	4.075	0.00100	13.17	ug/L
Cd	114	25.630	0.000	39.127	0.00065	392.61	ug/L
> In	115	483971.354	483971.354	1.157			ug/L
Sb	121	3545.281	0.007	11.592	0.64133	12.90	ug/L
> Tb	159	590261.620	590261.620	1.201			ug/L
Tl	205	220.419	-0.000	5.360	-0.00291	19.16	ug/L
Pb	208	232.918	0.000	10.603	0.00200	54.28	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52					
Fe	57					
Ni	60					
Cu	63					
Zn	66					
> Ge	74		105.805			
As	75					
Se	82					
Ag	107					
Cd	114					
> In	115		103.477			
Sb	121					
> Tb	159		106.377			
Tl	205					
Pb	208					

Sample ID: QC Std 6

Report Date/Time: Thursday, December 10, 2015 15:47:25

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## Method 6020A - Summary Report

### Sample ID: QC Std 9

Method File: C:\Elandata\Method\6020\_trc\_aq.mth

Dataset File: C:\Elandata\DataSet\WG848586\QC Std 9.042

Calibration File:

Sample Date/Time: Thursday, December 10, 2015 15:48:12

Batch ID:

Operator ID:DB

### Concentration Results

Analyte	Mass	Meas. Intens. Mean	Net intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Cr	52	19540.563	0.006	0.878	0.53848	6.74	ug/L
Fe	57	16841.002	0.003	0.943	8.62794	6.39	ug/L
Ni	60	1385.939	0.002	5.738	0.56667	6.74	ug/L
Cu	63	3333.111	0.004	0.836	0.58201	1.72	ug/L
Zn	66	6521.088	0.008	1.319	4.99559	1.48	ug/L
> Ge	74	763836.618	763836.618	0.857			ug/L
As	75	854.779	0.001	6.073	0.46254	8.07	ug/L
Se	82	147.107	0.000	13.696	0.77071	18.82	ug/L
Ag	107	2140.252	0.004	3.565	0.25230	2.63	ug/L
Cd	114	794.224	0.002	3.497	0.19593	5.22	ug/L
> In	115	492120.830	492120.830	1.969			ug/L
Sb	121	5083.926	0.010	7.418	0.92515	6.63	ug/L
> Tb	159	597727.005	597727.005	0.657			ug/L
Tl	205	3848.315	0.006	2.082	0.21131	2.91	ug/L
Pb	208	5210.169	0.008	1.639	0.22227	2.34	ug/L

### QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Cr	52	107.696				
Fe	57	86.279				
Ni	60	113.334				
Cu	63	116.402				
Zn	66	99.912				
> Ge	74		104.949			
As	75	92.508				
Se	82	77.071				
Ag	107	126.150				
Cd	114	97.965				
> In	115		105.219			
Sb	121	185.030				
> Tb	159		107.722			
Tl	205	105.653				
Pb	208	111.137				

Sample ID: QC Std 9

Report Date/Time: Thursday, December 10, 2015 15:49:05

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# Sample Preparation

Workgroup: WG847373

### Digestion

Prep Method	Acid Type	Acid 1 Lot	Spike Type	Lims Spike Lot	Spike Lot	Post Spike Spikelot	Spike Lot	Pipette Id
EPA 3020A	HNO3	MS101615A	METALS	A2METSPIK E	CL-5110	A2METSPIK E	NA	WHG-24

### Additional Reagent/Std

Sample/Type	Digestion Date	Analyst	Sample Vol ml	Ph	Spike Amt ml	Start Date/Time	Hot Block Unit	Temperature (C)	Stop Date/Time	Final Vol	Comments
WG847373-1 BLANK	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	
WG847373-2 LCS	12/07/15 14:10	Lauren Connolly	25	<2	.125	12/07/15 14:10	1	95	12/08/15 09:00	25	.05mL of Ag @ 10ug/mL
WG847373-3 DUP	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	
WG847373-4 MS	12/07/15 14:10	Lauren Connolly	25	<2	.125	12/07/15 14:10	1	95	12/08/15 09:00	25	.05mL of Ag @ 10ug/mL
WG847373-5 MSD	12/07/15 14:10	Lauren Connolly	25	<2	.125	12/07/15 14:10	1	95	12/08/15 09:00	25	.05mL of Ag @ 10ug/mL
WG847373-6 SERDIL	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	
L1530889-01 WATER	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	
L1530890-01 SAMP	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	
L1531802-01 SAMP	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	
L1531802-02 SAMP	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	
L1531802-03 SAMP	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	



# METALS ELN REPORT

Workgroup: WG847373

Sample/ Type	Digestion Date	Analyst	Sample Vol ml	Ph	Spike Amt ml	Start Date/Time	Hot Block Unit	Temperature (C)	Stop Date/Time	Final Vol	Comments
L1531802-04 SAMP	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	
L1531802-05 SAMP	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	
L1531802-06 SAMP	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	
L1531802-07 SAMP	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	
L1531802-08 SAMP	12/07/15 14:10	Lauren Connolly	25	<2		12/07/15 14:10	1	95	12/08/15 09:00	25	

# True Values

**Table IV: Initial Calibration Levels and ICV/CCV Concentrations**

Analyte	STD1 (µg/L)	STD2 (µg/L)	ICV,CCV (µg/L)
Ag		100	50
Al	10050		5050
As	100		50
B	100		50
Ba		100	50
Be	100		50
Ca	10100		5050
Cd	100		50
Co	100		50
Cr	100		50
Cu	100		50
Fe	10100		5050
K	10000		5500
Mg	10100		5050
Mn	100		50
Mo	100		50
Na	10000		5050
Ni	100		50
Pb	100		50
Sb	100		50
Se	100		50
Si	50		25
Sn	100		50
Sr	100		50
Ti	100		50
Tl	100		50
V	100		50
Zn	100		50
W	1	100	50

Interferent ICSA, ICSAB	(mg/L)
Cl <sup>-</sup>	2000
Ca	300
Fe, Na	250
Al, Mg, P, K, S	100
C	200
Mo, Ti	2

All analyte concentrations in ICSAB = 100 ppb except for Ag and Ba = 50 ppb

**Table IV: Initial Calibration Levels and ICV/CCV Concentrations (MCP)**

Analyte	STD1	STD2	STD3 (µg/L)	STD4 (µg/L)	STD5	ICV,CCV (µg/L)
Ag	0.2		10		100	50
Al	10	10000		20000		10100
As	0.5	100		1000		100
B	1	100		1000		100
Ba	1	100		1000		100
Be	0.3	100		1000		100
Ca	100	10000		20000		10100
Cd	0.2	100		1000		100
Co	0.2	100		1000		100
Cr	0.5	100		1000		100
Cu	0.5	100		1000		100
Fe	10	10000		20000		10100
K	100	10000		20000		11000
Mg	100	10000		20000		10100
Mn	10	100		1000		100
Mo	1	100		1000		100
Na	100	10000		20000		10100
Ni	0.5	100		1000		100
Pb	0.2	100		1000		100
Sb	0.5	10		100		50
Se	1	100		1000		100
Si	10	100		1000		25
Sn	1	100		1000		100
Sr	5	100		1000		100
Ti	5	100		1000		100
Tl	0.2	100		1000		100
V	5	100		1000		100
Zn	10	100		1000		100
W	5	100		1000		100

Interferent ICSA, ICSAB	(mg/L)
Cl <sup>-</sup>	2000
Ca	300
Fe, Na	250
Al, Mg, P, K, S	100
C	200
Mo, Ti	2

All analyte concentrations in ICSAB = 100 ppb except for Ag and Ba = 50 ppb



<b>Analyte</b>	<b>LCS,MS Water (µg/L)</b>	<b>LCS,MS soil (µg/L)</b>	<b>LCS,MS Tissue (µg/L)</b>
Ag	20	40	40
Al	5000	20000	10000
As	1000	4000	2000
B	1000	4000	2000
Ba	1000	4000	2000
Be	500	2000	1000
Ca	5000	4000	10000
Cd	500	2000	1000
Co	1000	4000	2000
Cr	1000	4000	2000
Cu	1000	4000	2000
Fe	5000	20000	10000
K	5000	20000	10000
Mg	5000	20000	10000
Mn	1000	4000	2000
Mo	1000	4000	2000
Na	5000	20000	10000
Ni	1000	4000	2000
Pb	1000	4000	2000
Sb	20	40	40
Se	1000	4000	2000
Si	1000	4000	2000
Sn	250	1000	500
Sr	1000	4000	2000
Ti	1000	4000	2000
Tl	1000	4000	2000
V	1000	4000	2000
Zn	1000	4000	2000
W	100	200	200

Mercury: ICV, CCV, LCS and MS = 2.5 ppb.

Arsenic Hydride, Selenium Hydride: ICV, CCV, LCS and MS = 5 ppb.

Mercury by Method 1631: ICV,CCV = 0.005 ppb, LCS, MS = 0.005 ppb.

# Wet Chemistry

# **Total Suspended Solids Analysis**

# **Sample Raw Data**



# **Work Group**

ALPHA ANALYTICAL LABORATORIES, INC.

Alpha WORK GROUP REPORT (wk02)

Dec 16 2015, 12:19 pm

Work Group: WG847641 for Department: 7 Wet Chemistry

Created: 08-DEC-15 Due: Operator: dw

Sample	Client ID	C Product	Matrix	Stat	UA	HOLD	DUE	PR	Location
L1531542-01	001 RIVER DISCHARGE	S TSS-2540-LOW	WATER	DONE	U	1209	1214	S0	Plastic-A1
L1531802-01	MW-4A-120215	S TSS-2540-LOW	WATER	DONE	U	1209	1217	S0	Plastic-A1
L1531802-02	MW-5-120215	S TSS-2540-LOW	WATER	DONE	U	1209	1217	S0	Plastic-A1
L1531802-03	MW-5-120215-REP	S TSS-2540-LOW	WATER	DONE	U	1209	1217	S0	Plastic-A1
L1531802-04	MW-01-120215	S TSS-2540-LOW	WATER	DONE	U	1209	1217	S0	Plastic-A1
L1531802-05	MW-06-120215	S TSS-2540-LOW	WATER	DONE	U	1209	1217	S0	Plastic-A1
L1531802-06	MW-7A-120315	S TSS-2540-LOW	WATER	DONE	U	1210	1217	S0	Plastic-A1
L1531802-07	MW-03-120315	S TSS-2540-LOW	WATER	DONE	U	1210	1217	S0	Plastic-A1
L1531802-08	EB-001-120315	S TSS-2540-LOW	WATER	DONE	U	1210	1217	S0	Plastic-A1
L1531920-01	01 T1	S TSS-2540-LOW	WATER	DONE	U	1211	1209	2C	Plastic-A1
WG847641-1	Laboratory Method Bl	S TSS-2540-LOW	WATER	DONE	U				

# Alpha Report





## ANALYTICAL REPORT

Lab Number:	L1531802
Client:	Battelle 141 Longwater Drive Suite 202, Green Bldg Norwell, MA 02061
ATTN:	Deirdre Dahlen
Phone:	(781) 681-5522
Project Name:	NEW BEDFORD HARBOR SAWYER ST C
Project Number:	W912WJ-12-D-0004
Report Date:	01/27/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1531802-01	MW-4A-120215	WATER	NEW BEDFORD HARBOR	12/02/15 10:45	12/03/15
L1531802-02	MW-5-120215	WATER	NEW BEDFORD HARBOR	12/02/15 13:35	12/03/15
L1531802-03	MW-5-120215-REP	WATER	NEW BEDFORD HARBOR	12/02/15 13:40	12/03/15
L1531802-04	MW-01-120215	WATER	NEW BEDFORD HARBOR	12/02/15 11:45	12/03/15
L1531802-05	MW-06-120215	WATER	NEW BEDFORD HARBOR	12/02/15 14:30	12/03/15
L1531802-06	MW-7A-120315	WATER	NEW BEDFORD HARBOR	12/03/15 10:30	12/03/15
L1531802-07	MW-03-120315	WATER	NEW BEDFORD HARBOR	12/03/15 11:42	12/03/15
L1531802-08	EB-001-120315	WATER	NEW BEDFORD HARBOR	12/03/15 08:15	12/03/15

**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

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**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

### Case Narrative (continued)

Alpha Analytical - 320 Forbes Blvd. Mansfield, MA. 02048

Alpha Analytical - 8 Walkup Dr. Westborough, MA. 01581

#### Report Reissue

This report replaces the report issued on December 16, 2015. The Serial Dilution data has been reported for Metals.

#### Metals

##### Method Description:

This analytical method entails the simultaneous multi-elemental determination of sub- $\mu$ g/L concentrations of many trace metals by ICP-MS. The method measures ions produced by a radio frequency inductively coupled plasma. Samples are nebulized and the resulting aerosol is transported to the plasma torch by argon gas. The ions produced by a radio-frequency inductively coupled plasma are then introduced into a quadrupole mass spectrometer. The ions produced in the plasma are sorted according to their mass-to-charge ratios and quantified with a channel electron multiplier.

Sample L1531802-08: The Field Blank has a concentration above the reporting limit for Copper. The results were confirmed.

The WG847373-3 Laboratory Duplicate RPD, performed on sample L1531802-01, is above the acceptance criteria for Chromium (24%); however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

The WG847373-4/-5 MS/MSD recoveries, performed on sample L1531802-01, are outside the acceptance criteria for Chromium (132%/131%); however, the associated LCS/LCSD recoveries are within overall method allowances. No further action was required.

Solids, Total Suspended

**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

### Case Narrative (continued)

#### Method Description:

In the TSS analysis, the filter is cleaned and pre-weighed prior to filtration of the sample. The sample is then filtered and the filter is dried at 103°C to 105°C. The increase in the weight of the filter represents the TSS concentration.

A laboratory duplicate could not be performed due to insufficient sample volume available for analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Elizabeth Porta

Title: Technical Director/Representative

Date: 01/27/16

## METALS

**Project Name:** NEW BEDFORD HARBOR SAWYER ST C**Lab Number:** L1531802**Project Number:** W912WJ-12-D-0004**Report Date:** 01/27/16**SAMPLE RESULTS**

Lab ID: L1531802-01

Date Collected: 12/02/15 10:45

Client ID: MW-4A-120215

Date Received: 12/03/15

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Mansfield Lab</b>											
Cadmium, Total	ND		mg/l	0.00050	--	1	12/07/15 14:10	12/10/15 14:46	EPA 3020A	1,6020A	DB
Chromium, Total	0.00208		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 14:46	EPA 3020A	1,6020A	DB
Copper, Total	0.0140		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 14:46	EPA 3020A	1,6020A	DB
Lead, Total	ND		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 14:46	EPA 3020A	1,6020A	DB



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**SAMPLE RESULTS**

Lab ID: L1531802-02  
 Client ID: MW-5-120215  
 Sample Location: NEW BEDFORD HARBOR  
 Matrix: Water

Date Collected: 12/02/15 13:35  
 Date Received: 12/03/15  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Mansfield Lab</b>											
Cadmium, Total	ND		mg/l	0.00050	--	1	12/07/15 14:10	12/10/15 15:02	EPA 3020A	1,6020A	DB
Chromium, Total	0.00256		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:02	EPA 3020A	1,6020A	DB
Copper, Total	0.0116		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:02	EPA 3020A	1,6020A	DB
Lead, Total	ND		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:02	EPA 3020A	1,6020A	DB





**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**SAMPLE RESULTS**

Lab ID: L1531802-03  
 Client ID: MW-5-120215-REP  
 Sample Location: NEW BEDFORD HARBOR  
 Matrix: Water

Date Collected: 12/02/15 13:40  
 Date Received: 12/03/15  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Mansfield Lab</b>											
Cadmium, Total	ND		mg/l	0.00050	--	1	12/07/15 14:10	12/10/15 15:03	EPA 3020A	1,6020A	DB
Chromium, Total	0.00236		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:03	EPA 3020A	1,6020A	DB
Copper, Total	0.00865		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:03	EPA 3020A	1,6020A	DB
Lead, Total	ND		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:03	EPA 3020A	1,6020A	DB



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C**Lab Number:** L1531802**Project Number:** W912WJ-12-D-0004**Report Date:** 01/27/16**SAMPLE RESULTS**

Lab ID: L1531802-04

Date Collected: 12/02/15 11:45

Client ID: MW-01-120215

Date Received: 12/03/15

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Mansfield Lab</b>											
Cadmium, Total	0.00066		mg/l	0.00050	--	1	12/07/15 14:10	12/10/15 15:05	EPA 3020A	1,6020A	DB
Chromium, Total	0.00143		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:05	EPA 3020A	1,6020A	DB
Copper, Total	0.00413		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:05	EPA 3020A	1,6020A	DB
Lead, Total	ND		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:05	EPA 3020A	1,6020A	DB



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C**Lab Number:** L1531802**Project Number:** W912WJ-12-D-0004**Report Date:** 01/27/16**SAMPLE RESULTS**

Lab ID: L1531802-05

Date Collected: 12/02/15 14:30

Client ID: MW-06-120215

Date Received: 12/03/15

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Mansfield Lab</b>											
Cadmium, Total	ND		mg/l	0.00050	--	1	12/07/15 14:10	12/10/15 15:06	EPA 3020A	1,6020A	DB
Chromium, Total	0.00165		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:06	EPA 3020A	1,6020A	DB
Copper, Total	0.00937		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:06	EPA 3020A	1,6020A	DB
Lead, Total	ND		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:06	EPA 3020A	1,6020A	DB



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**SAMPLE RESULTS**

Lab ID: L1531802-06  
 Client ID: MW-7A-120315  
 Sample Location: NEW BEDFORD HARBOR  
 Matrix: Water

Date Collected: 12/03/15 10:30  
 Date Received: 12/03/15  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Mansfield Lab</b>											
Cadmium, Total	ND		mg/l	0.00050	--	1	12/07/15 14:10	12/10/15 15:08	EPA 3020A	1,6020A	DB
Chromium, Total	ND		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:08	EPA 3020A	1,6020A	DB
Copper, Total	0.00484		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:08	EPA 3020A	1,6020A	DB
Lead, Total	ND		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:08	EPA 3020A	1,6020A	DB



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C**Lab Number:** L1531802**Project Number:** W912WJ-12-D-0004**Report Date:** 01/27/16**SAMPLE RESULTS**

Lab ID: L1531802-07

Date Collected: 12/03/15 11:42

Client ID: MW-03-120315

Date Received: 12/03/15

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Mansfield Lab</b>											
Cadmium, Total	0.02935		mg/l	0.00250	--	5	12/07/15 14:10	12/10/15 15:34	EPA 3020A	1,6020A	DB
Chromium, Total	ND		mg/l	0.00500	--	5	12/07/15 14:10	12/10/15 15:34	EPA 3020A	1,6020A	DB
Copper, Total	0.0736		mg/l	0.00500	--	5	12/07/15 14:10	12/10/15 15:34	EPA 3020A	1,6020A	DB
Lead, Total	ND		mg/l	0.00500	--	5	12/07/15 14:10	12/10/15 15:34	EPA 3020A	1,6020A	DB



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C**Lab Number:** L1531802**Project Number:** W912WJ-12-D-0004**Report Date:** 01/27/16**SAMPLE RESULTS**

Lab ID: L1531802-08

Date Collected: 12/03/15 08:15

Client ID: EB-001-120315

Date Received: 12/03/15

Sample Location: NEW BEDFORD HARBOR

Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Mansfield Lab</b>											
Cadmium, Total	ND		mg/l	0.00050	--	1	12/07/15 14:10	12/10/15 15:37	EPA 3020A	1,6020A	DB
Chromium, Total	ND		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:37	EPA 3020A	1,6020A	DB
Copper, Total	0.00201		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:37	EPA 3020A	1,6020A	DB
Lead, Total	ND		mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:37	EPA 3020A	1,6020A	DB



Project Name: NEW BEDFORD HARBOR SAWYER ST C

Lab Number: L1531802

Project Number: W912WJ-12-D-0004

Report Date: 01/27/16

## Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-08 Batch: WG847373-1									
Cadmium, Total	ND	mg/l	0.00050	--	1	12/07/15 14:10	12/10/15 15:28	1,6020A	DB
Chromium, Total	ND	mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:28	1,6020A	DB
Copper, Total	ND	mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:28	1,6020A	DB
Lead, Total	ND	mg/l	0.00100	--	1	12/07/15 14:10	12/10/15 15:28	1,6020A	DB

### Prep Information

Digestion Method: EPA 3020A

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** NEW BEDFORD HARBOR SAWYER ST C**Lab Number:** L1531802**Project Number:** W912WJ-12-D-0004**Report Date:** 01/27/16

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Total Metals - Mansfield Lab Associated sample(s): 01-08 Batch: WG847373-2 SRM Lot Number: A2METSPIKE								
Cadmium, Total	109		-		80-120	-		20
Chromium, Total	114		-		80-120	-		20
Copper, Total	113		-		80-120	-		20
Lead, Total	115		-		80-120	-		20



### Matrix Spike Analysis Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-08 120215 QC Batch ID: WG847373-4 WG847373-5 QC Sample: L1531802-01 Client ID: MW-4A-												
Cadmium, Total	ND	0.5	0.5477	110		0.5434	109		75-125	1		20
Chromium, Total	0.00208	1	1.32	132	Q	1.31	131	Q	75-125	1		20
Copper, Total	0.0140	1	1.16	115		1.16	115		75-125	0		20
Lead, Total	ND	1	1.08	108		1.09	109		75-125	1		20

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** NEW BEDFORD HARBOR SAWYER ST C

**Project Number:** W912WJ-12-D-000

**Lab Number:** L1531802

**Report Date:** 01/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG847373-3 QC Sample: L1531802-01 Client ID: MW-4A-120215						
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.00208	0.00164	mg/l	24	Q	20
Copper, Total	0.0140	0.0118	mg/l	17		20
Lead, Total	ND	ND	mg/l	NC		20

Project Name: NEW BEDFORD HARBOR SAWYER ST C

Project Number: W912WJ-12-D-000

**Lab Serial Dilution  
Analysis  
Batch Quality Control**

Lab Number: L1531802

Report Date: 01/27/16

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG847373-6 QC Sample: L1531802-01 Client ID: MW-4A-120215						
Cadmium, Total	ND	ND	mg/l	NC	Q	10
Chromium, Total	0.00208	ND	mg/l	NC	Q	10
Copper, Total	0.0140	0.0130	mg/l	7		10
Lead, Total	ND	ND	mg/l	NC	Q	10

# **INORGANICS & MISCELLANEOUS**

**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**SAMPLE RESULTS**

**Lab ID:** L1531802-01  
**Client ID:** MW-4A-120215  
**Sample Location:** NEW BEDFORD HARBOR  
**Matrix:** Water

**Date Collected:** 12/02/15 10:45  
**Date Received:** 12/03/15  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	ND		mg/l	1.0	NA	1	-	12/08/15 13:20	30,2540D	DW



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**SAMPLE RESULTS**

**Lab ID:** L1531802-02  
**Client ID:** MW-5-120215  
**Sample Location:** NEW BEDFORD HARBOR  
**Matrix:** Water

**Date Collected:** 12/02/15 13:35  
**Date Received:** 12/03/15  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	1.3		mg/l	1.0	NA	1	-	12/08/15 13:20	30,2540D	DW



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**SAMPLE RESULTS**

**Lab ID:** L1531802-03  
**Client ID:** MW-5-120215-REP  
**Sample Location:** NEW BEDFORD HARBOR  
**Matrix:** Water

**Date Collected:** 12/02/15 13:40  
**Date Received:** 12/03/15  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	2.0		mg/l	1.0	NA	1	-	12/08/15 13:20	30,2540D	DW



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**SAMPLE RESULTS**

**Lab ID:** L1531802-04  
**Client ID:** MW-01-120215  
**Sample Location:** NEW BEDFORD HARBOR  
**Matrix:** Water

**Date Collected:** 12/02/15 11:45  
**Date Received:** 12/03/15  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	2.8		mg/l	1.0	NA	1	-	12/08/15 13:20	30,2540D	DW





**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**SAMPLE RESULTS**

**Lab ID:** L1531802-05  
**Client ID:** MW-06-120215  
**Sample Location:** NEW BEDFORD HARBOR  
**Matrix:** Water

**Date Collected:** 12/02/15 14:30  
**Date Received:** 12/03/15  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	21.		mg/l	1.0	NA	1	-	12/08/15 13:20	30,2540D	DW



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**SAMPLE RESULTS**

**Lab ID:** L1531802-06  
**Client ID:** MW-7A-120315  
**Sample Location:** NEW BEDFORD HARBOR  
**Matrix:** Water

**Date Collected:** 12/03/15 10:30  
**Date Received:** 12/03/15  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	ND		mg/l	1.0	NA	1	-	12/08/15 13:20	30,2540D	DW



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**SAMPLE RESULTS**

**Lab ID:** L1531802-07  
**Client ID:** MW-03-120315  
**Sample Location:** NEW BEDFORD HARBOR  
**Matrix:** Water

**Date Collected:** 12/03/15 11:42  
**Date Received:** 12/03/15  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	11.		mg/l	1.0	NA	1	-	12/08/15 13:20	30,2540D	DW



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**SAMPLE RESULTS**

**Lab ID:** L1531802-08  
**Client ID:** EB-001-120315  
**Sample Location:** NEW BEDFORD HARBOR  
**Matrix:** Water

**Date Collected:** 12/03/15 08:15  
**Date Received:** 12/03/15  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	ND		mg/l	1.0	NA	1	-	12/08/15 13:20	30,2540D	DW



**Project Name:** NEW BEDFORD HARBOR SAWYER S  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

**Method Blank Analysis**  
**Batch Quality Control**

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-08 Batch: WG847641-1									
Solids, Total Suspended	ND	mg/l	1.0	NA	1	-	12/08/15 13:20	30,2540D	DW

**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

### Sample Receipt and Container Information

Were project specific reporting limits specified? YES

#### Cooler Information Custody Seal

##### Cooler

A Absent

#### Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1531802-01A	Plastic 950ml unpreserved	A	8	3.4	Y	Absent	TSS-2540-LOW(7)
L1531802-01B	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-CU-6020T(180)
L1531802-01B1	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-CU-6020T(180)
L1531802-01B2	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-CU-6020T(180)
L1531802-02A	Plastic 950ml unpreserved	A	8	3.4	Y	Absent	TSS-2540-LOW(7)
L1531802-02B	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-CU-6020T(180)
L1531802-03A	Plastic 950ml unpreserved	A	8	3.4	Y	Absent	TSS-2540-LOW(7)
L1531802-03B	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-CU-6020T(180)
L1531802-04A	Plastic 950ml unpreserved	A	8	3.4	Y	Absent	TSS-2540-LOW(7)
L1531802-04B	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-CU-6020T(180)
L1531802-05A	Plastic 950ml unpreserved	A	8	3.4	Y	Absent	TSS-2540-LOW(7)
L1531802-05B	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-CU-6020T(180)
L1531802-06A	Plastic 950ml unpreserved	A	8	3.4	Y	Absent	TSS-2540-LOW(7)
L1531802-06B	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-CU-6020T(180)
L1531802-07A	Plastic 950ml unpreserved	A	8	3.4	Y	Absent	TSS-2540-LOW(7)
L1531802-07B	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-CU-6020T(180)
L1531802-08A	Plastic 950ml unpreserved	A	8	3.4	Y	Absent	TSS-2540-LOW(7)
L1531802-08B	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	A2-PB-6020T(180),A2-CR-6020T(180),A2-CD-6020T(180),A2-CU-6020T(180)

\*Values in parentheses indicate holding time in days



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

## GLOSSARY

### Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

**Report Format:** Data Usability Report



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

#### Data Qualifiers

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.



**Project Name:** NEW BEDFORD HARBOR SAWYER ST C  
**Project Number:** W912WJ-12-D-0004

**Lab Number:** L1531802  
**Report Date:** 01/27/16

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 524.2:** 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene  
**EPA 624:** 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene  
**EPA 625:** Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.  
**EPA 1010A:** NPW: Ignitability  
**EPA 6010C:** NPW: Strontium; SCM: Strontium  
**EPA 8151A:** NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP  
**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.  
**EPA 8270D:** NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.  
**EPA 9010:** NPW: Amenable Cyanide Distillation, Total Cyanide Distillation  
**EPA 9038:** NPW: Sulfate  
**EPA 9050A:** NPW: Specific Conductance  
**EPA 9056:** NPW: Chloride, Nitrate, Sulfate  
**EPA 9065:** NPW: Phenols  
**EPA 9251:** NPW: Chloride  
**SM3500:** NPW: Ferrous Iron  
**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.  
**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**EPA 8270D:** NPW: Biphenyl; SCM: Biphenyl  
**EPA 2540D:** TSS  
**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

### Drinking Water

**EPA 200.8:** Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7:** Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;  
**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C,**  
**SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**  
**EPA 332:** Perchlorate.  
**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

### Non-Potable Water

**EPA 200.8:** Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;  
**EPA 200.7:** Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;  
**EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,**  
**SM426C, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F,**  
**EPA 353.2:** Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**  
**SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**  
**EPA 624:** Volatile Halocarbons & Aromatics,  
**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,  
 Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs  
**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.  
**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/3/15 ALPHA Job #: C1531802

8 Walkup Drive Westboro, MA 01581 Tel: 508-898-9220  
320 Forbes Blvd Mansfield, MA 02048 Tel: 508-622-9300

### Project Information

Project Name: *New Bedford Harbor Savings Street COF*  
Project Location: *New Bedford, MA*  
Project #:   
Project Manager: *Maura Surprenant*  
ALPHA Quote #:

### Report Information - Data Deliverables

ADEX  EMAIL  Same as Client info PO #:

### Billing Information

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)  
Date Due:

### Regulatory Requirements & Project Information Requirements

Yes  No MA MCP Analytical Methods  Yes  No CT RCP Analytical Methods  
 Yes  No Matrix Spike Required on this SDG? (Required for MCP Inorganics)  
 Yes  No GW1 Standards (Info Required for Metals & EPH with Targets)  
 Yes  No NPDES RGP  
 Other State /Fed Program Criteria

### Client Information

Client: *AECOM*  
Address: *250 Apollo Dr. Chelmsford MA 01824*  
Phone: *508-833-6960*  
Email:

Additional Project Information:  
*Report to Deirdre Dahlen at Batelle*

ANALYSIS											SAMPLE INFO			
VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH		METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15		EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> RCRAB <input type="checkbox"/> RCP 13		VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only		PCB <input type="checkbox"/> PEST		TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint		Filtration	TOTAL # BOTTLES
<i>755</i>	<i>Metals</i>											<input type="checkbox"/> Field		
													<input type="checkbox"/> Lab to do	
													Preservation	
													<input type="checkbox"/> Lab to do	
Sample Comments														

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
3/802-01	MW-4A-120215	12/2/15	1045	GW	HJ
01	MW-4A-120215-MS	12/2/15	1050	GW	HJ
01	MW-4A-120215-MSD	12/2/15	1055	GW	HJ
02	MW-5-120215	12/2/15	1335	GW	HJ
03	MW-5-120215-REP	12/2/15	1340	GW	HJ
04	MW-01-120215	12/2/15	1145	GW	RM
05	MW-06-120215	12/2/15	1430	GW	RM
06	MW-7A-120315	12/3/15	1030	GW	HJ
07	MW-03-120315	12/3/15	1142	GW	RM
08	EB-001-120315	12/3/15	0815	Ag	HJ

- |  |   |
|--|---|
| <b>Container Type</b><br>P= Plastic<br>A= Amber glass<br>V= Vial<br>G= Glass<br>B= Bacteria cup<br>C= Cube<br>O= Other<br>E= Encore<br>D= BOD Bottle | <b>Preservative</b><br>A= None<br>B= HCl<br>C= HNO <sub>3</sub><br>D= H <sub>2</sub> SO <sub>4</sub><br>E= NaOH<br>F= MeOH<br>G= NaHSO <sub>4</sub><br>H= Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub><br>I= Ascorbic Acid<br>J= NH <sub>4</sub> Cl<br>K= Zn Acetate<br>O= Other |
|--|---|

Container Type							
Preservative							

Relinquished By: <i>[Signature]</i>	Date/Time: <i>12/3/15 14:25</i>	Received By: <i>AAV</i>	Date/Time: <i>12/3/15 14:25</i>
<i>[Signature]</i>	<i>12/3/15 17:25</i>	<i>[Signature]</i>	<i>12/3/15 17:25</i>
<i>[Signature]</i>	<i>12/3/15 20:10</i>	<i>[Signature]</i>	<i>12/3/15 20:10</i>
<i>[Signature]</i>	<i>12/4/15 09:00</i>	<i>[Signature]</i>	<i>12/4/15 09:00</i>
<i>[Signature]</i>	<i>12/7/15 19:20</i>	<i>[Signature]</i>	<i>12/7/15 19:20</i>

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.  
FORM NO: 01-01 (rev. 12-Mar-2012)





# CHAIN OF CUSTODY

PAGE 1 OF 1

8 Walkup Drive  
Westboro, MA 01581  
Tel: 508-898-9220

320 Forbes Blvd  
Mansfield, MA 02048  
Tel: 508-822-9300

Date Rec'd in Lab: 12/3/15  
ALPHA Job #: C1531802

### Project Information

Project Name: *New Bedford Harbor Sawyer Street COP*

Project Location: *New Bedford, MA*

Project #:

Project Manager: *Maura Surprenant*

ALPHA Quote #:

### Report Information - Data Deliverables

ADEx  EMAIL

### Billing Information

Same as Client info PO #:

### Client Information

Client: *AECOM*

Address: *250 Apollo Dr.*

*Chelmsford MA 01824*

Phone: *508-833-6960*

Email:

### Additional Project Information:

*Report to Deirdre Dahlen at Batelle*

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)

Date Due:

### Regulatory Requirements & Project Information Requirements

- Yes  No MA MCP Analytical Methods
- Yes  No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
- Yes  No GW1 Standards (Info Required for Metals & EPH with Targets)
- Yes  No NPDES RGP
- Other State /Fed Program \_\_\_\_\_ Criteria \_\_\_\_\_
- Yes  No CT RCP Analytical Methods

ANALYSIS		SAMPLE INFO	TOTAL # BOTTLES
VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH		
METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15	METALS: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8 <input type="checkbox"/> PPT13	Preservation <input type="checkbox"/> Lab to do	
EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only		
<input type="checkbox"/> PCB <input type="checkbox"/> PEST	TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint		
TS/ Metals			
Sample Comments			

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	X	X	X	X	X
		Date	Time							
<i>3/802-01</i>	<i>MW-4A-120215</i>	<i>12/2/15</i>	<i>1045</i>	<i>GW</i>	<i>HJ</i>					
<i>01</i>	<i>MW-4A-120215-MS</i>	<i>12/2/15</i>	<i>1050</i>	<i>GW</i>	<i>HJ</i>					<i>MS</i>
<i>01</i>	<i>MW-4A-120215-MSD</i>	<i>12/2/15</i>	<i>1055</i>	<i>GW</i>	<i>HJ</i>					<i>MSD</i>
<i>02</i>	<i>MW-5-120215</i>	<i>12/2/15</i>	<i>1335</i>	<i>GW</i>	<i>HJ</i>					
<i>03</i>	<i>MW-5-120215-REP</i>	<i>12/2/15</i>	<i>1340</i>	<i>GW</i>	<i>HJ</i>					
<i>04</i>	<i>MW-01-120215</i>	<i>12/2/15</i>	<i>1145</i>	<i>GW</i>	<i>RM</i>					
<i>05</i>	<i>MW-06-120215</i>	<i>12/2/15</i>	<i>1430</i>	<i>GW</i>	<i>RM</i>					
<i>06</i>	<i>MW-7A-120315</i>	<i>12/3/15</i>	<i>1030</i>	<i>GW</i>	<i>HJ</i>					
<i>07</i>	<i>MW-03-120315</i>	<i>12/3/15</i>	<i>1142</i>	<i>GW</i>	<i>RM</i>					
<i>08</i>	<i>EB-001-120315</i>	<i>12/3/15</i>	<i>0815</i>	<i>Ag</i>	<i>HJ</i>					

Container Type	Preservative
P= Plastic	A= None
A= Amber glass	B= HCl
V= Vial	C= HNO <sub>3</sub>
G= Glass	D= H <sub>2</sub> SO <sub>4</sub>
B= Bacteria cup	E= NaOH
C= Cube	F= MeOH
O= Other	G= NaHSO <sub>4</sub>
E= Encore	H= Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>
D= BOD Bottle	I= Ascorbic Acid
	J= NH <sub>4</sub> Cl
	K= Zn Acetate
	O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	<i>1439 12/3/15</i>	<i>[Signature]</i>	<i>12/3/15 1435</i>
<i>[Signature]</i>	<i>12/3/15 1725</i>	<i>[Signature]</i>	<i>12/3/15 1725</i>
<i>[Signature]</i>	<i>12/3/15 20:10</i>	<i>[Signature]</i>	<i>12/3/15 20:10</i>

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.  
FORM NO 01-01 (rev. 12-Mar-2012)

# Alpha Summary Forms

# **Inorganic Summary Forms**

# Form 1 METALS

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER STP	Project Number : W912WJ-12-D-0004
Lab ID : L1531802-01	Date Collected : 12/02/15 10:45
Client ID : MW-4A-120215	Date Received : 12/03/15
Sample Location : NEW BEDFORD HARBOR	Date Analyzed : 12/10/15 14:46
Sample Matrix : WATER	Dilution Factor : 1
Analytical Method : 1,6020A	Analyst : DB
Lab File ID : WG848586.pcl	Instrument ID : ICPMS2
Sample Amount : 25ml	%Solids : N/A
Digestion Method : EPA 3020A	Date Digested : 12/07/15

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-43-9	Cadmium, Total	ND	0.00050	--	U
7440-47-3	Chromium, Total	0.00208	0.00100	--	
7440-50-8	Copper, Total	0.0140	0.00100	--	
7439-92-1	Lead, Total	ND	0.00100	--	U





# Form 1 METALS

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER STP	Project Number : W912WJ-12-D-0004
Lab ID : L1531802-02	Date Collected : 12/02/15 13:35
Client ID : MW-5-120215	Date Received : 12/03/15
Sample Location : NEW BEDFORD HARBOR	Date Analyzed : 12/10/15 15:02
Sample Matrix : WATER	Dilution Factor : 1
Analytical Method : 1,6020A	Analyst : DB
Lab File ID : WG848586.pcl	Instrument ID : ICPMS2
Sample Amount : 25ml	%Solids : N/A
Digestion Method : EPA 3020A	Date Digested : 12/07/15

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-43-9	Cadmium, Total	ND	0.00050	--	U
7440-47-3	Chromium, Total	0.00256	0.00100	--	
7440-50-8	Copper, Total	0.0116	0.00100	--	
7439-92-1	Lead, Total	ND	0.00100	--	U



# Form 1 METALS

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER STP	Project Number : W912WJ-12-D-0004
Lab ID : L1531802-03	Date Collected : 12/02/15 13:40
Client ID : MW-5-120215-REP	Date Received : 12/03/15
Sample Location : NEW BEDFORD HARBOR	Date Analyzed : 12/10/15 15:03
Sample Matrix : WATER	Dilution Factor : 1
Analytical Method : 1,6020A	Analyst : DB
Lab File ID : WG848586.pcl	Instrument ID : ICPMS2
Sample Amount : 25ml	%Solids : N/A
Digestion Method : EPA 3020A	Date Digested : 12/07/15

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-43-9	Cadmium, Total	ND	0.00050	--	U
7440-47-3	Chromium, Total	0.00236	0.00100	--	
7440-50-8	Copper, Total	0.00865	0.00100	--	
7439-92-1	Lead, Total	ND	0.00100	--	U



# Form 1 METALS

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER STP	Project Number : W912WJ-12-D-0004
Lab ID : L1531802-04	Date Collected : 12/02/15 11:45
Client ID : MW-01-120215	Date Received : 12/03/15
Sample Location : NEW BEDFORD HARBOR	Date Analyzed : 12/10/15 15:05
Sample Matrix : WATER	Dilution Factor : 1
Analytical Method : 1,6020A	Analyst : DB
Lab File ID : WG848586.pcl	Instrument ID : ICPMS2
Sample Amount : 25ml	%Solids : N/A
Digestion Method : EPA 3020A	Date Digested : 12/07/15

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-43-9	Cadmium, Total	0.00066	0.00050	--	
7440-47-3	Chromium, Total	0.00143	0.00100	--	
7440-50-8	Copper, Total	0.00413	0.00100	--	
7439-92-1	Lead, Total	ND	0.00100	--	U



# Form 1 METALS

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER STP	Project Number : W912WJ-12-D-0004
Lab ID : L1531802-05	Date Collected : 12/02/15 14:30
Client ID : MW-06-120215	Date Received : 12/03/15
Sample Location : NEW BEDFORD HARBOR	Date Analyzed : 12/10/15 15:06
Sample Matrix : WATER	Dilution Factor : 1
Analytical Method : 1,6020A	Analyst : DB
Lab File ID : WG848586.pcl	Instrument ID : ICPMS2
Sample Amount : 25ml	%Solids : N/A
Digestion Method : EPA 3020A	Date Digested : 12/07/15

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-43-9	Cadmium, Total	ND	0.00050	--	U
7440-47-3	Chromium, Total	0.00165	0.00100	--	
7440-50-8	Copper, Total	0.00937	0.00100	--	
7439-92-1	Lead, Total	ND	0.00100	--	U



# Form 1 METALS

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER STP	Project Number : W912WJ-12-D-0004
Lab ID : L1531802-06	Date Collected : 12/03/15 10:30
Client ID : MW-7A-120315	Date Received : 12/03/15
Sample Location : NEW BEDFORD HARBOR	Date Analyzed : 12/10/15 15:08
Sample Matrix : WATER	Dilution Factor : 1
Analytical Method : 1,6020A	Analyst : DB
Lab File ID : WG848586.pcl	Instrument ID : ICPMS2
Sample Amount : 25ml	%Solids : N/A
Digestion Method : EPA 3020A	Date Digested : 12/07/15

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-43-9	Cadmium, Total	ND	0.00050	--	U
7440-47-3	Chromium, Total	ND	0.00100	--	U
7440-50-8	Copper, Total	0.00484	0.00100	--	
7439-92-1	Lead, Total	ND	0.00100	--	U



# Form 1 METALS

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER STP	Project Number : W912WJ-12-D-0004
Lab ID : L1531802-07	Date Collected : 12/03/15 11:42
Client ID : MW-03-120315	Date Received : 12/03/15
Sample Location : NEW BEDFORD HARBOR	Date Analyzed : 12/10/15 15:34
Sample Matrix : WATER	Dilution Factor : 5
Analytical Method : 1,6020A	Analyst : DB
Lab File ID : WG848586.pcl	Instrument ID : ICPMS2
Sample Amount : 25ml	%Solids : N/A
Digestion Method : EPA 3020A	Date Digested : 12/07/15

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-43-9	Cadmium, Total	0.02935	0.00250	--	
7440-47-3	Chromium, Total	ND	0.00500	--	U
7440-50-8	Copper, Total	0.0736	0.00500	--	
7439-92-1	Lead, Total	ND	0.00500	--	U



# Form 1 METALS

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER STP	Project Number : W912WJ-12-D-0004
Lab ID : L1531802-08	Date Collected : 12/03/15 08:15
Client ID : EB-001-120315	Date Received : 12/03/15
Sample Location : NEW BEDFORD HARBOR	Date Analyzed : 12/10/15 15:37
Sample Matrix : WATER	Dilution Factor : 1
Analytical Method : 1,6020A	Analyst : DB
Lab File ID : WG848586.pcl	Instrument ID : ICPMS2
Sample Amount : 25ml	%Solids : N/A
Digestion Method : EPA 3020A	Date Digested : 12/07/15

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-43-9	Cadmium, Total	ND	0.00050	--	U
7440-47-3	Chromium, Total	ND	0.00100	--	U
7440-50-8	Copper, Total	0.00201	0.00100	--	
7439-92-1	Lead, Total	ND	0.00100	--	U



# Form 1 METALS

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER STP	Project Number : W912WJ-12-D-0004
Lab ID : WG847373-1	Date Collected : NA
Client ID : WG847373-1BLANK	Date Received : NA
Sample Location :	Date Analyzed : 12/10/15 15:28
Sample Matrix : WATER	Dilution Factor : 1
Analytical Method : 1,6020A	Analyst : DB
Lab File ID : WG848586.pcl	Instrument ID : ICPMS2
Sample Amount : 25ml	%Solids : N/A
Digestion Method : EPA 3020A	Date Digested : 12/07/15

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-43-9	Cadmium, Total	ND	0.00050	--	U
7440-47-3	Chromium, Total	ND	0.00100	--	U
7440-50-8	Copper, Total	ND	0.00100	--	U
7439-92-1	Lead, Total	ND	0.00100	--	U





# Form 1 METALS

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER STP	Project Number : W912WJ-12-D-0004
Lab ID : WG847373-3	Date Collected : 12/02/15 10:45
Client ID : MW-4A-120215DUP	Date Received : 12/03/15
Sample Location :	Date Analyzed : 12/10/15 14:56
Sample Matrix : WATER	Dilution Factor : 1
Analytical Method : 1,6020A	Analyst : DB
Lab File ID : WG848586.pcl	Instrument ID : ICPMS2
Sample Amount : 25ml	%Solids : N/A
Digestion Method : EPA 3020A	Date Digested : 12/07/15

CAS NO.	Parameter	mg/l			Qualifier
		Results	RL	MDL	
7440-43-9	Cadmium, Total	ND	0.00050	--	U
7440-47-3	Chromium, Total	0.00164	0.00100	--	
7440-50-8	Copper, Total	0.0118	0.00100	--	
7439-92-1	Lead, Total	ND	0.00100	--	U



## Form 2A Initial and Continuing Calibration Verification

**Client** : Battelle **Lab Number** : L1531802  
**Project Name** : NEW BEDFORD HARBOR SAWYER STP **Project Number** : W912WJ-12-D-0004  
**Instrument ID** : ICPMS2 **Units** : mg/l

Parameter	Initial Calibration			Continuing Calibration(s)							
	Lab ID	: R822668-6		R822668-12			R822668-15		R822668-17		
	Date Analyzed:	12/10/15 14:25		12/10/15 14:47			12/10/15 15:11		12/10/15 15:39		
	True	Found	%R	True	Found	%R	Found	%R	Found	%R	
Cadmium	0.0500	0.0500	100.	0.0500	0.0502	100.	0.0509	102.	0.0489	98.	
Chromium	0.0500	0.0508	102.	0.0500	0.0512	102.	0.0531	106.	0.0509	102.	
Copper	0.0500	0.0503	101.	0.0500	0.0509	102.	0.0520	104.	0.0497	99.	
Lead	0.0500	0.0521	104.	0.0500	0.0529	106.	0.0542	108.	0.0519	104.	



## Form 2A Initial and Continuing Calibration Verification

**Client** : Battelle **Lab Number** : L1531802  
**Project Name** : NEW BEDFORD HARBOR SAWYER STP **Project Number** : W912WJ-12-D-0004  
**Instrument ID** : ICPMS2 **Units** : mg/l

Parameter	Initial Calibration			Continuing Calibration(s)						
	True	Found	%R	True	Found	%R	Found	%R	Found	%R
				Lab ID : _____ Date Analyzed: _____ R822668-18 12/10/15 15:42						
Cadmium				0.0500	0.0491	98.				
Chromium				0.0500	0.0505	101.				
Copper				0.0500	0.0497	99.				
Lead				0.0500	0.0511	102.				



## Form 2B CRI Check Standard

**Client** : Battelle **Lab Number** : L1531802  
**Project Name** : NEW BEDFORD HARBOR SAWYER STP **Project Number** : W912WJ-12-D-0004  
**Instrument ID** : ICPMS2 **Units** : mg/L

	<b>Initial</b>		<b>Final</b>
<b>Lab ID</b> :	R822668-9		R822668-20
<b>Date Analyzed</b> :	12/10/15 14:31		12/10/15 15:48

Parameter	True	Found	%R	Found	%R
Cadmium	0.000200	0.000205	103	0.000196	98
Chromium	0.000500	0.000488	98	0.000538	108
Copper	0.000500	0.000573	114	0.000582	116
Lead	0.000200	0.000220	110	0.000222	111



# Form 3 Blanks

**Client** : Battelle **Lab Number** : L1531802  
**Project Name** : NEW BEDFORD HARBOR SAWYER STP **Project Number** : W912WJ-12-D-0004  
**Instrument ID** : ICPMS2

Parameter	Initial Calibration		Continuing Calibration				Preparation	
	Blank		Blank(s)				Blank	
Lab ID	: R822668-8		R822668-13		R822668-14		R822668-16	
Date Analyzed:	12/10/15 14:29		12/10/15 14:50		12/10/15 14:53		12/10/15 15:20	
	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q
							WG847373-1	
							12/10/15 14:40	
Cadmium	0.0000154	U	0.0000154	U	0.0000154	U	0.0000154	U
Chromium	0.000298	U	0.000298	U	0.000298	U	0.000298	U
Copper	0.0000990	U	0.0000990	U	0.0000990	U	0.0000990	U
Lead	0.0000650	U	0.0000650	U	0.0000650	U	0.0000650	U



# Form 3 Blanks

Client : Battelle  
 Project Name : NEW BEDFORD HARBOR SAWYER STP  
 Instrument ID : ICPMS2  
 Lab Number : L1531802  
 Project Number : W912WJ-12-D-0004

Parameter	Initial Calibration Blank		Continuing Calibration Blank(s)				Preparation Blank	
	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q
Lab ID :			R822668-19				WG847373-1	
Date Analyzed:			12/10/15 15:46				12/10/15 15:28	
Cadmium			0.0000154	U			0.000500	U
Chromium			0.000298	U			0.00100	U
Copper			0.0000990	U			0.001	U
Lead			0.0000650	U			0.00100	U



## Form 4a Interference Check Sample

**Client** : Battelle **Lab Number** : L1531802  
**Project Name** : NEW BEDFORD HARBOR SAWYER ST **Project Number** : W912WJ-12-D-0004  
**Instrument ID** : ICPMS2 **Concentration Units** : mg/L

Analyte	True		Initial Found		Final Found					
	Lab ID :		R822668-10		R822668-11					
	Analysis Date :		12/10/15 14:33		12/10/15 14:34					
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Cadmium		0.1	0.00549		0.101	101				
Chromium		0.1	0.00506		0.106	106				
Copper		0.1	0.00700		0.0980	98				
Lead		0.1	0.000114		0.0967	97				



## Form 5a Matrix Spike

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER ST	Project Number : W912WJ-12-D-0004
Client Sample ID : MW-4A-120215	Matrix : WATER
Lab Sample ID : L1531802-01	
Matrix Spike : WG847373-4	MS Analysis Date : 12/10/15 14:58
Matrix Spike Dup : WG847373-5	MSD Analysis Date : 12/10/15 15:00

Parameter	Sample Conc. (mg/l)	Matrix Spike Sample			Matrix Spike Duplicate			RPD	Recovery Limits	RPD Limit
		Spike Added (mg/l)	Spike Conc. (mg/l)	%R	Spike Added (mg/l)	Spike Conc. (mg/l)	%R			
Cadmium, Total	ND	0.5	0.5477	110	0.5	0.5434	109	1	75-125	20
Chromium, Total	0.00208	1	1.32	132 Q	1	1.31	131 Q	1	75-125	20
Copper, Total	0.0140	1	1.16	115	1	1.16	115	0	75-125	20
Lead, Total	ND	1	1.08	108	1	1.09	109	1	75-125	20





## Form 6 Lab Duplicates

Client	: Battelle	Lab Number	: L1531802
Project Name	: NEW BEDFORD HARBOR SAWYER ST	Project Number	: W912WJ-12-D-0004
Client Sample ID	: MW-4A-120215	Matrix	: WATER
Lab Sample ID	: L1531802-01	Analysis Date	: 12/10/15 14:46
Dup Sample ID	: WG847373-3	DUP Analysis Date	: 12/10/15 14:56

Parameter	Sample Concentration (mg/l)	Duplicate Concentration (mg/l)	RPD	RPD Limit
Cadmium, Total	ND	ND	NC	20
Chromium, Total	0.00208	0.00164	24 Q	20
Copper, Total	0.0140	0.0118	17	20
Lead, Total	ND	ND	NC	20



## Form 7 Laboratory Control Sample

Client : Battelle	Lab Number : L1531802
Project Name : NEW BEDFORD HARBOR SAWYER STP	Project Number : W912WJ-12-D-0004
Client Sample ID : NA	Matrix : WATER
Lab Sample ID : WG847373-2	LCS Analysis Date : 12/10/15 14:41
Dup Sample ID :	LCSD Analysis Date :

Parameter	Laboratory Control Sample			Laboratory Control Duplicate			RPD	Recovery Limits	RPD Limit
	True (mg/l)	Found (mg/l)	%R	True (mg/l)	Found (mg/l)	%R			
Cadmium, Total	0.500	0.546	109.					80-120	20
Chromium, Total	1.00	1.14	114.					80-120	20
Copper, Total	1.00	1.13	113.					80-120	20
Lead, Total	1.00	1.15	115.					80-120	20



## Form 8 Serial Dilutions

Client	: Battelle	Lab Number	: L1531802
Project Name	: NEW BEDFORD HARBOR SAWYER STP	Project Number	: W912WJ-12-D-0004
Client Sample ID	: MW-4A-120215	Matrix	: WATER
Lab Sample ID	: L1531802-01	Analysis Date	: 12/10/15 14:46
Serial Dilution ID	: WG847373-6	Analysis Date	: 12/10/15 14:55

Parameter	Initial Sample Result (mg/l)	Serial Dilution Result (mg/l)	% Difference	%D Limit
Cadmium, Total	0.00003J	ND	100*	10
Chromium, Total	0.00208	0.00232J	12*	10
Copper, Total	0.0140	0.0130	7	10
Lead, Total	0.00020J	ND	100*	10



# Form 12 Preparation Log

Client : Battelle  
Project Name : NEW BEDFORD HARBOR SAWYER STP  
Matrix : WATER  
Lab Number : L1531802  
Project Number : W912WJ-12-D-0004  
Prep Method : EPA 3020A

Sample Number	Preparation Date	Weight (gram)	Volume (mL)
L1531802-01	12/07/15 14:10	-	25
L1531802-02	12/07/15 14:10	-	25
L1531802-03	12/07/15 14:10	-	25
L1531802-04	12/07/15 14:10	-	25
L1531802-05	12/07/15 14:10	-	25
L1531802-06	12/07/15 14:10	-	25
L1531802-07	12/07/15 14:10	-	25
L1531802-08	12/07/15 14:10	-	25
WG847373-1	12/07/15 14:10	-	25
WG847373-2	12/07/15 14:10	-	25
WG847373-3	12/07/15 14:10	-	25
WG847373-4	12/07/15 14:10	-	25
WG847373-5	12/07/15 14:10	-	25
WG847373-6	12/07/15 14:10	-	25



# Form 13 Analysis Run Log

Client	: Battelle	Lab Number	: L1531802
Project Name	: NEW BEDFORD HARBOR SAWYER STP	Project Number	: W912WJ-12-D-0004
Instrument ID	: ICPMS2	Analysis Method	: 1,6020A
Start Date	: 12/10/15 00:00	End Date	: 12/10/15 15:48

Sample Number	Dilution Factor	Analysis Time	Cadmium, Total	Chromium, Total	Copper, Total	Lead, Total															
R823055-1 TUNE		00:00:00																			
R822668-6 ICV	1	14:25:52	X	X	X	X															
R822668-8 ICB	1	14:29:32	X	X	X	X															
R822668-9 CRI	1	14:31:13	X	X	X	X															
R822668-10 ICSA	1	14:33:09	X	X	X	X															
R822668-11 ICSAB	1	14:34:52	X	X	X	X															
WG847373-1 BLANK	1	14:40:19	X	X	X	X															
WG847373-2 LCS	1	14:41:51	X	X	X	X															
L1531802-01	1	14:46:25	X	X	X	X															
R822668-12 CCV	1	14:47:59	X	X	X	X															
R822668-13 CCB	1	14:50:25	X	X	X	X															
R822668-14 CCB	1	14:53:33	X	X	X	X															
WG847373-6 SERDIL	5	14:55:17																			
WG847373-3 DUP	1	14:56:49	X	X	X	X															
WG847373-4 MS	1	14:58:20	X	X	X	X															
WG847373-5 MSD	1	15:00:32	X	X	X	X															
L1531802-02	1	15:02:03	X	X	X	X															
L1531802-03	1	15:03:35	X	X	X	X															
L1531802-04	1	15:05:06	X	X	X	X															
L1531802-05	1	15:06:38	X	X	X	X															
L1531802-06	1	15:08:09	X	X	X	X															
L1531802-07	1	15:09:41																			
R822668-15 CCV	1	15:11:14	X	X	X	X															
R822668-16 CCB	1	15:20:23	X	X	X	X															
L1531802-08	1	15:22:14																			
WG847373-1 BLANK	1	15:28:01	X	X	X	X															
L1531802-07	5	15:34:41	X	X	X	X															



# Form 13 Analysis Run Log

Client	: Battelle	Lab Number	: L1531802
Project Name	: NEW BEDFORD HARBOR SAWYER STP	Project Number	: W912WJ-12-D-0004
Instrument ID	: ICPMS2	Analysis Method	: 1,6020A
Start Date	: 12/10/15 00:00	End Date	: 12/10/15 15:48

Sample Number	Dilution Factor	Analysis Time	Cadmium, Total	Chromium, Total	Copper, Total	Lead, Total															
L1531802-08	1	15:37:48	X	X	X	X															
R822668-17 CCV	1	15:39:31	X	X	X	X															
R822668-18 CCV	1	15:42:57	X	X	X	X															
R822668-19 CCB	1	15:46:32	X	X	X	X															
R822668-20 CRI	1	15:48:12	X	X	X	X															



# Form 14

## ICP-MS Tune

Client : Battelle  
Project Name : NEW BEDFORD HARBOR SAWYER STP  
Lab Sample ID : R823055-1  
ICP-MS Instrument : ICPMS2

Lab Number : L1531802  
Project Number : W912WJ-12-D-0004  
Analysis Date : 12/10/15 00:00

Mass Element	Avg Measured Mass (amu)	Avg. Peak Width at 10% Peak Height (amu)	%RSD
9 Be	9.025	0.678	1.433
59 Co	58.925	0.694	1.111
115 In	114.925	0.692	1.401
205 Tl	204.925	0.726	1.419
238 U	238.125	0.708	1.537



## Form 15

### ICP-MS Internal Standards Relative Intensity Summary

Client	: Battelle	Lab Number	: L1531802
Project Name	: NEW BEDFORD HARBOR SAWYER STP	Project Number	: W912WJ-12-D-0004
Instrument ID	: ICPMS2	Analysis Method	: 1,6020A
Start Date	: 12/10/15	End Date	: 12/10/15

Sample #	Time	Internal Standards %RI For:		
		Ge	In	Tb
R822668-6 ICV	14:25:52	100	99	101
R822668-8 ICB	14:29:32	102	100	100
R822668-9 CRI	14:31:13	100	103	102
R822668-10 ICSA	14:33:09	72	75	80
R822668-11 ICSAB	14:34:52	74	78	82
WG847373-1 BLANK	14:40:19	102	105	104
WG847373-2 LCS	14:41:51	98	102	105
L1531802-01	14:46:25	75	78	85
R822668-12 CCV	14:47:59	99	99	101
R822668-13 CCB	14:50:25	102	99	101
R822668-14 CCB	14:53:33	102	100	99
WG847373-6 SERDIL	14:55:17	94	93	97
WG847373-3 DUP	14:56:49	75	78	84
WG847373-4 MS	14:58:20	73	77	86
WG847373-5 MSD	15:00:32	74	77	86
L1531802-02	15:02:03	79	81	90
L1531802-03	15:03:35	78	81	88
L1531802-04	15:05:06	90	92	99
L1531802-05	15:06:38	87	89	95
L1531802-06	15:08:09	91	95	99
L1531802-07	15:09:41	49	52	62
R822668-15 CCV	15:11:14	97	98	104
R822668-16 CCB	15:20:23	102	103	104
L1531802-08	15:22:14	103	106	108
WG847373-1 BLANK	15:28:01	104	102	106
L1531802-07	15:34:41	79	81	90
L1531802-08	15:37:48	104	105	107





# Form 15

## ICP-MS Internal Standards Relative Intensity Summary

Client	: Battelle	Lab Number	: L1531802
Project Name	: NEW BEDFORD HARBOR SAWYER STP	Project Number	: W912WJ-12-D-0004
Instrument ID	: ICPMS2	Analysis Method	: 1,6020A
Start Date	: 12/10/15	End Date	: 12/10/15

Sample #	Time	Internal Standards %RI For:		
		Ge	In	Tb
R822668-17 CCV	15:39:31	103	102	105
R822668-18 CCV	15:42:57	104	102	106
R822668-19 CCB	15:46:32	106	103	106
R822668-20 CRI	15:48:12	105	105	108



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**Data Package – Batch # SI9749  
VOC and PCB Analysis**

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**BATTELLE  
NEW BEDFORD HARBOR  
SUPERFUND SITE  
SI9749**

**KATAHDIN ANALYTICAL SERVICES, LLC  
600 TECHNOLOGY WAY  
SCARBOROUGH, ME 04074**

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# SAMPLE DATA PACKAGE

SDG NARRATIVE  
KATAHDIN ANALYTICAL SERVICES  
BATTELLE  
NEW BEDFORD HARBOR SUPERFUND SITE  
SI9749

**Sample Receipt**

The following samples were received on December 04, 2015 and were logged in under Katahdin Analytical Services work order number SI9749 for a hardcopy due date of December 17, 2015.

KATAHDIN Sample No.	BATTELLE Sample Identification
SI9749-1	MW-4A-120215
SI9749-2	MW-5-120215
SI9749-3	MW-5-120215-REP
SI9749-4	MW-01-120215
SI9749-5	MW-06-120215
SI9749-6	MW-7A-120315
SI9749-7	MW-03-120315
SI9749-8	EB-001-120315
SI9749-9	TRIP BLANK

The samples were logged in for the analyses specified on the chain of custody form. All non-conformances noted during sample receipt have been documented on the applicable chain of custody or laboratory cooler receipt form.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in this narrative or in the Report of Analysis.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Mrs. Jennifer Obrin**. This narrative is an integral part of the Report of Analysis.

**Reissue 01/20/2016**

During recent review of a data package, it was discovered that the compounds 1,2-Dichloropropane, 1,2-Dibromoethane and Bromoform were not correctly integrated in the low point for the ICAL of the P instrument on 12/10/15. The instrument did not detect these compounds and the analyst failed to manually integrate them, so they were not included in the low point of this ICAL. Upon processing this ICAL correctly, by including these three compounds in the low point, the concentrations for the subsequent CVs and any LCSs or MS/MSDs change slightly. All samples associated with this ICAL for these three compounds were reviewed and no reported data has changed. The Forms 6, 7, and the affected LCS forms along with all associated raw data, will be reissued. The EDD will be corrected for the LCS concentrations for these compounds.



### Organics Analysis

The samples of Work Order SI9749 were analyzed in accordance with "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846, 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, III, IIIA, and IIIB 1996, 1998 & 2004, Office of Solid Waste and Emergency Response, U.S. EPA, and/or for the specific methods listed below or on the Report of Analysis.

Sample SI9749-1 was used for the Matrix Spike (MS) and Matrix Spike Duplicate (MSD), as per client request.

#### 8082A Analysis

Samples SI9749-1 through 8 were manually integrated for the extraction surrogate TCX. The specific reasons for the manual integrations are indicated on the raw data by the manual integration codes (M1-M11). These codes are further explained in the attachment following this narrative.

The method blank sample WG175803-1 had a high recovery for the extraction surrogate TCX on channel A, which was outside of the laboratory established acceptance limits. Since the recovery for TCX was acceptable on the confirmation channel, no further action was taken.

#### 8260B Analysis

The independent check standard (file P3684) had high concentrations of the compounds dichlorodifluoromethane and chloroethane which exceeded the QAPP acceptance limit of  $\pm 20\%$  of the expected value from the ICAL. The Independent Check Report consists of the full list of spiked analytes, but only the client's list of target analytes are evaluated.

The initial calibration analyzed on the P instrument on 12/10/15 had %RSD values for some target analytes that exceeded the method acceptance limit of 15%. For these analytes, either a linear or quadratic model was used for quantitation instead of an average response factor. The analyte 1,4-dioxane failed for both the linear and quadratic models in the initial calibration curve due to the correlation coefficient and the coefficient of determination being less than the method acceptance criteria of 0.995 and 0.990, respectively. This analyte was calibrated using the average model. The corresponding independent check standard (file P3840), associated with the initial calibration analyzed on the P instrument on 12/10/15, had a low concentration for the target analyte tetrachloroethene which exceeded the QAPP acceptance limit of  $\pm 20\%$  of the expected value from the ICAL.

The opening calibration verification standards (CV) (files P3757, P3844) had low responses for the compounds 1,4-dioxane, tetrachloroethene, and/or 1,2-dibromo-3-chloropropane. These responses resulted in %D's that were greater than the DoD QSM acceptance limit of  $\pm 20\%$ .

The reported percent recovery acceptance limits for the Laboratory Control Samples (LCSs) are laboratory limits for the full list of spiked compounds. The recoveries of the spiked analytes in the LCS, Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are compared to these

acceptance limits. Katahdin standard operating procedure is to take corrective action only if the number of spiked analytes in the LCS that are outside of the QC limits is greater than ten percent of the client compound list. If the associated MS/MSD has greater than the allowable number of exceedances, no corrective action is taken, as long as the LCS is acceptable.

There were no other protocol deviations or observations noted by the organics laboratory staff.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Operations Manager or the Quality Assurance Officer as verified by the following signature.

Leslie Dimond  
01.25.16  
Leslie Dimond  
Quality Assurance Officer

## Katahdin Analytical Services, Inc.

### Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Client: <u>AECOM</u>	KAS PM: <u>DP 50</u>	Sampled By: <u>CHT</u>
Project:	KIMS Entry By: <u>GR</u>	Delivered By: <u>R. Labranche</u>
KAS Work Order#: <u>SI 9749</u>	KIMS Review By: <u>[Signature]</u>	Received By: <u>G. Brewer</u>
SDG #:	Cooler: <u>1</u> of <u>2</u>	Date/Time Rec.: <u>12/03/15 17:42</u>

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		✓			
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?		✓			9749-7 coc shows sample time of 11:42 and containers show 10:42
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.		✓			Temp (°C): <u>9.8</u>
Samples received at <6 °C w/o freezing?		✓			Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?		✓			Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles: <b>Aqueous:</b> No bubble larger than a pea? <b>Soil/Sediment:</b> Received in airtight container? Received in methanol? Methanol covering soil? D.I. Water - Received within 48 hour HT?	✓				
<b>Air:</b> Refer to KAS COC for canister/flow controller requirements.	✓ if air included				
7. Trip Blank present in cooler?	✓				
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2 Sulfide - >9 Cyanide – pH >12					

\* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Client: <u>AFCOM</u>	KAS PM: <u>Jo</u>	Sampled By: <u>Client</u>
Project:	KIMS Entry By: <u>[Signature]</u>	Delivered By: <u>R. La Branche</u>
KAS Work Order#: <u>SI9799</u>	KIMS Review By: <u>[Signature]</u>	Received By: <u>G. Brewer</u>
SDG #:	Cooler: <u>2</u> of <u>2</u>	Date/Time Rec.: <u>12/03/15 17:42</u>

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		<input checked="" type="checkbox"/>			
2. Chain of Custody present in cooler?	<input checked="" type="checkbox"/>				
3. Chain of Custody signed by client?	<input checked="" type="checkbox"/>				
4. Chain of Custody matches samples?	<input checked="" type="checkbox"/>				see cooler 1 rpt.
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	<input checked="" type="checkbox"/>				Temp (°C): <u>8.5</u>
Samples received at <6 °C w/o freezing?		<input checked="" type="checkbox"/>			Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?		<input checked="" type="checkbox"/>			The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?		<input checked="" type="checkbox"/>			
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?			<input checked="" type="checkbox"/>		Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles: <b>Aqueous:</b> No bubble larger than a pea? <b>Soil/Sediment:</b> Received in airtight container? Received in methanol? Methanol covering soil? D.I. Water - Received within 48 hour HT?	<input checked="" type="checkbox"/>				
<b>Air:</b> Refer to KAS COC for canister/flow controller requirements.	√ if air included				
7. Trip Blank present in cooler?	<input checked="" type="checkbox"/>				
8. Proper sample containers and volume?	<input checked="" type="checkbox"/>				
9. Samples within hold time upon receipt?	<input checked="" type="checkbox"/>				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH - pH <2 Sulfide - >9 Cyanide - pH >12					

\* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

**Jennifer Obrin**

**From:** Surprenant, Maura [Maura.Surprenant@aecom.com]  
**Sent:** Tuesday, December 08, 2015 1:38 PM  
**To:** Dahlen, Deirdre T; Jennifer Obrin  
**Subject:** RE: Login COC for samples received 12/3 - NBH - SI9749

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

10:42 is the correct time of sample collection.

**From:** Dahlen, Deirdre T [mailto:DahlenD@battelle.org]  
**Sent:** Monday, December 07, 2015 10:07 AM  
**To:** Jennifer Obrin; Surprenant, Maura  
**Subject:** RE: Login COC for samples received 12/3 - NBH - SI9749

Maura – see pdf page 4 of attached login report. Can you confirm which collection time is correct? Time on COC or time on container

Thanks,  
 Deirdre

**Katahdin Analytical Services, Inc. Sample Receipt Condition Report**

Client: <u>AECOM</u>	KAS PM: <u><del>DP</del> 50</u>	Sampled By: <u>CHT</u>
Project:	KIMS Entry By: <u>G</u>	Delivered By: <u>R. LaBranche</u>
KAS Work Order#: <u>SI9749</u>	KIMS Review By: <u>[Signature]</u>	Received By: <u>G. Brewster</u>
SDG #:	Cooler: <u>1</u> of <u>2</u>	Date/Time Rec.: <u>12/03/15 17:42</u>

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		✓			
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?		✓			9749-1 coc shows sample time of 10:42 and container show 10:42

[Handwritten signature]

**From:** Jennifer Obrin [<mailto:jobrin@katahdinlab.com>]

**Sent:** Friday, December 04, 2015 1:19 PM

**To:** Dahlen, Deirdre T <[DahlenD@battelle.org](mailto:DahlenD@battelle.org)>; Tenzar, Jessica M <[TenzarJ@battelle.org](mailto:TenzarJ@battelle.org)>; Lefkovitz, Lisa F <[LEFKOVITZL@battelle.org](mailto:LEFKOVITZL@battelle.org)>

**Subject:** Login COC for samples received 12/3 - NBH - SI9749

Good Afternoon,

Please find attached the login COC for the samples received 12/3 for the project New Bedford Harbor under the work order SI9749. Please note that even though the coolers had ice the temperatures were still over 6°C. We will continue with analysis unless otherwise told.

Have a great weekend!

**Jennifer Obrin**

Federal Programs Project Manager

**Katahdin Analytical Services**

A Small Business Enterprise

DoD ELAP Accredited

600 Technology Way

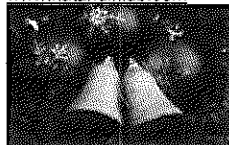
Scarborough, Maine 04074

Office - 207.874.2400 x17

Mobile - 207.333.7469

Fax - 207.775.4029

[www.katahdinlab.com](http://www.katahdinlab.com)



*Happy Holidays!*

*Katahdin will be closed December 25th and January 1st*

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000009



600 Technology Way  
Scarborough, ME 04074  
Tel: (207) 874-2400  
Fax: (207) 775-4029

# CHAIN of CUSTODY

PLEASE BEAR DOWN AND  
PRINT LEGIBLY IN PEN

Client <u>AECOM</u>	Contact <u>Maura Surprenant</u>	Phone # <u>(508) 833-6960</u>	Fax # <u>( )</u>
Address <u>250 Apollo Dr.</u>	City <u>Chelmsford</u>	State <u>MA</u>	Zip Code <u>01824</u>
Purchase Order #	Proj. Name / No. <u>New Bedford Harbor Sawyer Street CDF</u>	Katahdin Quote #	
Bill (if different than above)	Address		

Sampler (Print / Sign) <u>Helen Jones / Helen at J</u>	Copies To:
--	------------

LAB USE ONLY	WORK ORDER #: <u>SI 9749</u>	<b>ANALYSIS AND CONTAINER TYPE PRESERVATIVES</b>																					
KATAHDIN PROJECT NUMBER _____		Filt. <input type="checkbox"/>	Y	N	Filt. <input type="checkbox"/>	Y	N	Filt. <input type="checkbox"/>	Y	N	Filt. <input type="checkbox"/>	Y	N	Filt. <input type="checkbox"/>	Y	N	Filt. <input type="checkbox"/>	Y	N	Filt. <input type="checkbox"/>	Y	N	
REMARKS: _____																							
SHIPPING INFO: <input type="checkbox"/> FED EX <input type="checkbox"/> UPS <input type="checkbox"/> CLIENT																							
AIRBILL NO: _____																							
TEMP °C _____ <input type="checkbox"/> TEMP BLANK <input type="checkbox"/> INTACT <input type="checkbox"/> NOT INTACT																							

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	VOC	PCB																		
	<u>MW-4A-120215</u>	<u>12/2/15 / 1045</u>	<u>GW</u>	<u>5</u>	<u>X</u>	<u>X</u>																		
<u>MS</u>	<u>MW-4A-120215-MS</u>	<u>12/2/15 / 1050</u>	<u>GW</u>	<u>5</u>	<u>X</u>	<u>X</u>																		
<u>MSD</u>	<u>MW-4A-120215-MSD</u>	<u>12/2/15 / 1055</u>	<u>GW</u>	<u>5</u>	<u>X</u>	<u>X</u>																		
	<u>MW-5-120215</u>	<u>12/2/15 / 1335</u>	<u>GW</u>	<u>5</u>	<u>X</u>	<u>X</u>																		
	<u>MW-5-120215-REP</u>	<u>12/2/15 / 1340</u>	<u>GW</u>	<u>5</u>	<u>X</u>	<u>X</u>																		
	<u>MW-01-120215</u>	<u>12/2/15 / 1145</u>	<u>GW</u>	<u>5</u>	<u>X</u>	<u>X</u>																		
	<u>MW-06-120215</u>	<u>12/2/15 / 1430</u>	<u>GW</u>	<u>5</u>	<u>X</u>	<u>X</u>																		
	<u>MW-7A-120315</u>	<u>12/3/15 / 1030</u>	<u>GW</u>	<u>5</u>	<u>X</u>	<u>X</u>																		
	<u>MW-03-120315</u>	<u>12/3/15 / 1142</u>	<u>GW</u>	<u>5</u>	<u>X</u>	<u>X</u>																		
	<u>EB-001-120315</u>	<u>12/3/15 / 0815</u>	<u>Ag</u>	<u>5</u>	<u>X</u>	<u>X</u>																		
	<u>Trip Blank</u>	<u>11/2/15 / 0930</u>	<u>Ag</u>	<u>2</u>	<u>X</u>																			
	/	/																						
	/	/																						
	/	/																						
	/	/																						

COMMENTS Report to Deirdre Dahlen at Barette

Relinquished By: (Signature) <u>Helen at J</u>	Date / Time <u>12/3/15 1438</u>	Received By: (Signature) <u>[Signature]</u>	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

0000010



Dec. 08, 2015  
03:37 PM

**Login Number: SI9749**

Quote/Incoming: BATT-NBH

Account: BATTEL001

NoWeb

Battelle

Project: BATT-NBH

New Bedford Harbor Superfund Site

**Login Information:**

ANALYSIS INSTRUCTIONS : QAPP supersedes all. Follow DoD QSM 5.0 with lab limits. Must perform LCS/LCSD. EPA Region 1 data validation. "U" LOD. "J" flag between DL and LOQ.

**Primary Report Address:**

Deirdre Dahlen  
Battelle- Applied Coastal Engineering  
141 Longwater Drive  
Suite 202  
Norwell, MA 02061

CHECK NO. :  
CLIENT PO# : US001-0000413140  
CLIENT PROJECT MANAGE : Deirdre Dahlen  
CONTRACT : W912WJ-12-D-0004  
COOLER TEMPERATURE : 9.8, 8.5  
DELIVERY SERVICES : KAS  
EDD FORMAT : KAS148QC-CSV  
LOGIN INITIALS : AP  
PM : JO  
PROJECT NAME : New Bedford Harbor Superfund Site  
QC LEVEL : IV  
REGULATORY LIST :  
REPORT INSTRUCTIONS : Email PDF and EDD to Deirdre. Send HC and CD.

**Primary Invoice Address:**

Accounts Payable  
Battelle  
505 King Avenue

SDG ID :

**Report CC Addresses:**

**Invoice CC Addresses:**

Laboratory Sample ID	Client Sample Number	Collect Date/Time	SDG STATUS Receive Date	Verbal PR Date	Due Date	Mailed
SI9749-1	MW-4A-120215	02-DEC-15 10:45	04-DEC-15		17-DEC-15	
<b>Matrix</b>	<b>Product</b>	<b>Hold Date (shortest)</b>	<b>Bottle Type</b>	<b>Bottle Count</b>	<b>Comments</b>	
Aqueous	S COURIER-BILLING				<b>MS/MSD</b>	
Aqueous	S SW8082-S	01-JAN-16	1L N-Amber Glass			
Aqueous	S SW8260-S	16-DEC-15	40mL Vial+HCl			
SI9749-2	MW-5-120215	02-DEC-15 13:35	04-DEC-15		17-DEC-15	
<b>Matrix</b>	<b>Product</b>	<b>Hold Date (shortest)</b>	<b>Bottle Type</b>	<b>Bottle Count</b>	<b>Comments</b>	
Aqueous	S SW8082-S	01-JAN-16	1L N-Amber Glass			
Aqueous	S SW8260-S	16-DEC-15	40mL Vial+HCl			
SI9749-3	MW-5-120215-REP	02-DEC-15 13:40	04-DEC-15		17-DEC-15	
<b>Matrix</b>	<b>Product</b>	<b>Hold Date (shortest)</b>	<b>Bottle Type</b>	<b>Bottle Count</b>	<b>Comments</b>	
Aqueous	S SW8082-S	01-JAN-16	1L N-Amber Glass			
Aqueous	S SW8260-S	16-DEC-15	40mL Vial+HCl			
SI9749-4	MW-01-120215	02-DEC-15 11:45	04-DEC-15		17-DEC-15	
<b>Matrix</b>	<b>Product</b>	<b>Hold Date (shortest)</b>	<b>Bottle Type</b>	<b>Bottle Count</b>	<b>Comments</b>	
Aqueous	S SW8082-S	01-JAN-16	1L N-Amber Glass			
Aqueous	S SW8260-S	16-DEC-15	40mL Vial+HCl			
SI9749-5	MW-06-120215	02-DEC-15 14:30	04-DEC-15		17-DEC-15	
<b>Matrix</b>	<b>Product</b>	<b>Hold Date (shortest)</b>	<b>Bottle Type</b>	<b>Bottle Count</b>	<b>Comments</b>	
Aqueous	S SW8082-S	01-JAN-16	1L N-Amber Glass			
Aqueous	S SW8260-S	16-DEC-15	40mL Vial+HCl			
SI9749-6	MW-7A-120315	03-DEC-15 10:30	04-DEC-15		17-DEC-15	
<b>Matrix</b>	<b>Product</b>	<b>Hold Date (shortest)</b>	<b>Bottle Type</b>	<b>Bottle Count</b>	<b>Comments</b>	
Aqueous	S SW8082-S	02-JAN-16	1L N-Amber Glass			
Aqueous	S SW8260-S	17-DEC-15	40mL Vial+HCl			
SI9749-7	MW-03-120315	03-DEC-15 10:42	04-DEC-15		17-DEC-15	
<b>Matrix</b>	<b>Product</b>	<b>Hold Date (shortest)</b>	<b>Bottle Type</b>	<b>Bottle Count</b>	<b>Comments</b>	
Aqueous	S SW8082-S	02-JAN-16	1L N-Amber Glass			
Aqueous	S SW8260-S	17-DEC-15	40mL Vial+HCl			

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12-08-15

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**Login Number: SI9749**

Quote/Incoming: BATT-NBH

Account: BATTEL001

NoWeb

Battelle

Project: BATT-NBH

New Bedford Harbor Superfund Site

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	Verbal PR Date	Due Date	Mailed
SI9749-8	EB-001-120315	03-DEC-15 08:15	04-DEC-15		17-DEC-15	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Comments</i>
Aqueous	S SW8082-S	02-JAN-16	1L N-Amber Glass			
Aqueous	S SW8260-S	17-DEC-15	40mL Vial+HCl			
SI9749-9	TRIP BLANK	03-DEC-15 00:00	04-DEC-15		17-DEC-15	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Comments</i>
Aqueous	S SW8260-S	17-DEC-15	40mL Vial+HCl			
SI9749-10	MW-4A-120215-MS	02-DEC-15 10:50	04-DEC-15		17-DEC-15	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Comments</i>
Aqueous	S SW8082-S	01-JAN-16	1L N-Amber Glass			<b>MS charge only, not a sample</b>
Aqueous	S SW8260-S	16-DEC-15	40mL Vial+HCl			
SI9749-11	MW-4A-120215-MSD	02-DEC-15 10:55	04-DEC-15		17-DEC-15	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Comments</i>
Aqueous	S SW8082-S	01-JAN-16				<b>MSD charge only, not a sample</b>
Aqueous	S SW8260-S	16-DEC-15				

**Total Samples: 11**

**Total Analyses: 22**

90  
12-08-15  
0000012

# **SAMPLE DATA SUMMARY PACKAGE**

## KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

\* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3772.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	UM	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	UMM	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	UM	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	UM	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	UM	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3772.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
<b>Tetrachloroethene</b>		4.9	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	UM	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3772.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		97.6	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		107.	%					
Dibromofluoromethane		102.	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-2  
**Client ID:** MW-5-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3773.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-2  
**Client ID:** MW-5-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3773.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
<b>Tetrachloroethene</b>		4.9	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-2  
**Client ID:** MW-5-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3773.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		97.6	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		106.	%					
Dibromofluoromethane		101.	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-3  
**Client ID:** MW-5-120215-REP  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3774.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-3  
**Client ID:** MW-5-120215-REP  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3774.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-3  
**Client ID:** MW-5-120215-REP  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3774.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		97.5	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		108.	%					
Dibromofluoromethane		105.	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-4  
**Client ID:** MW-01-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3775.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-4  
**Client ID:** MW-01-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3775.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
<b>Tetrachloroethene</b>		4.9	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-4  
**Client ID:** MW-01-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3775.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		98.2	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		107.	%					
Dibromofluoromethane		102.	%					



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-5  
**Client ID:** MW-06-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3776.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-5  
**Client ID:** MW-06-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3776.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
<b>Tetrachloroethene</b>		4.9	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-5  
**Client ID:** MW-06-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3776.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		98.2	%					
Toluene-d8		102.	%					
1,2-Dichloroethane-d4		107.	%					
Dibromofluoromethane		103.	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-6  
**Client ID:** MW-7A-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3853.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-6  
**Client ID:** MW-7A-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3853.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-6  
**Client ID:** MW-7A-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3853.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		99.0	%					
Toluene-d8		104.	%					
1,2-Dichloroethane-d4		106.	%					
Dibromofluoromethane		102.	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-7  
**Client ID:** MW-03-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3854.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-7  
**Client ID:** MW-03-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3854.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
<b>Tetrachloroethene</b>		1.3	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-7  
**Client ID:** MW-03-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3854.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		98.9	%					
Toluene-d8		102.	%					
1,2-Dichloroethane-d4		111.	%					
Dibromofluoromethane		105.	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-8  
**Client ID:** EB-001-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3855.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-8  
**Client ID:** EB-001-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3855.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-8  
**Client ID:** EB-001-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3855.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		98.1	%					
Toluene-d8		102.	%					
1,2-Dichloroethane-d4		111.	%					
Dibromofluoromethane		104.	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-9  
**Client ID:** TRIP BLANK  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3851.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-9  
**Client ID:** TRIP BLANK  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3851.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-9  
**Client ID:** TRIP BLANK  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3851.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		97.7	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		103.	%					
Dibromofluoromethane		102.	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL110.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 10-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.48	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.48	0.085	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.48	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.48	0.078	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.48	0.16	0.24
Total PCBs	U	2.1	ug/L	1	4.5	4.3	0.063	2.1
Tetrachloro-M-Xylene		107.	%					
Decachlorobiphenyl		86.9	%					



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-2  
**Client ID:** MW-5-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL111.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 10-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.48	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.48	0.085	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.48	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.48	0.078	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.48	0.16	0.24
Total PCBs	U	2.1	ug/L	1	4.5	4.3	0.063	2.1
Tetrachloro-M-Xylene		91.4	%					
Decachlorobiphenyl		90.5	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-3  
**Client ID:** MW-5-120215-REP  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL112.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 10-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.48	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.48	0.086	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.48	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.48	0.079	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.48	0.16	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.3	0.063	2.2
Tetrachloro-M-Xylene		93.6	%					
Decachlorobiphenyl		84.8	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-4  
**Client ID:** MW-01-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL113.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 10-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.48	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.48	0.086	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.48	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.48	0.079	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.48	0.16	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.3	0.063	2.2
Tetrachloro-M-Xylene		102.	%					
Decachlorobiphenyl		95.1	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-5  
**Client ID:** MW-06-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL117.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 11-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.47	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.47	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.47	0.084	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.47	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.47	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.47	0.077	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.47	0.16	0.24
Total PCBs	U	2.1	ug/L	1	4.5	4.2	0.062	2.1
Tetrachloro-M-Xylene		95.9	%					
Decachlorobiphenyl		75.7	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-6  
**Client ID:** MW-7A-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL118.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 11-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.49	0.15	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.49	0.087	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.49	0.18	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.49	0.080	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.49	0.17	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.4	0.065	2.2
Tetrachloro-M-Xylene		101.	%					
Decachlorobiphenyl		98.4	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-7  
**Client ID:** MW-03-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL119.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 11-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.49	0.15	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.49	0.087	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.49	0.18	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.49	0.080	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.49	0.17	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.4	0.065	2.2
Tetrachloro-M-Xylene		104.	%					
Decachlorobiphenyl		88.8	%					

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-8  
**Client ID:** EB-001-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL120.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 11-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.49	0.15	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.49	0.087	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.49	0.18	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.49	0.080	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.49	0.17	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.4	0.065	2.2
Tetrachloro-M-Xylene		101.	%					
Decachlorobiphenyl		85.2	%					

# **VOLATILES DATA**



# **QC Summary Section**

**Form 2**  
**System Monitoring Compound Recovery**

**Lab Name:** Katahdin Analytical Services  
**Lab Code:** KAS

**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749

**Matrix:** AQ

Client Sample ID	Lab Sample ID	Col. ID	BFB	# DBF	# DCA	# TOL	#
MW-4A-120215	SI9749-1			97.6	102.	107.	101.
MW-5-120215	SI9749-2			97.6	101.	106.	101.
MW-5-120215-REP	SI9749-3			97.5	105.	108.	100.
MW-01-120215	SI9749-4			98.2	102.	107.	100.
MW-06-120215	SI9749-5			98.2	103.	107.	102.
MW-7A-120315	SI9749-6			99.0	102.	106.	104.
MW-03-120315	SI9749-7			98.9	105.	111.	102.
EB-001-120315	SI9749-8			98.1	104.	111.	102.
TRIP BLANK	SI9749-9			97.7	102.	103.	101.
Laboratory Control S	WG175608-1			100.	100.	98.6	99.6
Method Blank Sample	WG175608-2			98.6	100.	101.	100.
Matrix Spike	WG175608-5			99.8	99.6	102.	101.
Matrix Spike Duplica	WG175608-6			100.	99.0	100.	101.
Laboratory Control S	WG175608-7			99.0	97.5	95.7	99.0
Laboratory Control S	WG175915-1			102.	100.	98.4	101.
Laboratory Control S	WG175915-2			101.	97.4	98.0	101.
Method Blank Sample	WG175915-3			97.8	106.	108.	101.

**QC Limits**

DBF	DIBROMOFLUOROMETHANE	68-128
BFB	P-BROMOFLUOROBENZENE	56-133
TOL	TOLUENE-D8	65-128
DCA	1,2-DICHLOROETHANE-D4	67-135

# = Column to be used to flag recovery limits.  
\* = Values outside of contract required QC limits.  
D= System Monitoring Compound diluted out.

## Form 4 Method Blank Summary - VOA

<b>Lab Name</b> : Katahdin Analytical Services	<b>SDG</b> : SI9749
<b>Project</b> : New Bedford Harbor Superfund Site	<b>Lab Sample ID</b> : WG175608-2
<b>Lab File ID</b> : P3762.D	<b>Date Analyzed</b> : 07-DEC-15
<b>Instrument ID</b> : GCMS-P	<b>Time Analyzed</b> : 12:41
<b>Heated Purge</b> : No	

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG175608-1	P3758.D	12/07/15	10:33
Laboratory Control S	WG175608-7	P3759.D	12/07/15	11:00
MW-4A-120215	SI9749-1	P3772.D	12/07/15	17:14
MW-5-120215	SI9749-2	P3773.D	12/07/15	17:41
MW-5-120215-REP	SI9749-3	P3774.D	12/07/15	18:07
MW-01-120215	SI9749-4	P3775.D	12/07/15	18:37
MW-06-120215	SI9749-5	P3776.D	12/07/15	19:07
Matrix Spike	WG175608-5	P3777.D	12/07/15	19:36
Matrix Spike Duplica	WG175608-6	P3778.D	12/07/15	20:05

## Form 4 Method Blank Summary - VOA

<b>Lab Name :</b> Katahdin Analytical Services	<b>SDG :</b> SI9749
<b>Project :</b> New Bedford Harbor Superfund Site	<b>Lab Sample ID :</b> WG175915-3
<b>Lab File ID :</b> P3849.D	<b>Date Analyzed :</b> 11-DEC-15
<b>Instrument ID :</b> GCMS-P	<b>Time Analyzed :</b> 10:20
<b>Heated Purge :</b> No	

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG175915-1	P3845.D	12/11/15	08:10
Laboratory Control S	WG175915-2	P3846.D	12/11/15	08:36
TRIP BLANK	SI9749-9	P3851.D	12/11/15	11:41
MW-7A-120315	SI9749-6	P3853.D	12/11/15	12:35
MW-03-120315	SI9749-7	P3854.D	12/11/15	13:01
EB-001-120315	SI9749-8	P3855.D	12/11/15	13:28

## Form 5

### Volatile Organic Instrument Performance Check

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab File ID :** PB404.D  
**Instrument ID :** GCMS-P

**SDG :** SI9749  
**Date Analyzed :** 03-DEC-15  
**Time Analyzed :** 10:04  
**Heated Purge :** No

m/e	Ion Abundance Criteria	% Relative Abundance	
50	15.0 - 40.0% of mass 95	19.1	
75	30.0 - 60.0% of mass 95	48.3	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	7.1	
173	Less than 2.0% of mass 174	0.0	0.0 <sup>1</sup>
174	Greater than 50.0% of mass 95	67.9	
175	5.0 - 9.0% of mass 174	4.9	7.25 <sup>1</sup>
176	95.0 - 101.0% of mass 174	66.1	97.30 <sup>1</sup>
177	5.0 - 9.0% of mass 176	4.2	6.39 <sup>2</sup>

1-Value is % mass 174

2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG175386-4	P3678.D	12/03/15	11:02
Initial Calibration	WG175386-3	P3679.D	12/03/15	11:29
Initial Calibration	WG175386-2	P3680.D	12/03/15	11:55
Initial Calibration	WG175386-1	P3681.D	12/03/15	12:22
Initial Calibration	WG175386-6	P3682.D	12/03/15	12:49
Initial Calibration	WG175386-5	P3683.D	12/03/15	13:16
Independent Source	WG175386-7	P3684.D	12/03/15	13:42

## Form 5

### Volatile Organic Instrument Performance Check

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab File ID :** PB408.D  
**Instrument ID :** GCMS-P

**SDG :** SI9749  
**Date Analyzed :** 07-DEC-15  
**Time Analyzed :** 09:25  
**Heated Purge :** No

m/e	Ion Abundance Criteria	% Relative Abundance	
50	15.0 - 40.0% of mass 95	22.3	
75	30.0 - 60.0% of mass 95	52.3	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.7	
173	Less than 2.0% of mass 174	0.4	0.61 <sup>1</sup>
174	Greater than 50.0% of mass 95	71.9	
175	5.0 - 9.0% of mass 174	5.6	7.79 <sup>1</sup>
176	95.0 - 101.0% of mass 174	70.6	98.11 <sup>1</sup>
177	5.0 - 9.0% of mass 176	4.7	6.65 <sup>2</sup>

1-Value is % mass 174

2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG175608-4	P3757.D	12/07/15	09:49
Laboratory Control S	WG175608-1	P3758.D	12/07/15	10:33
Laboratory Control S	WG175608-7	P3759.D	12/07/15	11:00
Method Blank Sample	WG175608-2	P3762.D	12/07/15	12:41
MW-4A-120215	SI9749-1	P3772.D	12/07/15	17:14
MW-5-120215	SI9749-2	P3773.D	12/07/15	17:41
MW-5-120215-REP	SI9749-3	P3774.D	12/07/15	18:07
MW-01-120215	SI9749-4	P3775.D	12/07/15	18:37
MW-06-120215	SI9749-5	P3776.D	12/07/15	19:07
Matrix Spike	WG175608-5	P3777.D	12/07/15	19:36
Matrix Spike Duplica	WG175608-6	P3778.D	12/07/15	20:05
Continuing Calibrati	WG175608-8	P3779.D	12/07/15	20:33

## Form 5 Volatile Organic Instrument Performance Check

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab File ID :** PB411.D  
**Instrument ID :** GCMS-P

**SDG :** SI9749  
**Date Analyzed :** 10-DEC-15  
**Time Analyzed :** 06:56  
**Heated Purge :** No

m/e	Ion Abundance Criteria	% Relative Abundance	
50	15.0 - 40.0% of mass 95	23.2	
75	30.0 - 60.0% of mass 95	53.4	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	7.4	
173	Less than 2.0% of mass 174	0.5	0.69 <sup>1</sup>
174	Greater than 50.0% of mass 95	69.8	
175	5.0 - 9.0% of mass 174	6.0	8.60 <sup>1</sup>
176	95.0 - 101.0% of mass 174	68.3	97.85 <sup>1</sup>
177	5.0 - 9.0% of mass 176	4.0	5.83 <sup>2</sup>

1-Value is % mass 174

2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG176143-4	P3834.D	12/10/15	10:28
Initial Calibration	WG176143-3	P3835.D	12/10/15	10:55
Initial Calibration	WG176143-2	P3836.D	12/10/15	11:22
Initial Calibration	WG176143-1	P3837.D	12/10/15	11:48
Initial Calibration	WG176143-6	P3838.D	12/10/15	12:15
Initial Calibration	WG176143-5	P3839.D	12/10/15	15:51
Independent Source	WG176143-7	P3840.D	12/10/15	16:18

## Form 5 Volatile Organic Instrument Performance Check

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab File ID :** PB412.D  
**Instrument ID :** GCMS-P

**SDG :** SI9749  
**Date Analyzed :** 11-DEC-15  
**Time Analyzed :** 07:04  
**Heated Purge :** No

m/e	Ion Abundance Criteria	% Relative Abundance	
50	15.0 - 40.0% of mass 95	22.4	
75	30.0 - 60.0% of mass 95	56.2	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	8.1	
173	Less than 2.0% of mass 174	0.3	0.46 <sup>1</sup>
174	Greater than 50.0% of mass 95	73.4	
175	5.0 - 9.0% of mass 174	4.0	5.39 <sup>1</sup>
176	95.0 - 101.0% of mass 174	72.2	98.32 <sup>1</sup>
177	5.0 - 9.0% of mass 176	4.7	6.51 <sup>2</sup>

1-Value is % mass 174

2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG175915-5	P3844.D	12/11/15	07:29
Laboratory Control S	WG175915-1	P3845.D	12/11/15	08:10
Laboratory Control S	WG175915-2	P3846.D	12/11/15	08:36
Method Blank Sample	WG175915-3	P3849.D	12/11/15	10:20
TRIP BLANK	SI9749-9	P3851.D	12/11/15	11:41
MW-7A-120315	SI9749-6	P3853.D	12/11/15	12:35
MW-03-120315	SI9749-7	P3854.D	12/11/15	13:01
EB-001-120315	SI9749-8	P3855.D	12/11/15	13:28
Continuing Calibrati	WG175915-6	P3862.D	12/11/15	16:37



## Form 8

### Internal Standard Area and RT Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund  
**Lab ID :** WG175386-4  
**Lab File ID :** P3678.D

**SDG:** SI9749  
**Analytical Date:** 12/03/15 11:02  
**Instrument ID:** GCMS-P

Client Sample ID	Lab Sample ID	PENTAFLUOROBENZENE		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5	
		Area	# RT #	Area	# RT #	Area	# RT #
	Std .	302966	8.67	537776	9.53	481213	13.89
	Upper Limit	605932	9.17	1075552	10.03	962426	14.39
	Lower Limit	151483	8.17	268888	9.03	240606.5	13.39
Continuing Calibrati	WG175608-4	374191	8.67	655782	9.53	604880	13.89
Laboratory Control S	WG175608-1	374897	8.66	647622	9.53	601351	13.89
Laboratory Control S	WG175608-7	375496	8.67	644614	9.53	599829	13.89
Method Blank Sample	WG175608-2	349714	8.67	610152	9.53	557870	13.89
MW-4A-120215	SI9749-1	329440	8.67	588893	9.53	534144	13.89
MW-5-120215	SI9749-2	329877	8.66	586613	9.53	527804	13.89
MW-5-120215-REP	SI9749-3	324198	8.67	588346	9.53	537490	13.89
MW-01-120215	SI9749-4	325637	8.67	580013	9.53	529525	13.89
MW-06-120215	SI9749-5	324198	8.67	577166	9.53	522114	13.89
Matrix Spike	WG175608-5	352128	8.67	610511	9.53	572150	13.89
Matrix Spike Duplica	WG175608-6	362957	8.67	618148	9.53	573513	13.89
Continuing Calibrati	WG175608-8	365675	8.67	622269	9.53	586325	13.89

Area Upper Limit = +100% of internal standard area  
 Area Lower Limit = - 50% of internal standard area  
 RT Upper Limit = + 0.50 minutes of internal standard RT  
 RT Lower Limit = - 0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.  
 \* Values outside of QC limits.

## Form 8

### Internal Standard Area and RT Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund  
**Lab ID :** WG175386-4  
**Lab File ID :** P3678.D

**SDG:** SI9749  
**Analytical Date:** 12/03/15 11:02  
**Instrument ID:** GCMS-P

		1,4-DICHLOROBENZENE-D4	
		Area	# RT #
	Std .	261966	16.89
	Upper Limit	523932	17.39
	Lower Limit	130983	16.39
Client Sample ID	Lab Sample ID		
Continuing Calibrati	WG175608-4	331761	16.89
Laboratory Control S	WG175608-1	333330	16.89
Laboratory Control S	WG175608-7	329082	16.89
Method Blank Sample	WG175608-2	294631	16.89
MW-4A-120215	SI9749-1	290341	16.89
MW-5-120215	SI9749-2	287308	16.88
MW-5-120215-REP	SI9749-3	290348	16.89
MW-01-120215	SI9749-4	285383	16.88
MW-06-120215	SI9749-5	288983	16.88
Matrix Spike	WG175608-5	318086	16.89
Matrix Spike Duplica	WG175608-6	315163	16.89
Continuing Calibrati	WG175608-8	324183	16.89

Area Upper Limit = +100% of internal standard area  
 Area Lower Limit = - 50% of internal standard area  
 RT Upper Limit = + 0.50 minutes of internal standard RT  
 RT Lower Limit = - 0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.  
 \* Values outside of QC limits.

## Form 8

### Internal Standard Area and RT Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund  
**Lab ID :** WG176143-4  
**Lab File ID :** P3834.D

**SDG:** SI9749  
**Analytical Date:** 12/10/15 10:28  
**Instrument ID:** GCMS-P

Client Sample ID	Lab Sample ID	PENTAFLUOROBENZENE		1,4-DIFLUOROBENZENE		CHLOROBENZENE-D5	
		Area	# RT #	Area	# RT #	Area	# RT #
	Std .	364722	8.67	632873	9.52	600269	13.89
	Upper Limit	729444	9.17	1265746	10.02	1200538	14.39
	Lower Limit	182361	8.17	316436.5	9.02	300134.5	13.39
Continuing Calibrati	WG175915-5	356282	8.66	612105	9.53	592491	13.89
Laboratory Control S	WG175915-1	361888	8.67	618490	9.53	589134	13.89
Laboratory Control S	WG175915-2	367688	8.67	623275	9.53	598429	13.89
Method Blank Sample	WG175915-3	307837	8.66	567196	9.53	517633	13.89
TRIP BLANK	SI9749-9	325378	8.66	574860	9.53	526250	13.89
MW-7A-120315	SI9749-6	316581	8.67	557276	9.53	518345	13.89
MW-03-120315	SI9749-7	305810	8.67	560562	9.53	516071	13.89
EB-001-120315	SI9749-8	304813	8.67	553598	9.53	508824	13.89
Continuing Calibrati	WG175915-6	344467	8.67	584351	9.53	558693	13.89

Area Upper Limit = +100% of internal standard area  
 Area Lower Limit = - 50% of internal standard area  
 RT Upper Limit = + 0.50 minutes of internal standard RT  
 RT Lower Limit = - 0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.  
 \* Values outside of QC limits.

## Form 8

### Internal Standard Area and RT Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund  
**Lab ID :** WG176143-4  
**Lab File ID :** P3834.D

**SDG:** SI9749  
**Analytical Date:** 12/10/15 10:28  
**Instrument ID:** GCMS-P

		1,4-DICHLOROBENZENE-D4	
		Area	# RT #
	Std .	331701	16.89
	Upper Limit	663402	17.39
	Lower Limit	165850.5	16.39
Client Sample ID	Lab Sample ID		
Continuing Calibrati	WG175915-5	330867	16.88
Laboratory Control S	WG175915-1	327435	16.89
Laboratory Control S	WG175915-2	336584	16.88
Method Blank Sample	WG175915-3	283995	16.89
TRIP BLANK	SI9749-9	287734	16.88
MW-7A-120315	SI9749-6	279982	16.89
MW-03-120315	SI9749-7	279602	16.88
EB-001-120315	SI9749-8	275728	16.89
Continuing Calibrati	WG175915-6	315253	16.89

Area Upper Limit = +100% of internal standard area  
 Area Lower Limit = - 50% of internal standard area  
 RT Upper Limit = + 0.50 minutes of internal standard RT  
 RT Lower Limit = - 0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.  
 \* Values outside of QC limits.

## **Sample Data Section**

## KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

\* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

## Katahdin Analytical Services, Inc.

### Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1 Peak	splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3772.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	UM	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	UMM	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	UM	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	UM	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	UM	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3772.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
<b>Tetrachloroethene</b>		4.9	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	UM	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3772.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		97.6	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		107.	%					
Dibromofluoromethane		102.	%					

Data File: \\target\_server\gg\chem\gcms-p.i\P120715.b\P3772.D  
 Report Date: 16-Dec-2015 08:40

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3772.D  
 Lab Smp Id: SI9749-1 Client Smp ID: MW-4A-120215  
 Inj Date : 07-DEC-2015 17:14 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : SI9749-1  
 Misc Info : WG175608,WG175386-4  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 08-Dec-2015 09:35 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 16  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

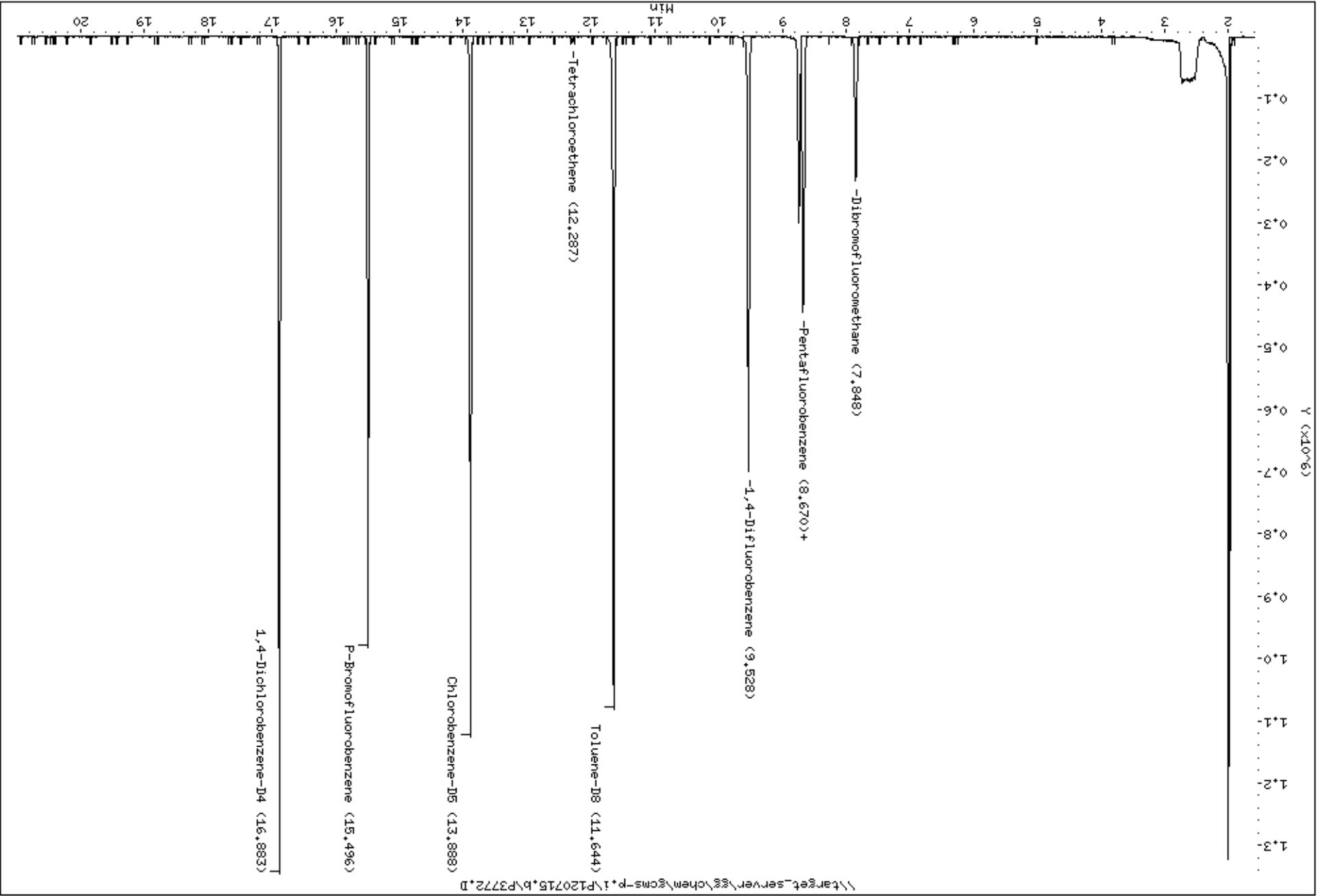
Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
\$ 37 Dibromofluoromethane	113	7.848	7.843	(0.905)	162885	50.9714	51.0	
* 42 Pentafluorobenzene	168	8.670	8.665	(1.000)	329440	50.0000		
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.007)	222194	53.6607	53.7	
* 49 1,4-Difluorobenzene	114	9.527	9.530	(1.000)	588893	50.0000		
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	697709	50.3322	50.3	
59 Tetrachloroethene	164	12.286	12.289	(0.885)	2137	4.93224	4.9	
* 66 Chlorobenzene-D5	117	13.888	13.890	(1.000)	534144	50.0000		
\$ 76 P-Bromofluorobenzene	95	15.496	15.491	(1.626)	289265	48.7838	48.8	
* 91 1,4-Dichlorobenzene-D4	152	16.890	16.885	(1.000)	290341	50.0000		

Data File: \\target\_server\chem\gms-p.i\PI20715.b\F3772.D  
Date : 07-DEC-2015 17:14  
Client ID: MW-4A-120215  
Sample Info: SI9749-1

Instrument: gms-p.i



Data File: \\target\_server\chem\gms-p\120715\B\P3772.D

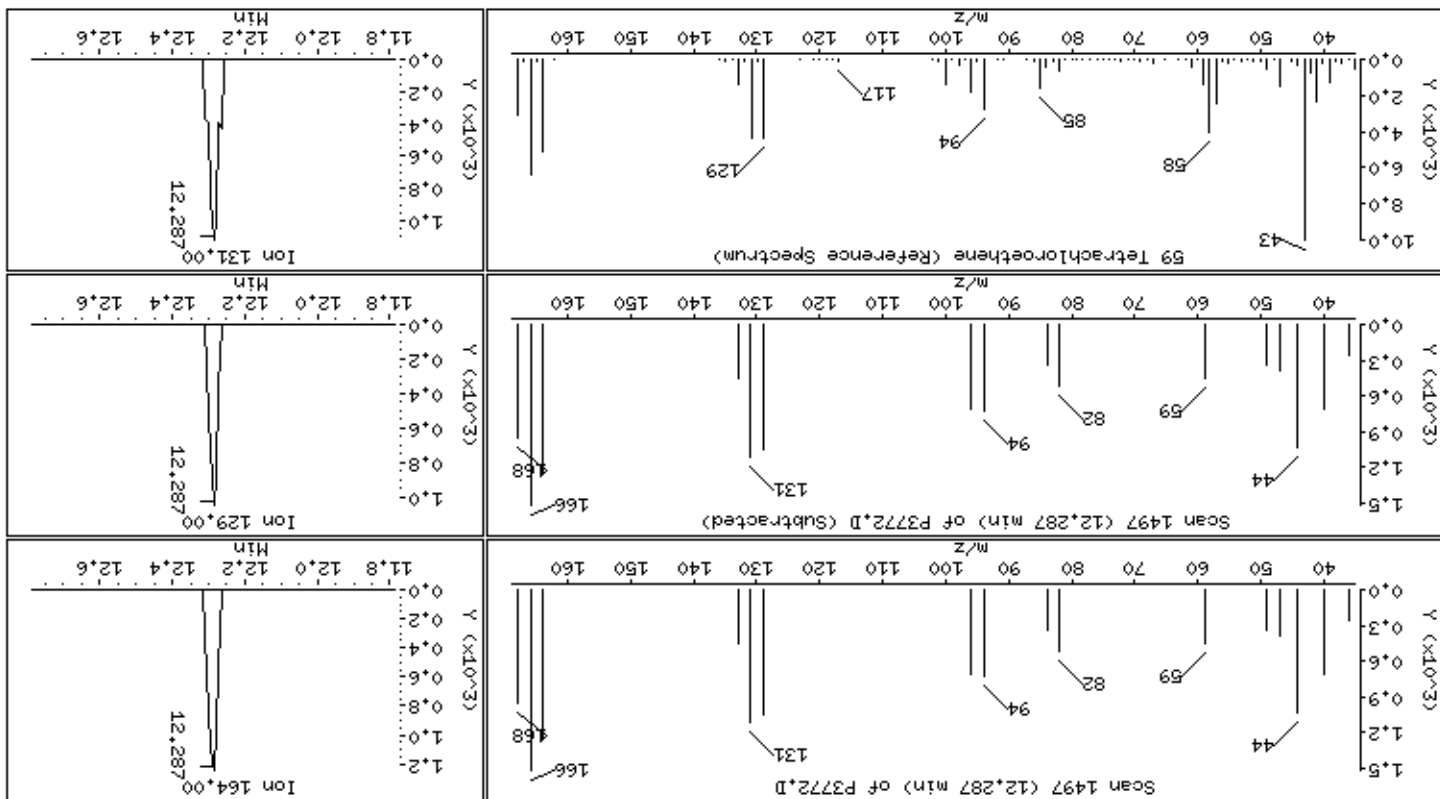
Date: 07-DEC-2015 17:14

Client ID: MM-4A-120215

Sample Info: S19749-1

Instrument: gms-p.i

Concentration: 4.9 ug/l



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-2  
**Client ID:** MW-5-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3773.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-2  
**Client ID:** MW-5-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3773.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
<b>Tetrachloroethene</b>		4.9	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-2  
**Client ID:** MW-5-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3773.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		97.6	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		106.	%					
Dibromofluoromethane		101.	%					



Data File: \\target\_server\gg\chem\gcms-p.i\P120715.b\P3773.D  
 Report Date: 16-Dec-2015 08:40

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3773.D  
 Lab Smp Id: SI9749-2 Client Smp ID: MW-5-120215  
 Inj Date : 07-DEC-2015 17:41 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : SI9749-2  
 Misc Info : WG175608,WG175386-4  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 08-Dec-2015 09:35 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 17  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

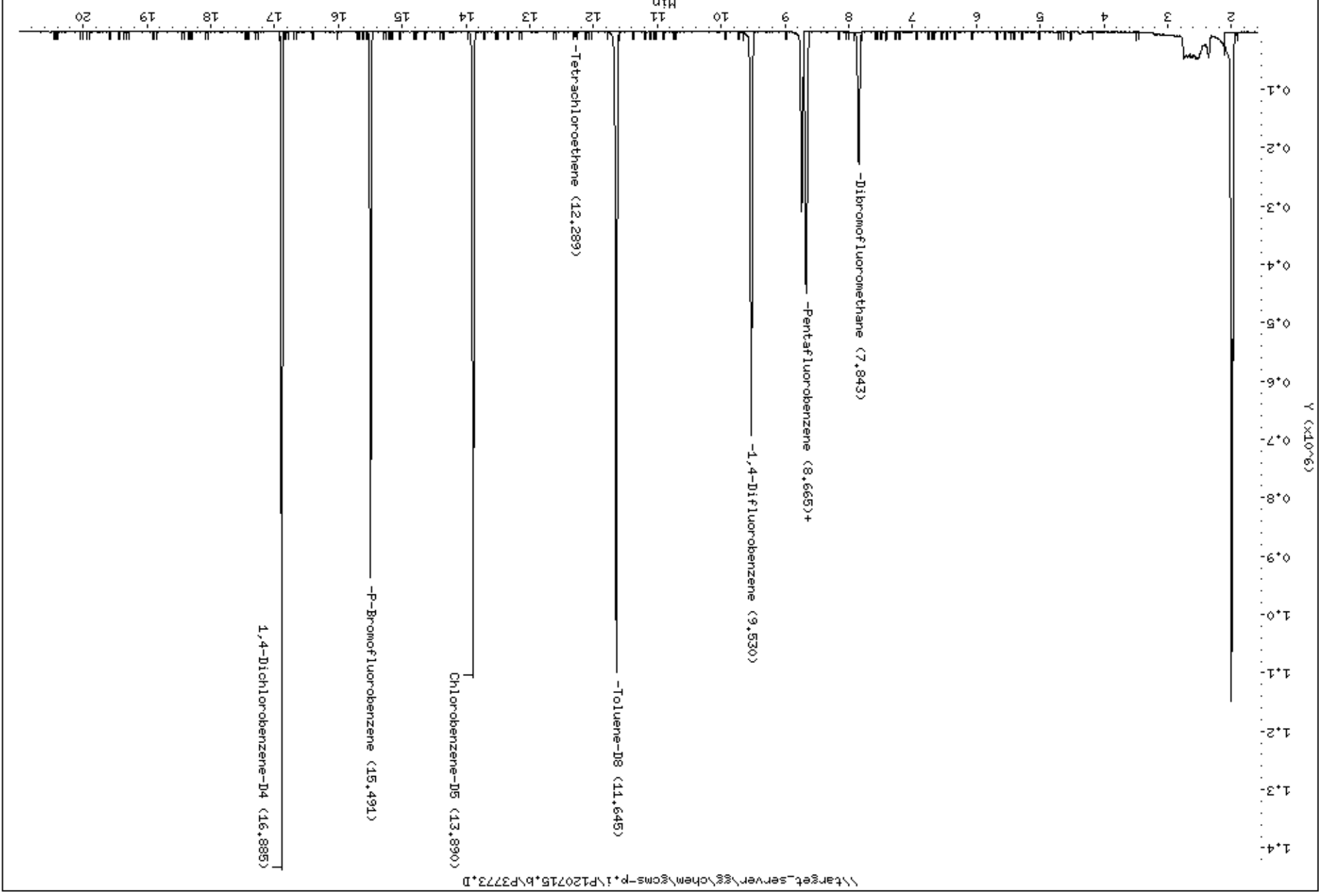
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

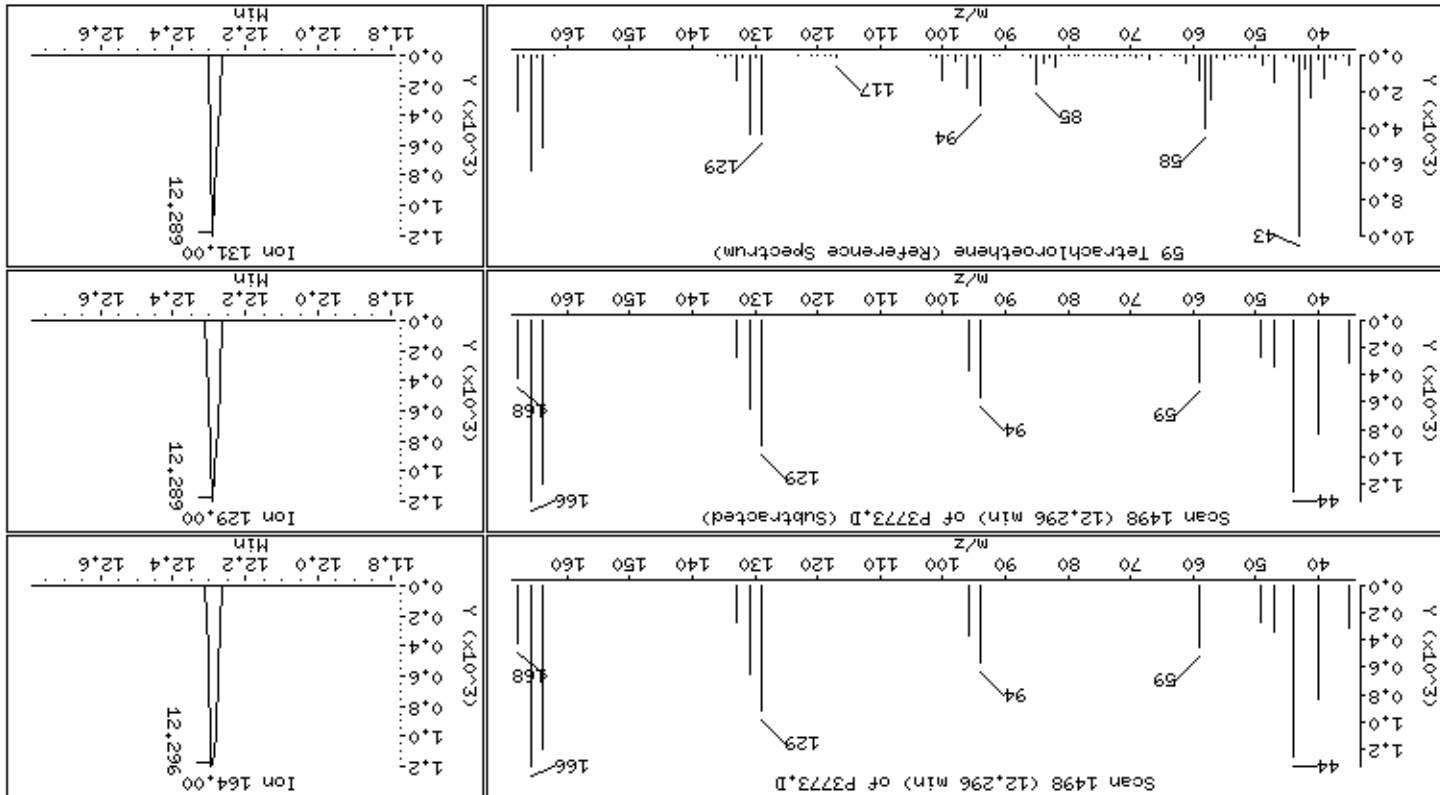
Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
\$ 37 Dibromofluoromethane	113	7.842	7.843	(0.905)	162360	50.7399	50.7	
* 42 Pentafluorobenzene	168	8.664	8.665	(1.000)	329877	50.0000		
\$ 45 1,2-Dichloroethane-D4	65	8.736	8.737	(1.008)	219101	52.8436	52.8	
* 49 1,4-Difluorobenzene	114	9.529	9.530	(1.000)	586613	50.0000		
\$ 55 Toluene-D8	98	11.645	11.646	(1.222)	695695	50.3820	50.4	
59 Tetrachloroethene	164	12.295	12.289	(0.885)	1875	4.87940	4.9	
* 66 Chlorobenzene-D5	117	13.889	13.890	(1.000)	527804	50.0000		
\$ 76 P-Bromofluorobenzene	95	15.491	15.491	(1.626)	288407	48.8281	48.8	
* 91 1,4-Dichlorobenzene-D4	152	16.884	16.885	(1.000)	287308	50.0000		

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Date : 07-DEC-2015 17:41  
Client ID: MW-5-120215  
Sample Info: SI9749-2

Instrument: gms-p.i

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## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-3  
**Client ID:** MW-5-120215-REP  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3774.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-3  
**Client ID:** MW-5-120215-REP  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3774.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-3  
**Client ID:** MW-5-120215-REP  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3774.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		97.5	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		108.	%					
Dibromofluoromethane		105.	%					

Data File: \\target\_server\gg\chem\gcms-p.i\P120715.b\P3774.D  
 Report Date: 16-Dec-2015 08:40

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3774.D  
 Lab Smp Id: SI9749-3 Client Smp ID: MW-5-120215-REP  
 Inj Date : 07-DEC-2015 18:07 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : SI9749-3  
 Misc Info : WG175608,WG175386-4  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 08-Dec-2015 09:35 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 18  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

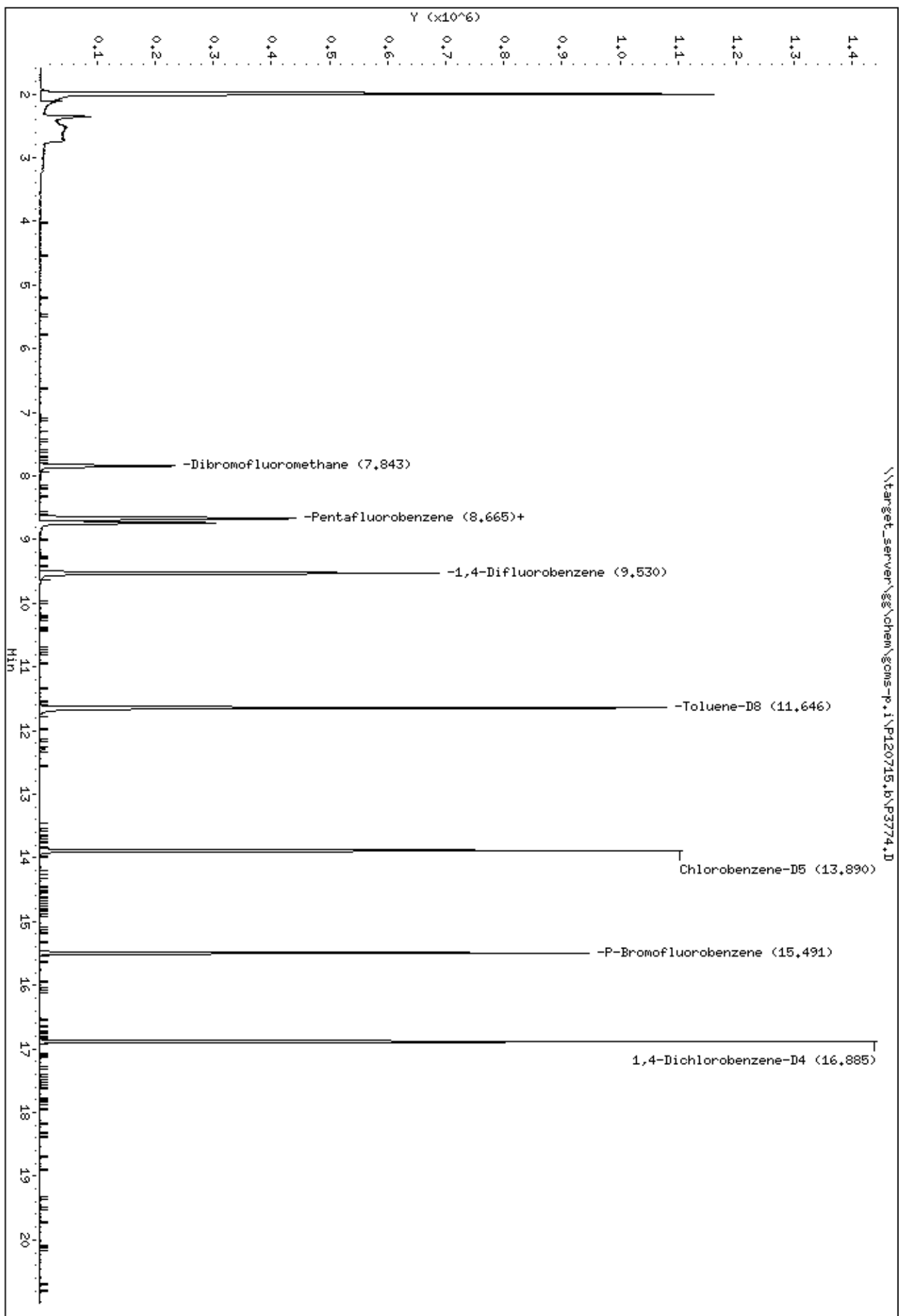
Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
\$ 37 Dibromofluoromethane	113	7.842	7.843	(0.905)	164938	52.4484	52.4	
* 42 Pentafluorobenzene	168	8.665	8.665	(1.000)	324198	50.0000		
\$ 45 1,2-Dichloroethane-D4	65	8.736	8.737	(1.008)	220542	54.1229	54.1	
* 49 1,4-Difluorobenzene	114	9.529	9.530	(1.000)	588346	50.0000		
\$ 55 Toluene-D8	98	11.645	11.646	(1.222)	695776	50.2394	50.2	
* 66 Chlorobenzene-D5	117	13.890	13.890	(1.000)	537490	50.0000		
\$ 76 P-Bromofluorobenzene	95	15.491	15.491	(1.626)	288715	48.7363	48.7	
* 91 1,4-Dichlorobenzene-D4	152	16.885	16.885	(1.000)	290348	50.0000		

Data File: \\target\_server\chem\goms-p.i\P120715.b\P3774.D  
Date : 07-DEC-2015 18:07  
Client ID: MM-5-120215-REP  
Sample Info: S19749-3

Instrument: goms-p.i





## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-4  
**Client ID:** MW-01-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3775.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-4  
**Client ID:** MW-01-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3775.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
<b>Tetrachloroethene</b>		4.9	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-4  
**Client ID:** MW-01-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3775.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		98.2	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		107.	%					
Dibromofluoromethane		102.	%					

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 Report Date: 16-Dec-2015 08:41

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3775.D  
 Lab Smp Id: SI9749-4 Client Smp ID: MW-01-120215  
 Inj Date : 07-DEC-2015 18:37 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : SI9749-4  
 Misc Info : WG175608,WG175386-4  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 08-Dec-2015 09:35 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 19  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

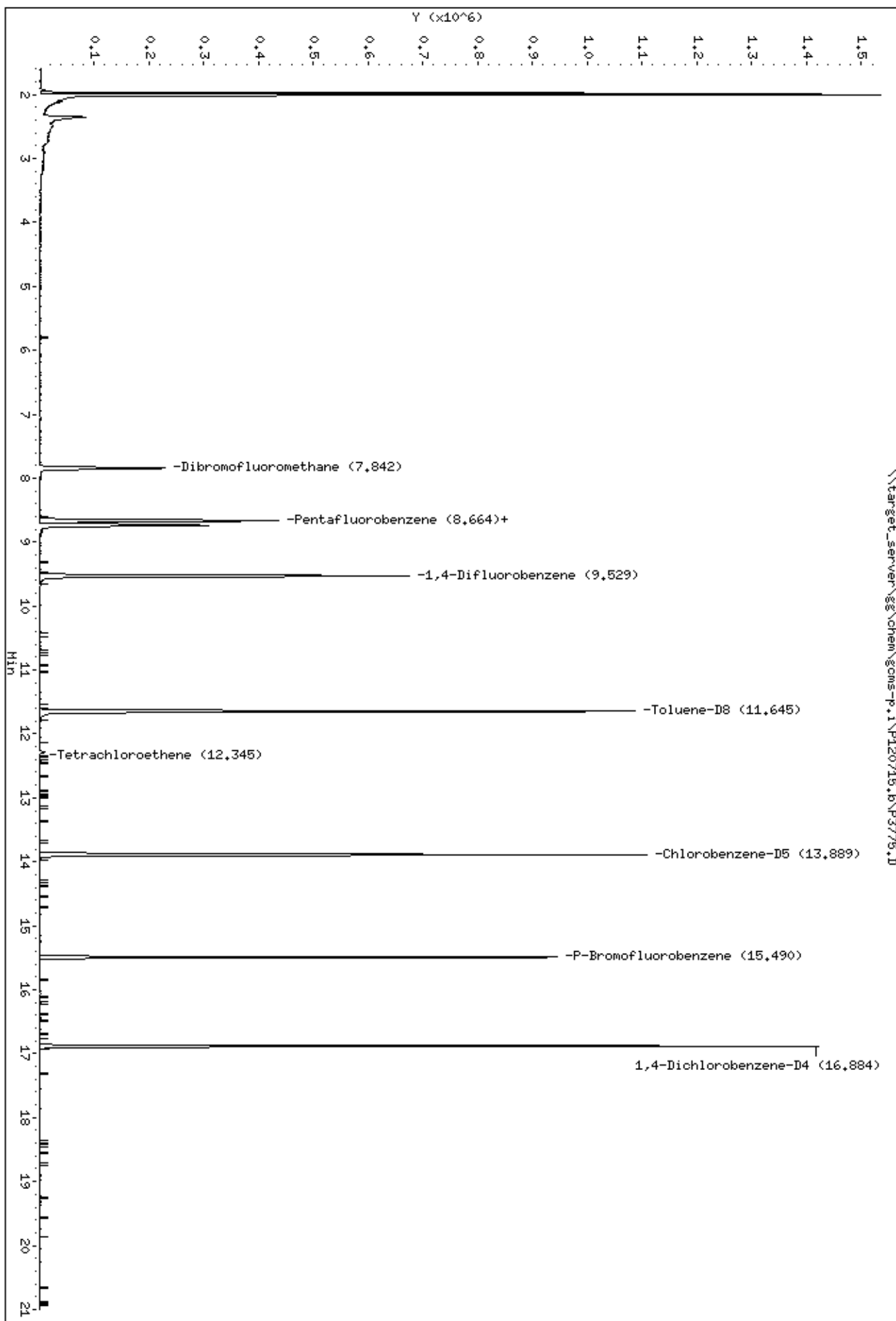
Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
\$ 37 Dibromofluoromethane	113	7.841	7.843	(0.904)	161388	51.0928	51.1	
* 42 Pentafluorobenzene	168	8.671	8.665	(1.000)	325637	50.0000		
\$ 45 1,2-Dichloroethane-D4	65	8.735	8.737	(1.007)	219213	53.5590	53.6	
* 49 1,4-Difluorobenzene	114	9.528	9.530	(1.000)	580013	50.0000		
\$ 55 Toluene-D8	98	11.644	11.646	(1.222)	684659	50.1470	50.1	
59 Tetrachloroethene	164	12.295	12.289	(0.885)	1974	4.90007	4.9	
* 66 Chlorobenzene-D5	117	13.889	13.890	(1.000)	529525	50.0000		
\$ 76 P-Bromofluorobenzene	95	15.490	15.491	(1.626)	286745	49.0992	49.1	
* 91 1,4-Dichlorobenzene-D4	152	16.884	16.885	(1.000)	285383	50.0000		

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Date : 07-DEC-2015 18:37  
Client ID: MM-01-120215  
Sample Info: S19749-4

Instrument: goms-p.i



Data File: \\target\_server\chem\gms-p.i\120715.B\P3775.D

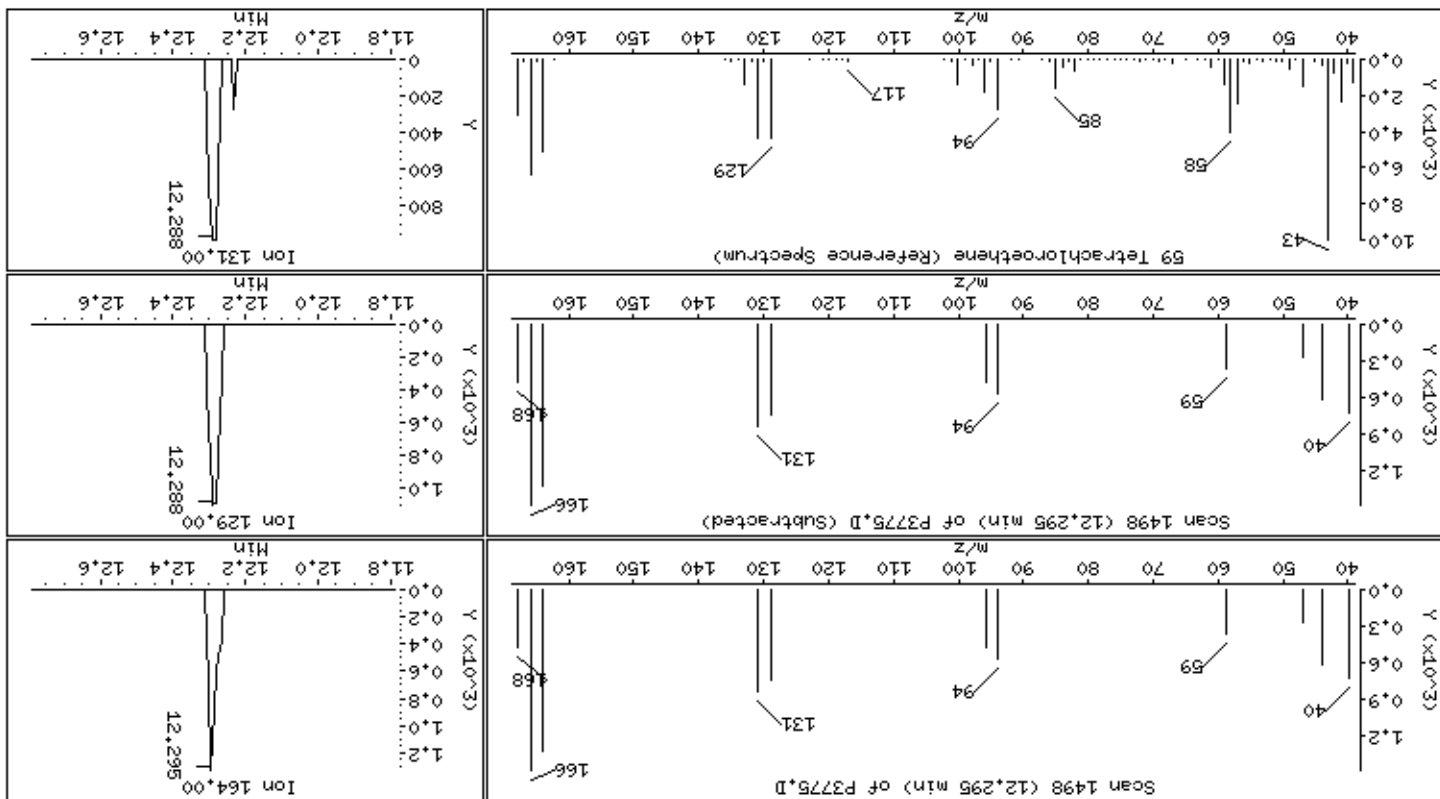
Date: 07-DEC-2015 18:37

Client ID: MM-01-120215

Sample Info: S19749-4

Instrument: gms-p.i

Concentration: 4.9 ug/l



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-5  
**Client ID:** MW-06-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3776.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-5  
**Client ID:** MW-06-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3776.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
<b>Tetrachloroethene</b>		4.9	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-5  
**Client ID:** MW-06-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3776.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		98.2	%					
Toluene-d8		102.	%					
1,2-Dichloroethane-d4		107.	%					
Dibromofluoromethane		103.	%					

Data File: \\target\_server\gg\chem\gcms-p.i\P120715.b\P3776.D  
 Report Date: 16-Dec-2015 08:41

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3776.D  
 Lab Smp Id: SI9749-5 Client Smp ID: MW-06-120215  
 Inj Date : 07-DEC-2015 19:07 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : SI9749-5  
 Misc Info : WG175608,WG175386-4  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 08-Dec-2015 09:35 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 20  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

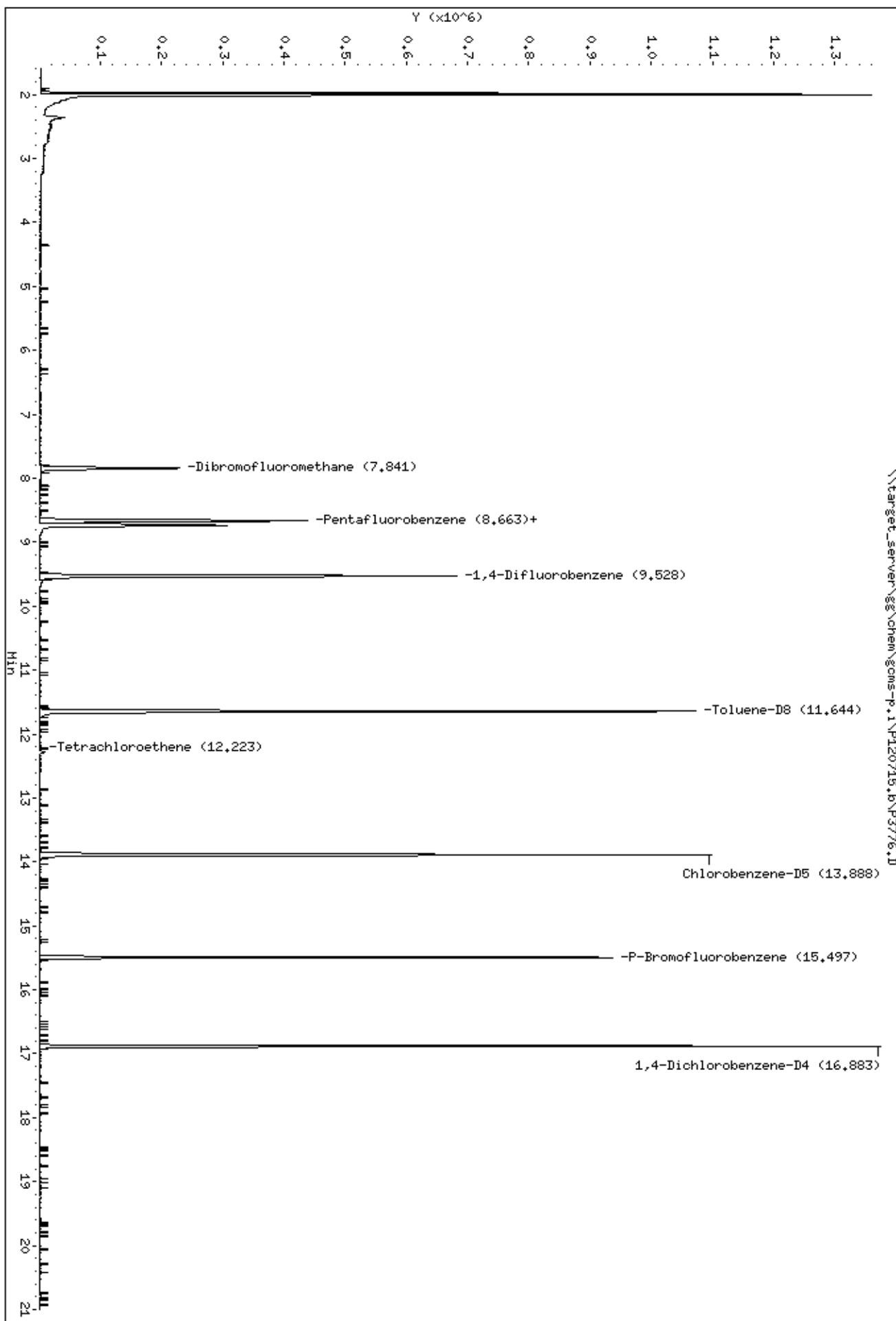
Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
\$ 37 Dibromofluoromethane	113	7.841	7.843	(0.904)	161795	51.4490	51.4	
* 42 Pentafluorobenzene	168	8.670	8.665	(1.000)	324198	50.0000		
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.007)	217455	53.3653	53.4	
* 49 1,4-Difluorobenzene	114	9.528	9.530	(1.000)	577166	50.0000		
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	692244	50.9526	51.0	
59 Tetrachloroethene	164	12.280	12.289	(0.884)	2004	4.91308	4.9	
* 66 Chlorobenzene-D5	117	13.888	13.890	(1.000)	522114	50.0000		
\$ 76 P-Bromofluorobenzene	95	15.496	15.491	(1.626)	285200	49.0755	49.1	
* 91 1,4-Dichlorobenzene-D4	152	16.883	16.885	(1.000)	288983	50.0000		

Data File: \\target\_server\chem\goms-p.i\P120715.b\P3776.D  
Date : 07-DEC-2015 19:07  
Client ID: MM-06-120215  
Sample Info: S19749-5

Instrument: goms-p.i



Data File: \\target\_server\chem\gms-p.i\120715.B\P3776.D

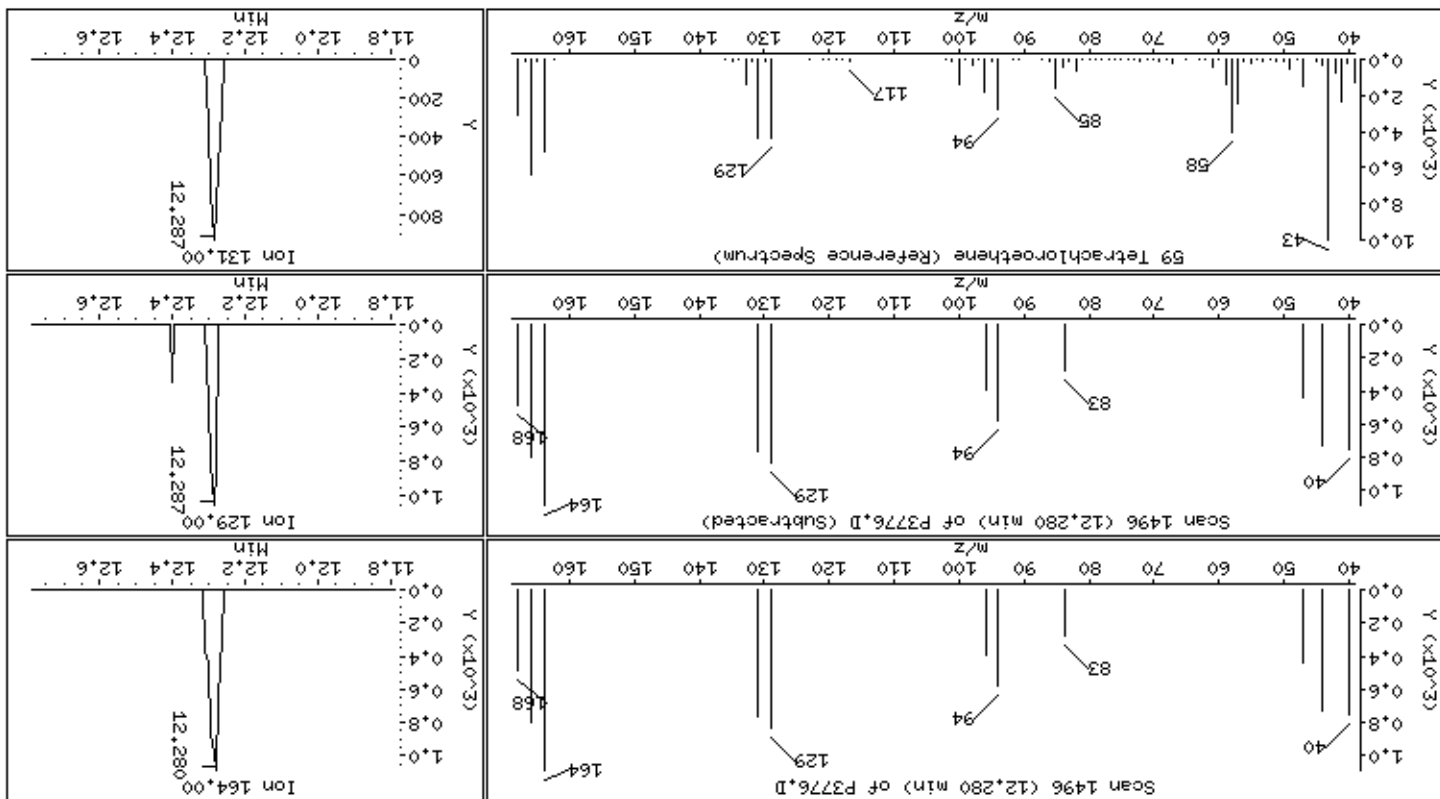
Date: 07-DEC-2015 19:07

Client ID: MM-06-120215

Sample Info: S19749-5

Instrument: gcms-p.i

Concentration: 4.9 ug/l



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-6  
**Client ID:** MW-7A-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3853.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-6  
**Client ID:** MW-7A-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3853.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-6  
**Client ID:** MW-7A-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3853.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		99.0	%					
Toluene-d8		104.	%					
1,2-Dichloroethane-d4		106.	%					
Dibromofluoromethane		102.	%					

Data File: \\target\_server\gg\chem\gcms-p.i\P121115.b\P3853.D  
 Report Date: 16-Dec-2015 08:52

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121115.b\P3853.D  
 Lab Smp Id: SI9749-6 Client Smp ID: MW-7A-120315  
 Inj Date : 11-DEC-2015 12:35 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : SI9749-6  
 Misc Info : WG175915,WG176143-4  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121115.b\P826A21.m  
 Meth Date : 14-Dec-2015 09:46 jsampson Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:48 Cal File: P3837.D  
 Als bottle: 10  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: VOA-WS

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

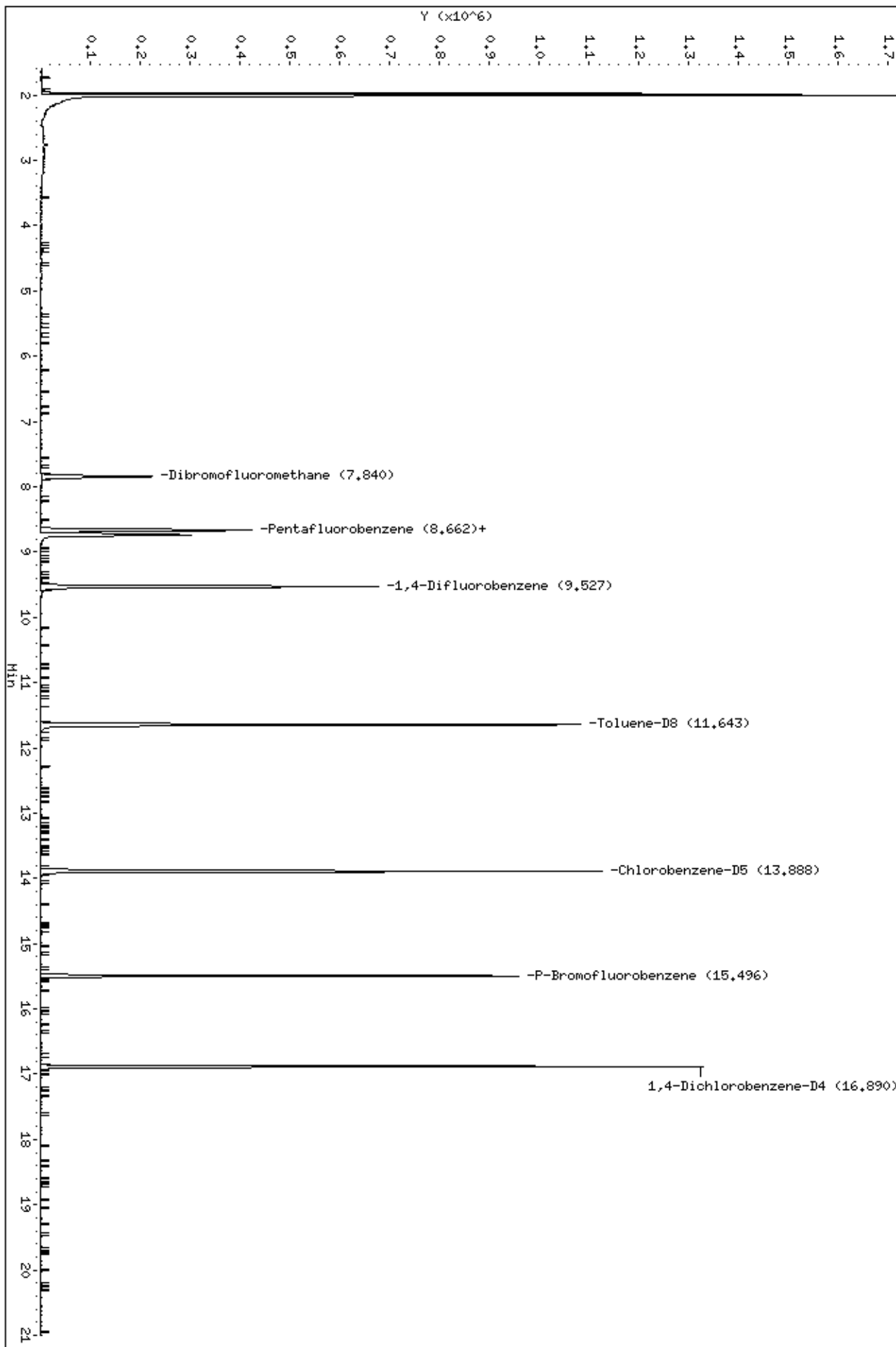
Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
\$ 37 Dibromofluoromethane	113	7.847	7.844	(0.905)	157017	51.2606	51.3	
* 42 Pentafluorobenzene	168	8.669	8.666	(1.000)	316581	50.0000		
\$ 45 1,2-Dichloroethane-D4	65	8.733	8.737	(1.007)	216105	52.7814	52.8	
* 49 1,4-Difluorobenzene	114	9.527	9.523	(1.000)	557276	50.0000		
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	689467	52.0879	52.1	
* 66 Chlorobenzene-D5	117	13.887	13.891	(1.000)	518345	50.0000		
\$ 76 P-Bromofluorobenzene	95	15.495	15.492	(1.626)	278477	49.4958	49.5	
* 91 1,4-Dichlorobenzene-D4	152	16.889	16.886	(1.000)	279982	50.0000		



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Date : 11-DEC-2015 12:35  
Client ID: MM-78-120315  
Sample Info: S19749-6

Instrument: gms-p.i

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## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-7  
**Client ID:** MW-03-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3854.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-7  
**Client ID:** MW-03-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3854.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
<b>Tetrachloroethene</b>		1.3	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-7  
**Client ID:** MW-03-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3854.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		98.9	%					
Toluene-d8		102.	%					
1,2-Dichloroethane-d4		111.	%					
Dibromofluoromethane		105.	%					

Data File: \\target\_server\gg\chem\gcms-p.i\P121115.b\P3854.D  
 Report Date: 16-Dec-2015 08:52

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121115.b\P3854.D  
 Lab Smp Id: SI9749-7 Client Smp ID: MW-03-120315  
 Inj Date : 11-DEC-2015 13:01 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : SI9749-7  
 Misc Info : WG175915,WG176143-4  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121115.b\P826A21.m  
 Meth Date : 14-Dec-2015 09:46 jsampson Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:48 Cal File: P3837.D  
 Als bottle: 11  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: VOA-WS

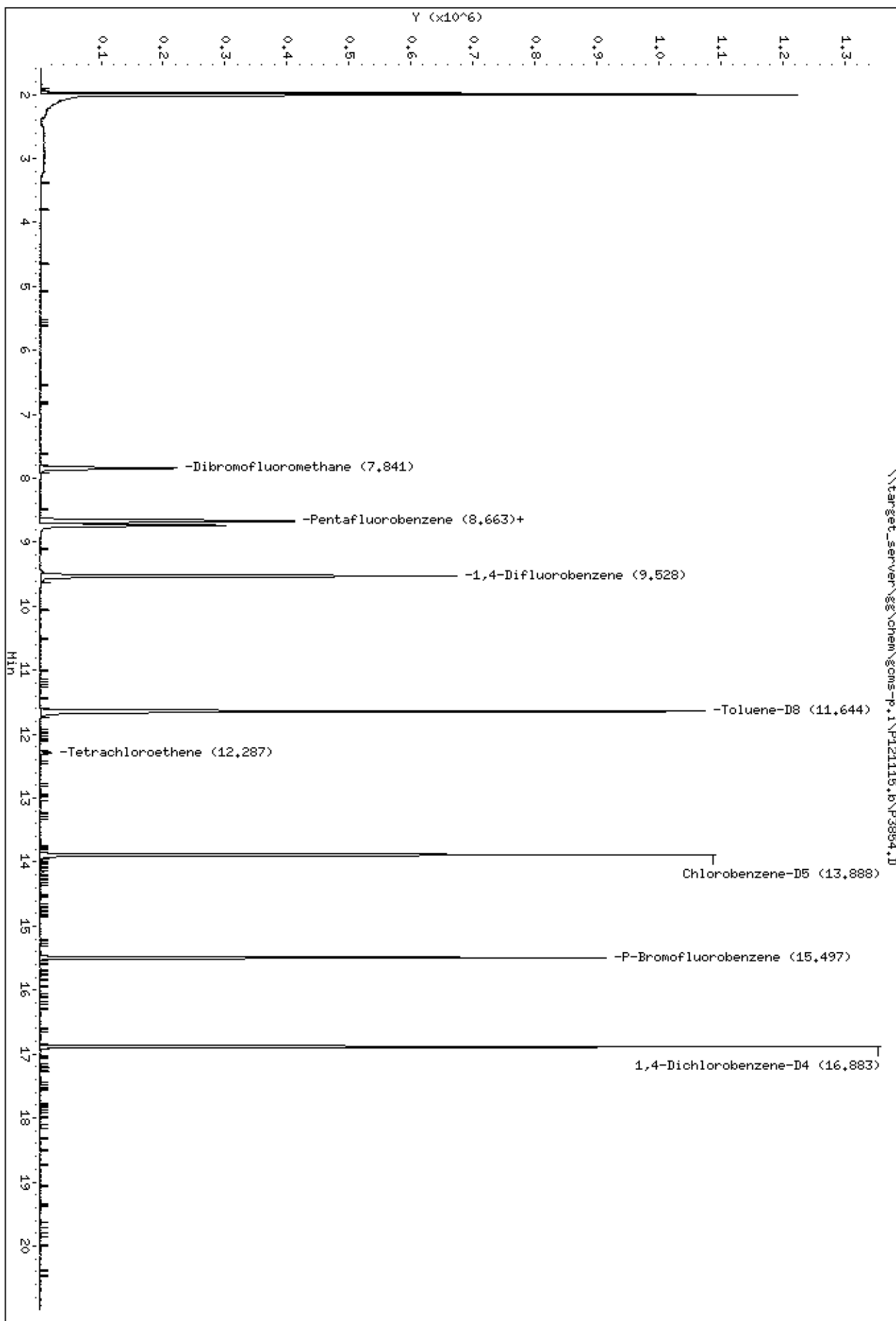
Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
\$ 37 Dibromofluoromethane	113	7.841	7.844	(0.904)	155981	52.7160	52.7	
* 42 Pentafluorobenzene	168	8.670	8.666	(1.000)	305810	50.0000		
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.007)	219147	55.4096	55.4	
* 49 1,4-Difluorobenzene	114	9.528	9.523	(1.000)	560562	50.0000		
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	679584	51.0403	51.0	
59 Tetrachloroethene	164	12.287	12.290	(0.885)	4322	1.34410	1.3	
* 66 Chlorobenzene-D5	117	13.888	13.891	(1.000)	516071	50.0000		
\$ 76 P-Bromofluorobenzene	95	15.496	15.492	(1.626)	279814	49.4419	49.4	
* 91 1,4-Dichlorobenzene-D4	152	16.883	16.886	(1.000)	279602	50.0000		

Data File: \\target\_server\chem\goms-p.i\P121115.b\P3854.D  
Date : 11-DEC-2015 13:01  
Client ID: MM-03-120315  
Sample Info: S19749-7

Instrument: goms-p.i



Data File: \\target\_server\eg\chem\gms-p.i\F121115.B\P3854.D

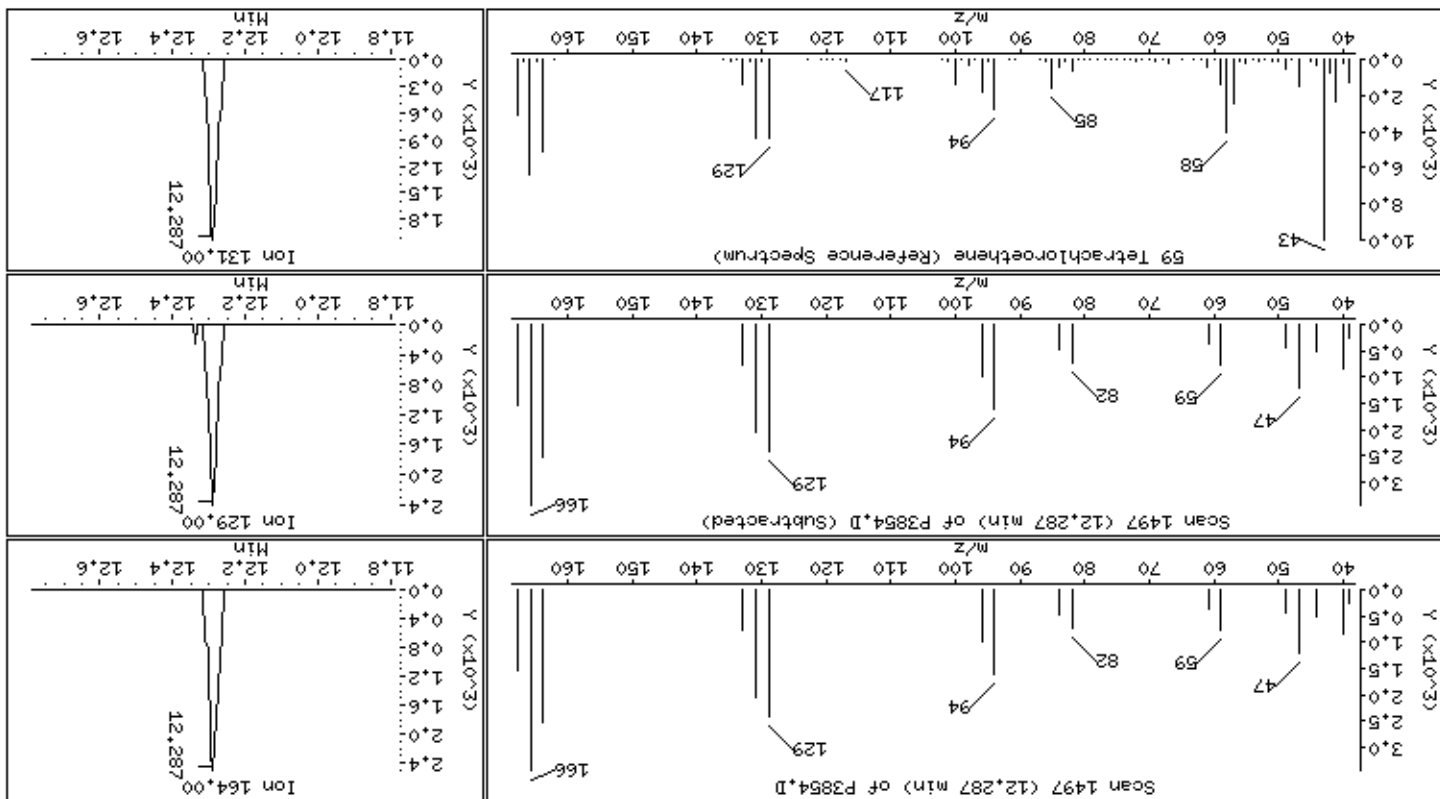
Date: 11-DEC-2015 13:01

Client ID: MM-03-120315

Sample Info: S19749-7

Instrument: gms-p.i

Concentration: 1.3 ug/l



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-8  
**Client ID:** EB-001-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3855.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-8  
**Client ID:** EB-001-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3855.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-8  
**Client ID:** EB-001-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3855.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		98.1	%					
Toluene-d8		102.	%					
1,2-Dichloroethane-d4		111.	%					
Dibromofluoromethane		104.	%					

Data File: \\target\_server\gg\chem\gcms-p.i\P121115.b\P3855.D  
 Report Date: 16-Dec-2015 08:52

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121115.b\P3855.D  
 Lab Smp Id: SI9749-8 Client Smp ID: EB-001-120315  
 Inj Date : 11-DEC-2015 13:28 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : SI9749-8  
 Misc Info : WG175915,WG176143-4  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121115.b\P826A21.m  
 Meth Date : 14-Dec-2015 09:46 jsampson Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:48 Cal File: P3837.D  
 Als bottle: 12  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: VOA-WS

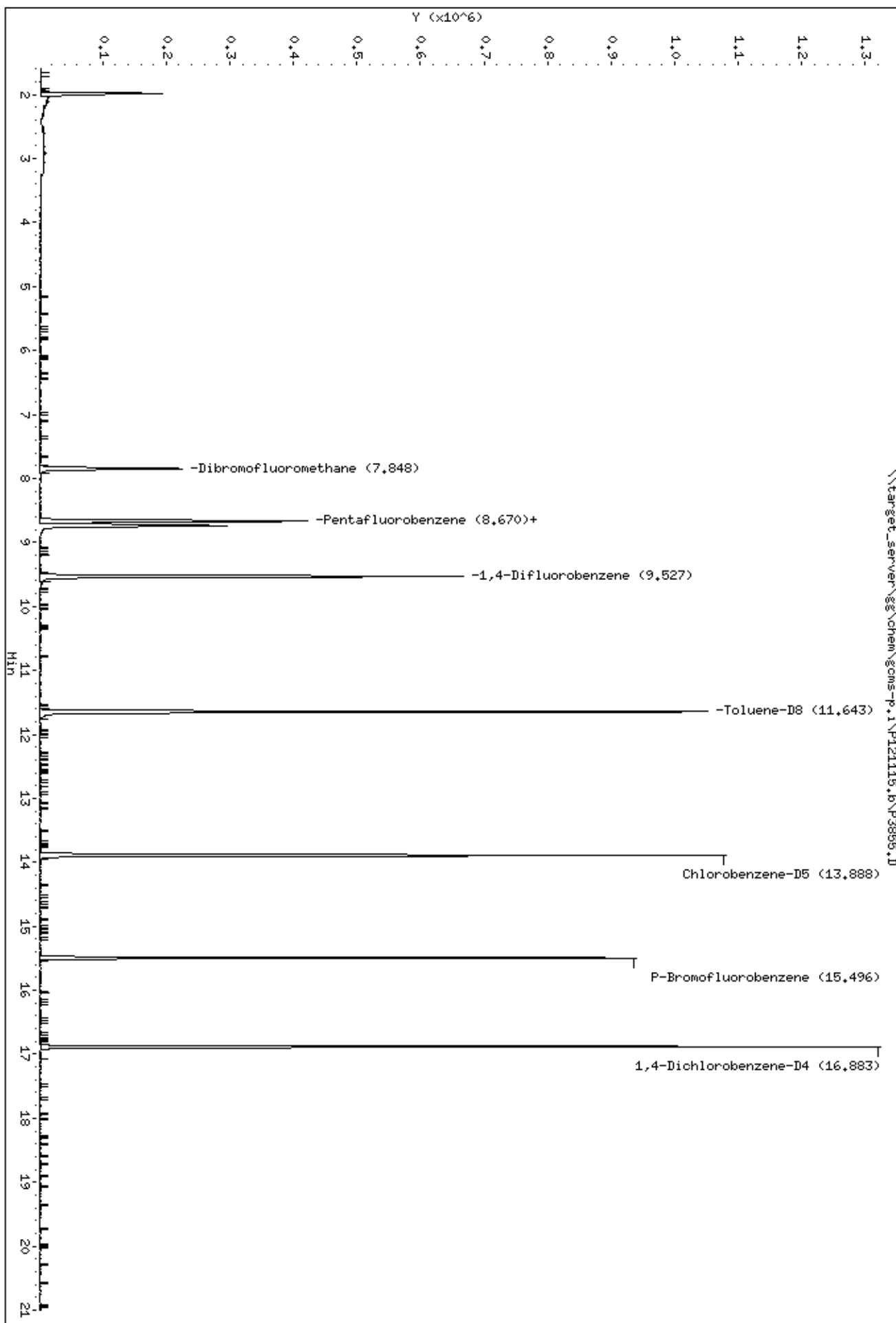
Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
\$ 37 Dibromofluoromethane	113	7.847	7.844	(0.905)	153753	52.1329	52.1	
* 42 Pentafluorobenzene	168	8.669	8.666	(1.000)	304813	50.0000		
\$ 45 1,2-Dichloroethane-D4	65	8.733	8.737	(1.007)	218225	55.3570	55.4	
* 49 1,4-Difluorobenzene	114	9.527	9.523	(1.000)	553598	50.0000		
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	671641	51.0783	51.1	
* 66 Chlorobenzene-D5	117	13.887	13.891	(1.000)	508824	50.0000		
\$ 76 P-Bromofluorobenzene	95	15.495	15.492	(1.626)	274239	49.0664	49.1	
* 91 1,4-Dichlorobenzene-D4	152	16.889	16.886	(1.000)	275728	50.0000		

Data File: \\target\_server\chem\goms-p.i\P121115.b\P3855.D  
Date: 11-DEC-2015 13:28  
Client ID: EB-001-120315  
Sample Info: S19749-8

Instrument: goms-p.i



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-9  
**Client ID:** TRIP BLANK  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3851.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-9  
**Client ID:** TRIP BLANK  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3851.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-9  
**Client ID:** TRIP BLANK  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** P3851.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		97.7	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		103.	%					
Dibromofluoromethane		102.	%					

Data File: \\target\_server\gg\chem\gcms-p.i\P121115.b\P3851.D  
 Report Date: 16-Dec-2015 08:52

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121115.b\P3851.D  
 Lab Smp Id: SI9749-9 Client Smp ID: TRIP BLANK  
 Inj Date : 11-DEC-2015 11:41 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : SI9749-9  
 Misc Info : WG175915,WG176143-4  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121115.b\P826A21.m  
 Meth Date : 14-Dec-2015 09:46 jsampson Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:48 Cal File: P3837.D  
 Als bottle: 8  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: VOA-WS

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

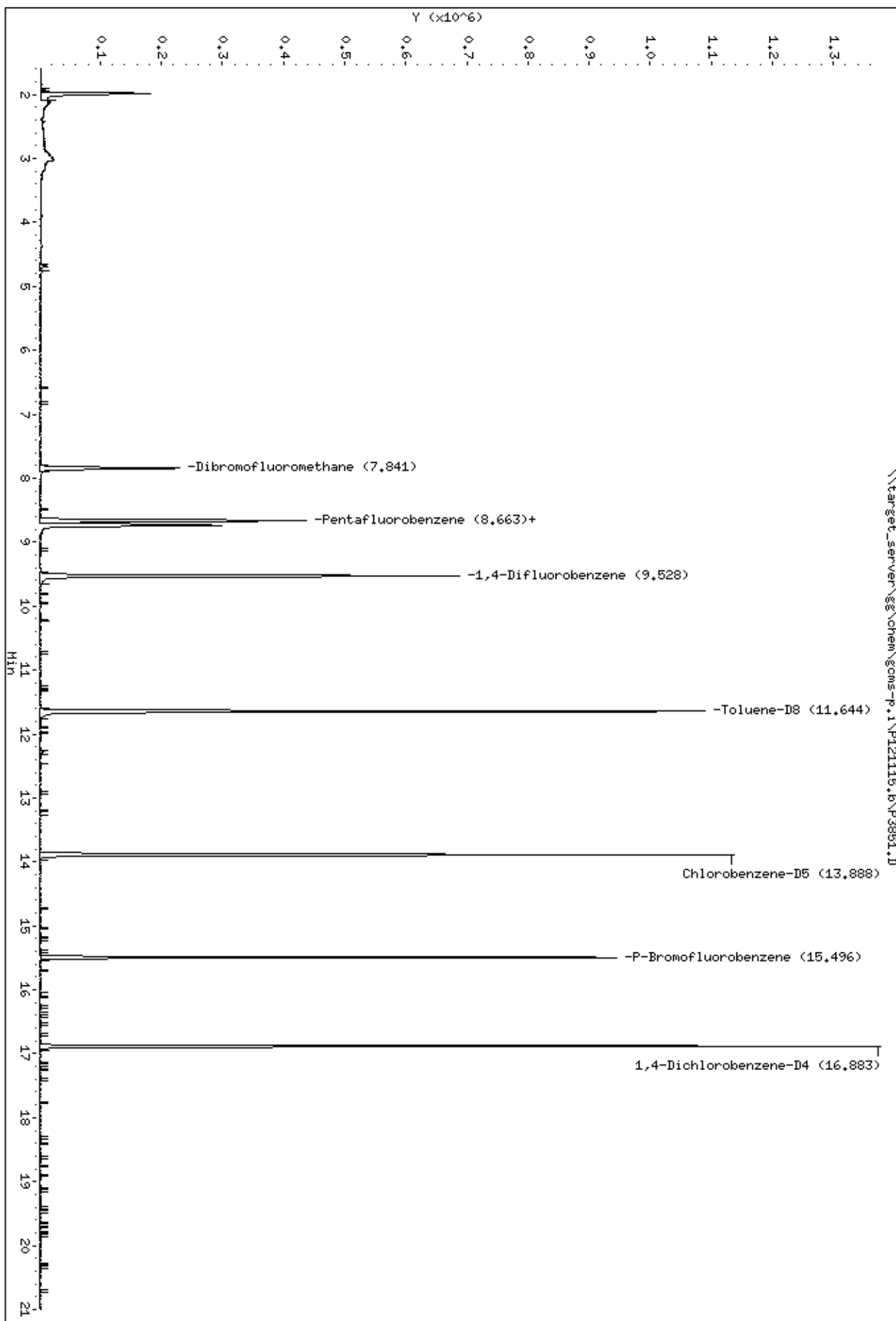
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
\$ 37 Dibromofluoromethane	113	7.840	7.844	(0.905)	160974	51.1316	51.1	
* 42 Pentafluorobenzene	168	8.662	8.666	(1.000)	325378	50.0000		
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.008)	217757	51.7470	51.7	
* 49 1,4-Difluorobenzene	114	9.527	9.523	(1.000)	574860	50.0000		
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	691519	50.6449	50.6	
* 66 Chlorobenzene-D5	117	13.888	13.891	(1.000)	526250	50.0000		
\$ 76 P-Bromofluorobenzene	95	15.496	15.492	(1.626)	283518	48.8504	48.8	
* 91 1,4-Dichlorobenzene-D4	152	16.883	16.886	(1.000)	287734	50.0000		



Data File: \\target\_server\chem\goms-p.i\P121115.b\P3851.D  
Date: 11-DEC-2015 11:41  
Client ID: TRIP BLANK  
Sample Info: S19749-9

Instrument: goms-p.i



## **Standards Data Section**

## Form 6 Initial Calibration Summary

**Lab Name :** Katahdin Analytical Services **SDG:** SI9749  
**Project :** New Bedford Harbor Superfund Site **Instrument ID:** GCMS-P  
**Lab File IDs :** P3681.D P3680.D P3679.D **Column ID:**  
P3678.D P3683.D P3682.D **Calibration Date(s):** 03-DEC-15 11:02  
03-DEC-15 13:16

	1.0000	5.0000	20.0000	50.0000	100.0000	200.0000	New	b	m1	m2	%RSD	Max	
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Crv					%RSD	
Dichlorodifluoromethane	0.65688	0.59745	0.76146	0.76178	0.75853	0.75286	AVG		0.71483		9.86645	15.00000	O
Chloromethane	1.05879	1.01493	1.10977	1.10440	1.15865	1.14439	AVG		1.09849		4.89340	15.00000	O
Vinyl chloride	0.82556	0.75646	0.86634	0.88335	0.94443	0.88079	AVG		0.85949		7.36806	15.00000	O
Bromomethane	0.34741	0.29127	0.31449	0.30352	0.35547	0.31152	AVG		0.32062		7.89911	15.00000	O
Chloroethane	0.48106	0.44921	0.49298	0.47759	0.35750	+++++	AVG		0.45167		12.18543	15.00000	O
Trichlorofluoromethane	0.65558	0.64668	0.80779	0.78071	0.83450	0.85372	AVG		0.76316		11.82667	15.00000	O
Diethyl Ether	0.48139	0.51296	0.58434	0.59332	0.61400	0.58420	AVG		0.56170		9.27813	15.00000	O
1,1-Dichloroethene	0.61828	0.43566	0.53151	0.55114	0.55951	0.55431	AVG		0.54173		11.00688	15.00000	O
Carbon Disulfide	1.75800	1.40858	1.77963	1.84124	1.87034	1.78089	AVG		1.73978		9.64002	15.00000	O
Methylene Chloride	6993	19334	84187	205522	468458	890842	LNR	-0.00589	0.68103		0.99980	0.99000	O
Acetone	0.34047	0.25159	0.28384	0.26669	0.27981	0.28337	AVG		0.28430		10.61815	15.00000	O
trans-1,2-Dichloroethene	0.61406	0.48567	0.57241	0.57095	0.58626	0.55787	AVG		0.56453		7.63619	15.00000	O
Methyl tert-butyl ether	1.60919	1.60065	1.84485	1.85309	1.88899	1.73512	AVG		1.75531		7.25689	15.00000	O
Di-isopropyl ether	1.91938	1.89023	2.24068	2.24653	2.32875	2.17662	AVG		2.13370		8.62333	15.00000	O
1,1-Dichloroethane	1.07614	0.95526	1.09273	1.11484	1.13208	1.08466	AVG		1.07595		5.81706	15.00000	O
Ethyl tertiary-butyl ether	1.79773	1.76604	2.10386	2.11484	2.17444	2.06555	AVG		2.00374		8.76613	15.00000	O
cis-1,2-Dichloroethene	0.67439	0.59282	0.67839	0.68132	0.71132	0.67974	AVG		0.66966		5.96442	15.00000	O
2,2-Dichloropropane	0.75922	0.72722	0.86194	0.90125	0.87102	0.83410	AVG		0.82579		8.25979	15.00000	O
Bromochloromethane	0.26551	0.21776	0.25511	0.25874	0.23826	0.23221	AVG		0.24460		7.45222	15.00000	O
Chloroform	1.12594	0.88671	0.98608	1.02427	1.03271	0.97930	AVG		1.00584		7.79930	15.00000	O
Carbon Tetrachloride	2811	15080	77622	195014	439496	833445	LNR	0.01219	0.37692		0.99947	0.99000	O
Tetrahydrofuran	0.24102	0.20321	0.22903	0.23218	0.23387	0.22309	AVG		0.22707		5.76267	15.00000	O
1,1,1-Trichloroethane	0.73538	0.69669	0.85227	0.88095	0.88478	0.82562	AVG		0.81262		9.69340	15.00000	O
1,1-Dichloropropene	0.47975	0.37198	0.46599	0.46139	0.48857	0.45756	AVG		0.45421		9.23426	15.00000	O
2-Butanone	0.38352	0.33056	0.38096	0.37309	0.37033	0.35012	AVG		0.36476		5.61701	15.00000	O
Benzene	1.35799	1.20029	1.42373	1.44361	1.52902	1.40418	AVG		1.39314		7.89564	15.00000	O
Tertiary-amyl methyl ether	1.54439	1.51670	1.79493	1.83691	1.85315	1.72669	AVG		1.71213		8.61779	15.00000	O
1,2-Dichloroethane	0.58640	0.42709	0.46868	0.46716	0.48765	0.44683	AVG		0.48064		11.61048	15.00000	O
Trichloroethene	0.31420	0.27319	0.32895	0.32470	0.35302	0.32744	AVG		0.32025		8.22814	15.00000	O
Dibromomethane	0.17075	0.16194	0.20452	0.20723	0.21586	0.20592	AVG		0.19437		11.44173	15.00000	O
1,2-Dichloropropane	0.32681	0.29795	0.35792	0.36013	0.39046	0.37285	AVG		0.35102		9.50495	15.00000	O
Bromodichloromethane	0.36114	0.34789	0.43942	0.45168	0.48312	0.45956	AVG		0.42380		13.14110	15.00000	O
cis-1,3-dichloropropene	0.48432	0.45155	0.56715	0.57985	0.62047	0.60581	AVG		0.55153		12.36612	15.00000	O
1,4-Dioxane	0.00429	0.00431	0.00461	0.00371	0.00515	0.00418	AVG		0.00437		10.96447	15.00000	O
Toluene	0.91120	0.78637	0.91265	0.91365	0.97550	0.91268	AVG		0.90201		6.87341	15.00000	O
4-methyl-2-pentanone	0.37661	0.34528	0.42389	0.41667	0.41758	0.35898	AVG		0.38983		8.70782	15.00000	O
Tetrachloroethene	3138	13483	56403	142359	434071	782212	QUA	0.08922	2.35650	0.09015	0.99385	0.99000	O

## Form 6 Initial Calibration Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab File IDs :** P3681.D P3680.D P3679.D  
P3678.D P3683.D P3682.D

**SDG:** SI9749  
**Instrument ID:** GCMS-P  
**Column ID:**  
**Calibration Date(s):** 03-DEC-15 11:02  
03-DEC-15 13:16

trans-1,3-Dichloropropene	0.39191	0.38292	0.48934	0.50216	0.52685	0.50008	AVG		0.46554		13.27877	15.00000	O
1,1,2-Trichloroethane	0.26334	0.23183	0.27490	0.27304	0.28786	0.26728	AVG		0.26638		7.08717	15.00000	O
Dibromochloromethane	0.26733	0.24780	0.32268	0.33997	0.36211	0.35786	AVG		0.31629		15.17385	15.00000	W
1,3-Dichloropropane	0.64211	0.58060	0.69072	0.68229	0.71173	0.68018	AVG		0.66460		7.06421	15.00000	O
1,2-Dibromoethane	0.29658	0.26360	0.31497	0.31942	0.33636	0.32914	AVG		0.31001		8.54314	15.00000	O
2-Hexanone	0.30376	0.28907	0.34903	0.33968	0.34223	0.31771	AVG		0.32358		7.40719	15.00000	O
Chlorobenzene	1.02961	0.90057	1.01435	1.04587	1.09749	1.02090	AVG		1.01813		6.37165	15.00000	O
Ethylbenzene	0.59052	0.48849	0.58644	0.58610	0.60166	0.56837	AVG		0.57026		7.27183	15.00000	O
1,1,1,2-Tetrachloroethane	0.26326	0.25857	0.32540	0.34459	0.36206	0.35121	AVG		0.31752		14.31695	15.00000	O
m+p-Xylenes	0.73857	0.62202	0.71911	0.71042	0.71766	0.63447	AVG		0.69037		7.12346	15.00000	O
o-Xylene	0.65462	0.59066	0.68880	0.71115	0.73578	0.68915	AVG		0.67836		7.47376	15.00000	O
Styrene	1.09162	0.96953	1.20065	1.23815	1.29938	1.18161	AVG		1.16349		10.06251	15.00000	O
Bromoform	1615	7859	40311	108230	259078	507523	LNR	0.05230	0.25498		0.99936	0.99000	O
Isopropylbenzene	3.24953	2.78080	3.21417	3.27079	3.39750	2.98489	AVG		3.14961		7.14824	15.00000	O
Bromobenzene	0.69317	0.69142	0.80545	0.81681	0.86788	0.84604	AVG		0.78679		9.71209	15.00000	O
N-Propylbenzene	4.04109	3.42448	4.00855	4.02668	4.09984	3.48767	AVG		3.84805		7.94731	15.00000	O
1,1,2,2-Tetrachloroethane	0.87311	0.83267	0.96845	1.00316	1.01693	0.96407	AVG		0.94307		7.82559	15.00000	O
1,3,5-Trimethylbenzene	2.61953	2.38904	2.83447	2.82584	2.93161	2.52581	AVG		2.68772		7.80750	15.00000	O
2-Chlorotoluene	2.49070	2.15654	2.43139	2.43329	2.54088	2.23367	AVG		2.38108		6.36809	15.00000	O
1,2,3-Trichloropropane	0.73911	0.67607	0.77386	0.79123	0.80362	0.73018	AVG		0.75234		6.25928	15.00000	O
4-Chlorotoluene	2.71122	2.27291	2.62404	2.59802	2.64290	2.30763	AVG		2.52612		7.39561	15.00000	O
tert-Butylbenzene	2.39613	2.09695	2.60621	2.62383	2.56356	2.34363	AVG		2.43839		8.31549	15.00000	O
1,2,4-Trimethylbenzene	2.60230	2.42932	2.82788	2.81364	2.91283	2.50764	AVG		2.68227		7.31517	15.00000	O
P-Isopropyltoluene	2.73286	2.37765	2.89052	2.92552	2.98235	2.62717	AVG		2.75601		8.24773	15.00000	O
1,3-Dichlorobenzene	1.40069	1.40642	1.57619	1.54747	1.64418	1.50752	AVG		1.51375		6.36310	15.00000	O
1,4-Dichlorobenzene	1.67961	1.44527	1.57697	1.62287	1.67973	1.50773	AVG		1.58536		5.97843	15.00000	O
N-Butylbenzene	2.80426	2.36592	2.84760	2.77685	2.83973	2.42692	AVG		2.67688		8.20255	15.00000	O
sec-Butylbenzene	3.51772	2.93797	3.51169	3.45516	3.51724	3.01472	AVG		3.32575		8.20103	15.00000	O
1,2-Dichlorobenzene	1.48224	1.26090	1.48845	1.49380	1.59487	1.46577	AVG		1.46434		7.49329	15.00000	O
1,2-Dibromo-3-Chloropropane	281	3213	18736	45408	117963	211645	LNR	0.03320	0.20014		0.99648	0.99000	O
Hexachlorobutadiene	0.36563	0.27931	0.33641	0.30962	0.34646	0.32097	AVG		0.32640		9.26215	15.00000	O
1,2,4-Trichlorobenzene	0.79577	0.74093	0.90787	0.92853	1.02333	0.97339	AVG		0.89497		11.98113	15.00000	O
Naphthalene	5730	37185	209275	554386	1280329	2358807	LNR	0.01720	2.21211		0.99867	0.99000	O
1,2,3-Trichlorobenzene	0.60415	0.61437	0.73806	0.75667	0.83006	0.77206	AVG		0.71923		12.60106	15.00000	O
Dibromofluoromethane	0.49465	0.49403	0.49240	0.48994	0.47242	0.46660	AVG		0.48501		2.52615	15.00000	
1,2-Dichloroethane-D4	0.66120	0.65268	0.63544	0.64475	0.60245	0.57416	AVG		0.62845		5.32410	15.00000	
Toluene-D8	1.16713	1.16520	1.18351	1.17026	1.18089	1.19477	AVG		1.17696		0.97275	15.00000	
P-Bromofluorobenzene	0.50257	0.49990	0.50560	0.50266	0.50706	0.50288	AVG		0.50345		0.50209	15.00000	



Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa02236  
 Sample Matrix: LIQUID Fraction: VOA  
 Lab Smp Id: WG175386-7  
 Level: LOW Operator: JSS  
 Data Type: MS DATA SampleType: LCS  
 SpikeList File: IND\_CHECK4.1.spk Quant Type: ISTD  
 Sublist File: all.sub  
 Method File: \\target\_server\gg\chem\gcms-p.i\P120315.b\P826A20.m  
 Misc Info: WG175386,WG175386-4,SI9628-1

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
1 Dichlorodifluorome	50.0	64.4	128.85*	80-120
2 Chloromethane	50.0	60.2	120.41*	80-120
3 Vinyl chloride	50.0	58.9	117.76	80-120
4 Bromomethane	50.0	57.3	114.54	80-120
5 Chloroethane	50.0	61.8	123.63*	80-120
6 Trichlorofluoromet	50.0	55.8	111.53	80-120
7 Diethyl Ether	50.0	54.6	109.14	80-120
8 Tertiary-butyl alc	250	252	100.72	80-120
9 1,1-Dichloroethene	50.0	51.2	102.36	80-120
10 Carbon Disulfide	50.0	58.3	116.58	80-120
11 Freon-113	50.0	52.1	104.15	80-120
12 Iodomethane	50.0	52.2	104.35	80-120
13 Acrolein	250	266	106.57	80-120
14 Methylene Chloride	50.0	49.1	98.18	80-120
15 Acetone	50.0	51.2	102.38	80-120
16 Isobutyl Alcohol	1000	1040	103.74	80-120
17 trans-1,2-Dichloro	50.0	53.2	106.43	80-120
18 Allyl Chloride	50.0	54.9	109.89	80-120
19 Methyl tert-butyl	100	111	111.27	80-120
20 Acetonitrile	500	494	98.73	80-120
21 Di-isopropyl ether	50.0	54.5	108.96	80-120
22 Chloroprene	50.0	54.4	108.90	80-120
23 Propionitrile	500	550	110.08	80-120
24 Methacrylonitrile	500	559	111.73	80-120
25 1,1-Dichloroethane	50.0	53.6	107.20	80-120
26 Acrylonitrile	250	272	109.02	80-120
27 Ethyl tertiary-but	50.0	53.7	107.34	80-120
28 Vinyl Acetate	50.0	52.5	104.98	80-120
29 cis-1,2-Dichloroet	50.0	48.7	97.43	80-120
M 30 1,2-Dichloroethyle	100	102	101.93	80-120
31 Methyl Methacrylat	50.0	53.9	107.85	80-120
32 2,2-Dichloropropan	50.0	52.7	105.35	80-120
33 Bromochloromethane	50.0	54.4	108.80	80-120
34 Chloroform	50.0	49.9	99.81	80-120
35 Carbon Tetrachlori	50.0	50.6	101.26	80-120
36 Tetrahydrofuran	50.0	51.9	103.89	80-120
38 1,1,1-Trichloroeth	50.0	52.6	105.19	80-120
39 1,1-Dichloropropen	50.0	55.7	111.36	80-120
40 2-Butanone	50.0	53.5	107.05	80-120
41 Benzene	50.0	54.3	108.57	80-120

SPIKE	COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
	43 Cyclohexane	50.0	54.1	108.24	80-120
	44 Ethyl Methacrylate	50.0	50.8	101.58	80-120
	46 Tertiary-amyl meth	50.0	54.9	109.83	80-120
	47 1,2-Dichloroethane	50.0	47.2	94.49	80-120
	48 Trichloroethene	50.0	52.5	105.01	80-120
	50 Dibromomethane	50.0	54.0	108.06	80-120
	51 1,2-Dichloropropan	50.0	51.8	103.67	80-120
	52 Bromodichlorometha	50.0	53.4	106.72	80-120
	53 cis-1,3-dichloropr	50.0	52.2	104.48	80-120
	54 1,4-Dioxane	1000	1110	111.07	80-120
	56 2-Chloroethylvinyl	50.0	51.7	103.33	80-120
	57 Toluene	50.0	52.5	105.05	80-120
	58 4-methyl-2-pentano	50.0	57.2	114.50	80-120
	59 Tetrachloroethene	50.0	56.2	112.44	80-120
	60 trans-1,3-Dichloro	50.0	56.2	112.49	80-120
	61 1,1,2-Trichloroeth	50.0	50.6	101.25	80-120
	62 Dibromochlorometha	50.0	53.7	107.49	80-120
	63 1,3-Dichloropropan	50.0	51.8	103.72	80-120
	64 1,2-Dibromoethane	50.0	52.4	104.81	80-120
	65 2-Hexanone	50.0	56.9	113.89	80-120
	67 Chlorobenzene	50.0	50.9	101.89	80-120
	152 1-Chlorohexane	50.0	51.6	103.21	80-120
	68 Ethylbenzene	50.0	52.6	105.21	80-120
	69 1,1,1,2-Tetrachlor	50.0	55.1	110.19	80-120
M	70 Xylenes (total)	150	162	107.96	80-120
	71 m+p-Xylenes	100	107	107.17	80-120
	72 o-Xylene	50.0	54.8	109.54	80-120
	73 Styrene	50.0	54.8	109.59	80-120
	74 Bromoform	50.0	48.1	96.22	80-120
	75 Isopropylbenzene	50.0	54.7	109.35	80-120
	77 cis-1,4-Dichloro-2	50.0	48.1	96.25	80-120
	78 trans-1,4-Dichloro	50.0	50.6	101.24	80-120
	79 Bromobenzene	50.0	52.8	105.57	80-120
	80 N-Propylbenzene	50.0	55.8	111.51	80-120
	81 1,1,2,2-Tetrachlor	50.0	49.1	98.20	80-120
	82 1,3,5-Trimethylben	50.0	53.0	106.11	80-120
	83 2-Chlorotoluene	50.0	53.2	106.37	80-120
	84 1,2,3-Trichloropro	50.0	52.6	105.30	80-120
	85 4-Chlorotoluene	50.0	52.7	105.45	80-120
	86 tert-Butylbenzene	50.0	51.9	103.75	80-120
	87 Pentachloroethane	50.0	23.3	46.70*	80-120
	88 1,2,4-Trimethylben	50.0	55.3	110.69	80-120
	89 P-Isopropyltoluene	50.0	55.3	110.59	80-120
	90 1,3-Dichlorobenzen	50.0	51.6	103.19	80-120
	92 1,4-Dichlorobenzen	50.0	49.8	99.56	80-120
	93 N-Butylbenzene	50.0	54.0	107.95	80-120
	94 sec-Butylbenzene	50.0	55.2	110.35	80-120
	95 1,2-Dichlorobenzen	50.0	52.4	104.90	80-120
	96 1,2-Dibromo-3-Chlo	50.0	44.4	88.72	80-120
	97 1,3,5-Trichloroben	50.0	54.7	109.42	80-120
	98 Hexachlorobutadien	50.0	53.3	106.67	80-120
	99 1,2,4-Trichloroben	50.0	54.3	108.64	80-120
	100 1,2,3-Trimethylben	50.0	55.7	111.46	80-120
	101 Naphthalene	50.0	54.6	109.13	80-120

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
102 1,2,3-Trichloroben	50.0	56.2	112.44	80-120
103 Methyl Acetate	50.0	49.6	99.21	80-120
104 Methylcyclohexane	50.0	54.5	109.09	80-120
M 153 Total Alkylbenzene	350	380	108.71	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/l	AMOUNT RECOVERED ug/l	% RECOVERED	LIMITS
\$ 37 Dibromofluorometha	50.0	49.8	99.62	68-128
\$ 45 1,2-Dichloroethane	50.0	49.8	99.65	67-135
\$ 55 Toluene-D8	50.0	50.1	100.24	65-128
\$ 76 P-Bromofluorobenze	50.0	49.1	98.28	56-133



Katahdin Analytical Services

Data file : \\Target\_server\gg\chem\gcms-p.i\P120315.b\P3684.D  
 Lab Smp Id: WG175386-7  
 Inj Date : 03-DEC-2015 13:42 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : JSS Inst ID: gcms-p.i  
 Smp Info : WG175386-7,SI9628  
 Misc Info : WG175386,WG175386-4,SI9628-1  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120315.b\P826A20.m  
 Meth Date : 03-Dec-2015 14:06 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 8 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG		RT		REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
	MASS		EXP RT				ON-COLUMN	FINAL	
=====	====		=====		=====	=====	=====	=====	
1 Dichlorodifluoromethane	85		2.165	2.167 (0.250)		306304	64.4268	64.4(R)	
2 Chloromethane	50		2.415	2.424 (0.279)		439873	60.2069	60.2(R)	
3 Vinyl chloride	62		2.501	2.496 (0.288)		336577	58.8788	58.9	
4 Bromomethane	94		2.887	2.889 (0.333)		122124	57.2705	57.3	
5 Chloroethane	64		3.037	3.040 (0.350)		185699	61.8164	61.8(R)	
6 Trichlorofluoromethane	101		3.201	3.204 (0.369)		283048	55.7643	55.8	
7 Diethyl Ether	59		3.580	3.582 (0.413)		203873	54.5720	54.6	
8 Tertiary-butyl alcohol	59		5.253	5.248 (0.606)		125296	251.803	252	
9 1,1-Dichloroethene	96		3.859	3.854 (0.445)		184408	51.1808	51.2	
10 Carbon Disulfide	76		3.909	3.911 (0.451)		674475	58.2889	58.3	
11 Freon-113	151		3.902	3.897 (0.450)		111523	52.0737	52.1	
12 Iodomethane	142		4.066	4.069 (0.469)		162688	52.1742	52.2	
13 Acrolein	56		4.323	4.325 (0.499)		203536	266.424	266	
14 Methylene Chloride	84		4.688	4.691 (0.541)		223679	49.0884	49.1	
15 Acetone	43		4.759	4.762 (0.549)		96797	51.1923	51.2	
16 Isobutyl Alcohol	43		8.920	8.915 (1.029)		217492	1037.40	1040	
17 trans-1,2-Dichloroethene	96		4.938	4.933 (0.570)		199811	53.2161	53.2	
18 Allyl Chloride	41		4.523	4.526 (0.522)		362653	54.9474	54.9	
19 Methyl tert-butyl ether	73		5.102	5.098 (0.589)		1299086	111.275	111	
20 Acetonitrile	39		5.546	5.541 (0.640)		71967	493.634	494	
21 Di-isopropyl ether	45		5.774	5.777 (0.666)		773163	54.4819	54.5	
22 Chloroprene	53		5.975	5.977 (0.689)		336943	54.4481	54.4	
23 Propionitrile	54		8.569	8.564 (0.988)		394340	550.389	550	

Compounds	QUANT SIG				CONCENTRATIONS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	FINAL ( ug/l)	
24 Methacrylonitrile	41	8.598	8.601	(0.992)	1541324	558.638	559	
25 1,1-Dichloroethane	63	6.025	6.020	(0.695)	383569	53.5999	53.6	
26 Acrylonitrile	52	6.132	6.135	(0.707)	422822	272.552	272	
27 Ethyl tertiary-butyl ether	59	6.482	6.477	(0.748)	715262	53.6708	53.7	
28 Vinyl Acetate	43	6.518	6.513	(0.684)	515156	52.4884	52.5	
29 cis-1,2-Dichloroethene	96	7.032	7.028	(0.811)	216965	48.7132	48.7	
M 30 1,2-Dichloroethylene (total)	96				416776	101.929	102	
31 Methyl Methacrylate	41	10.664	10.666	(1.119)	222484	53.9230	53.9	
32 2,2-Dichloropropane	77	7.225	7.221	(0.833)	289320	52.6773	52.7	
33 Bromochloromethane	128	7.383	7.385	(0.852)	88502	54.4015	54.4	
34 Chloroform	83	7.526	7.528	(0.868)	333841	49.9031	49.9	
35 Carbon Tetrachloride	117	7.747	7.743	(0.813)	215422	50.6312	50.6	
36 Tetrahydrofuran	42	7.790	7.786	(0.899)	78448	51.9448	51.9	
\$ 37 Dibromofluoromethane	113	7.847	7.843	(0.905)	160673	49.8092	49.8	
38 1,1,1-Trichloroethane	97	7.869	7.871	(0.908)	284269	52.5967	52.6	
39 1,1-Dichloropropene	75	8.083	8.086	(0.848)	288949	55.6785	55.7	
40 2-Butanone	43	8.069	8.064	(0.931)	129858	53.5270	53.5	
41 Benzene	78	8.505	8.500	(0.893)	864076	54.2849	54.3	
* 42 Pentafluorobenzene	168	8.669	8.665	(1.000)	332549	50.0000		
43 Cyclohexane	56	7.368	7.371	(0.850)	364597	54.1210	54.1	
44 Ethyl Methacrylate	69	10.664	10.667	(1.119)	171342	50.7878	50.8	
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.007)	208266	49.8268	49.8	
46 Tertiary-amyl methyl ether	73	8.712	8.715	(1.005)	625332	54.9147	54.9	
47 1,2-Dichloroethane	62	8.848	8.843	(0.929)	259443	47.2438	47.2	
48 Trichloroethene	95	9.463	9.458	(0.993)	192121	52.5054	52.5	
* 49 1,4-Difluorobenzene	114	9.527	9.530	(1.000)	571281	50.0000		
50 Dibromomethane	93	10.128	10.130	(1.063)	119991	54.0301	54.0	
51 1,2-Dichloropropane	63	10.285	10.287	(1.080)	207892	51.8354	51.8	
52 Bromodichloromethane	83	10.399	10.394	(1.092)	258371	53.3584	53.4	
53 cis-1,3-dichloropropene	75	11.371	11.367	(1.194)	329194	52.2404	52.2	
54 1,4-Dioxane	88	10.714	10.709	(1.125)	55508	1110.75	1110	
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	673998	50.1207	50.1	
56 2-Chloroethylvinylether	63	11.293	11.295	(1.185)	114459	51.6633	51.7	
57 Toluene	92	11.722	11.724	(1.230)	541304	52.5232	52.5	
58 4-methyl-2-pentanone	43	12.308	12.311	(1.292)	254988	57.2480	57.2	
59 Tetrachloroethene	164	12.286	12.289	(0.885)	221912	56.2192	56.2	
60 trans-1,3-Dichloropropene	75	12.358	12.360	(1.297)	299170	56.2444	56.2	
61 1,1,2-Trichloroethane	83	12.594	12.596	(1.322)	154086	50.6274	50.6	
62 Dibromochloromethane	129	12.844	12.846	(0.925)	174592	53.7463	53.7	
63 1,3-Dichloropropane	76	12.987	12.989	(0.935)	353969	51.8578	51.8	
64 1,2-Dibromoethane	107	13.173	13.175	(1.383)	185622	52.4050	52.4	
65 2-Hexanone	43	13.523	13.519	(0.974)	189243	56.9440	56.9	
* 66 Chlorobenzene-D5	117	13.887	13.890	(1.000)	513521	50.0000		
67 Chlorobenzene	112	13.909	13.911	(1.002)	532705	50.9443	50.9	
152 1-Chlorohexane	91	13.895	13.897	(1.000)	306678	51.6064	51.6	
68 Ethylbenzene	106	13.959	13.954	(1.005)	308086	52.6027	52.6	
69 1,1,1,2-Tetrachloroethane	131	14.002	14.004	(1.008)	179663	55.0939	55.1	
M 70 Xylenes (total)	106				1141478	161.942	162	
71 m+p-Xylenes	106	14.152	14.155	(1.019)	759882	107.170	107	
72 o-Xylene	106	14.724	14.726	(1.060)	381596	54.7716	54.8	
73 Styrene	104	14.795	14.798	(1.065)	654778	54.7953	54.8	
74 Bromoform	173	14.824	14.827	(1.067)	119137	48.1093	48.1	
75 Isopropylbenzene	105	15.131	15.134	(0.896)	955715	54.6751	54.7	
\$ 76 P-Bromofluorobenzene	95	15.496	15.491	(1.626)	282659	49.1393	49.1	

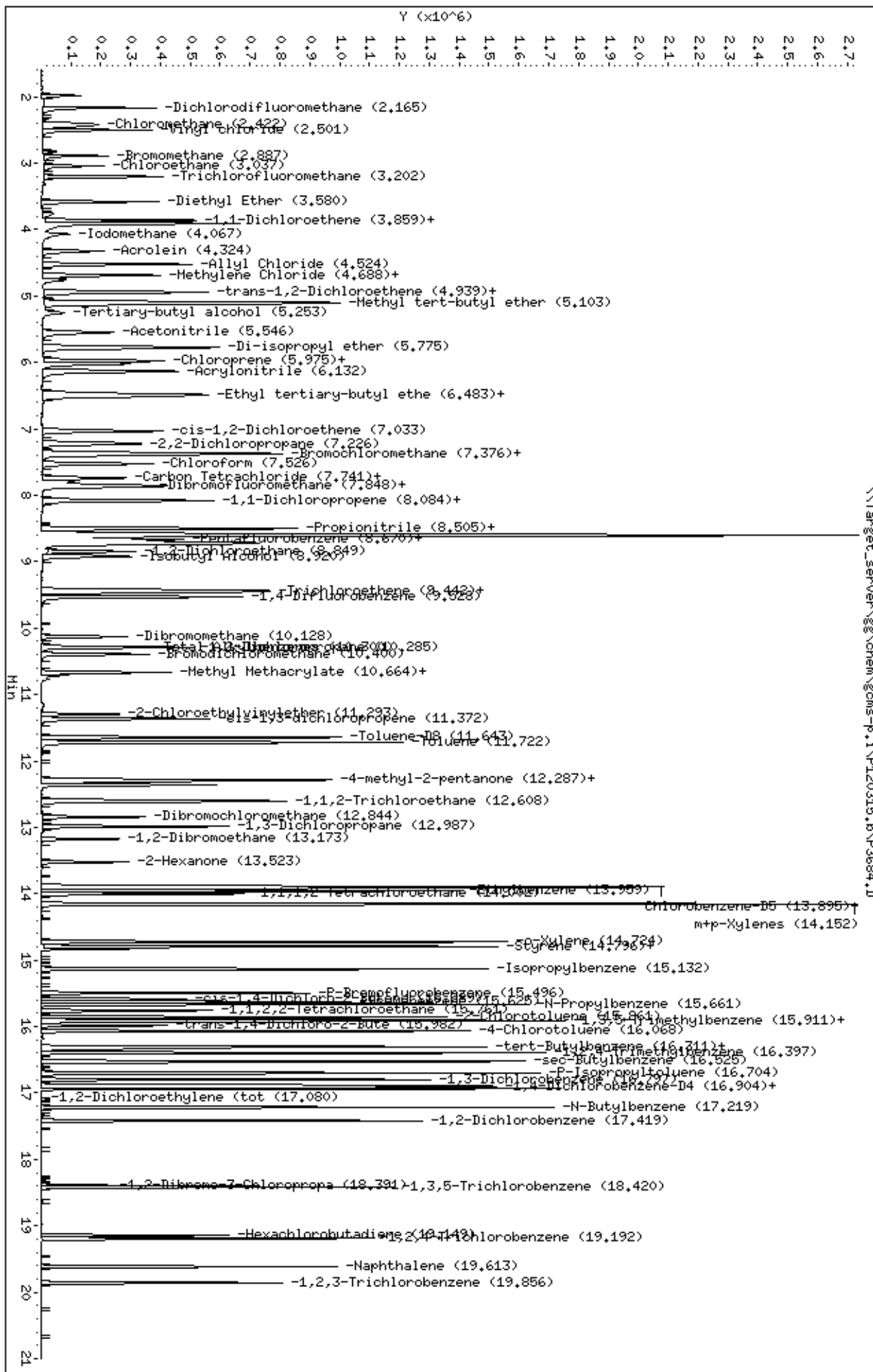
Compounds	QUANT SIG		CONCENTRATIONS					REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	FINAL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.589	15.584	(0.923)	95564	48.1226	48.1	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.985	(0.946)	77979	50.6197	50.6	
79 Bromobenzene	156	15.624	15.627	(0.925)	230492	52.7852	52.8	
80 N-Propylbenzene	91	15.660	15.663	(0.927)	1190697	55.7543	55.8	
81 1,1,2,2-Tetrachloroethane	83	15.760	15.763	(0.933)	256995	49.1022	49.1	
82 1,3,5-Trimethylbenzene	105	15.910	15.913	(0.942)	791384	53.0545	53.0	
83 2-Chlorotoluene	91	15.860	15.856	(0.939)	702833	53.1859	53.2	
84 1,2,3-Trichloropropane	75	15.932	15.927	(0.943)	219844	52.6521	52.6	
85 4-Chlorotoluene	91	16.068	16.070	(0.951)	739210	52.7268	52.7	
86 tert-Butylbenzene	119	16.311	16.306	(0.966)	702031	51.8766	51.9	
87 Pentachloroethane	117	16.339	16.335	(0.967)	45919	23.3498	23.3 (R)	
88 1,2,4-Trimethylbenzene	105	16.396	16.392	(0.971)	823898	55.3464	55.3	
89 P-Isopropyltoluene	119	16.704	16.706	(0.989)	845786	55.2965	55.3	
90 1,3-Dichlorobenzene	146	16.797	16.799	(0.994)	433448	51.5943	51.6	
* 91 1,4-Dichlorobenzene-D4	152	16.890	16.885	(1.000)	277493	50.0000		
92 1,4-Dichlorobenzene	146	16.904	16.906	(1.001)	438002	49.7811	49.8	
93 N-Butylbenzene	91	17.218	17.221	(1.019)	801899	53.9770	54.0	
94 sec-Butylbenzene	105	16.525	16.527	(0.978)	1018413	55.1763	55.2	
95 1,2-Dichlorobenzene	146	17.418	17.421	(1.031)	426263	52.4511	52.4	
96 1,2-Dibromo-3-Chloropropane	75	18.391	18.386	(1.089)	47431	44.3621	44.4	
97 1,3,5-Trichlorobenzene	180	18.419	18.422	(1.091)	294221	54.7103	54.7	
98 Hexachlorobutadiene	225	19.148	19.151	(1.134)	96611	53.3327	53.3	
99 1,2,4-Trichlorobenzene	180	19.191	19.194	(1.136)	269815	54.3219	54.3	
100 1,2,3-Trimethylbenzene	105	16.932	16.935	(1.003)	820553	55.7293	55.7	
101 Naphthalene	128	19.613	19.616	(1.161)	659337	54.5655	54.6	
102 1,2,3-Trichlorobenzene	180	19.856	19.858	(1.176)	224404	56.2188	56.2	
103 Methyl Acetate	43	4.952	4.955	(0.571)	215726	49.6062	49.6	
104 Methylcyclohexane	83	9.434	9.429	(1.088)	333156	54.5470	54.5	
M 153 Total Alkylbenzenes	100				6174108	380.482	380	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\Target\_server\chem\goms-p.i\PI20315.b\PI3684.D  
 Date : 03-DEC-2015 13:42  
 Client ID:  
 Sample Info: M0175386-7,S19628  
 Purge Volume: 5.0  
 Column phase: RTX-VHS

Instrument: goms-p.i  
 Operator: JSS  
 Column diameter: 0.18



Katahdin Analytical Services

Data file : \\Target\_server\gg\chem\gcms-p.i\P120315.b\P3678.D  
 Lab Smp Id: WG175386-4  
 Inj Date : 03-DEC-2015 11:02 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : JSS Inst ID: gcms-p.i  
 Smp Info : WG175386-4  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120315.b\P826A20.m  
 Meth Date : 03-Dec-2015 14:06 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 11:02 Cal File: P3678.D  
 Als bottle: 2 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG		AMOUNTS					REVIEW CODE
	MASS		CAL-AMT	ON-COL				
===== =====	====	====	( ug/l)	( ug/l)			=====	
1 Dichlorodifluoromethane	85	2.167 2.167 (0.250)	230792	50.0000	50.0			
2 Chloromethane	50	2.424 2.424 (0.280)	334596	50.0000	50.0			
3 Vinyl chloride	62	2.496 2.496 (0.288)	267626	50.0000	50.0			
4 Bromomethane	94	2.889 2.889 (0.333)	91955	50.0000	50.0			
5 Chloroethane	64	3.039 3.040 (0.351)	144695	50.0000	50.0			
6 Trichlorofluoromethane	101	3.204 3.204 (0.370)	236530	50.0000	50.0			
7 Diethyl Ether	59	3.582 3.582 (0.413)	179756	50.0000	50.0			
8 Tertiary-butyl alcohol	59	5.248 5.248 (0.606)	109509	250.000	250			
9 1,1-Dichloroethene	96	3.854 3.854 (0.445)	166977	50.0000	50.0			
10 Carbon Disulfide	76	3.911 3.911 (0.451)	557833	50.0000	50.0			
11 Freon-113	151	3.897 3.897 (0.450)	95284	50.0000	50.0			
12 Iodomethane	142	4.068 4.069 (0.470)	135147	50.0000	50.0			
13 Acrolein	56	4.326 4.325 (0.499)	185698	250.000	250			
14 Methylene Chloride	84	4.690 4.691 (0.541)	205522	50.0000	50.0			
15 Acetone	43	4.762 4.762 (0.550)	403995	250.000	250			
16 Isobutyl Alcohol	43	8.915 8.915 (1.029)	189203	1000.00	1000			
17 trans-1,2-Dichloroethene	96	4.933 4.933 (0.569)	172979	50.0000	50.0			
18 Allyl Chloride	41	4.526 4.526 (0.522)	318951	50.0000	50.0			
19 Methyl tert-butyl ether	73	5.098 5.098 (0.588)	1122845	100.000	100			
20 Acetonitrile	39	5.541 5.541 (0.640)	65024	500.000	500			
21 Di-isopropyl ether	45	5.777 5.777 (0.667)	680621	50.0000	50.0			
22 Chloroprene	53	5.977 5.977 (0.690)	292662	50.0000	50.0			
23 Propionitrile	54	8.565 8.564 (0.988)	345785	500.000	500			

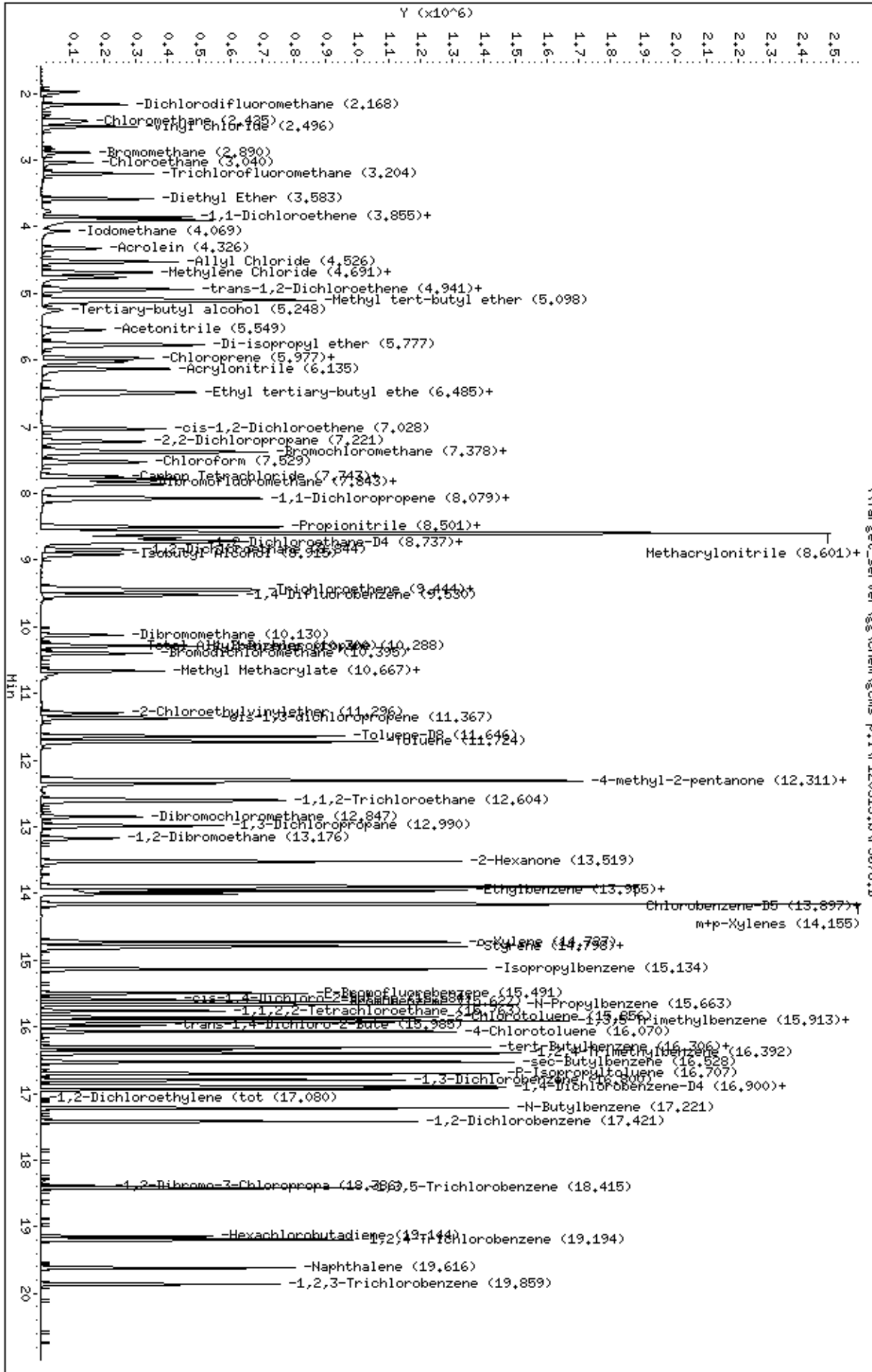
Compounds	QUANT SIG				AMOUNTS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	
24 Methacrylonitrile	41	8.600	8.601 (0.993)		1382723	500.000	500
25 1,1-Dichloroethane	63	6.020	6.020 (0.695)		337759	50.0000	50.0
26 Acrylonitrile	52	6.134	6.135 (0.708)		373790	250.000	250
27 Ethyl tertiary-butyl ether	59	6.477	6.477 (0.748)		640725	50.0000	50.0
28 Vinyl Acetate	43	6.513	6.513 (0.683)		503378	50.0000	50.0
29 cis-1,2-Dichloroethene	96	7.028	7.028 (0.811)		206417	50.0000	50.0
M 30 1,2-Dichloroethylene (total)	96				379396	50.0000	100
31 Methyl Methacrylate	41	10.666	10.666 (1.119)		199985	50.0000	50.0
32 2,2-Dichloropropane	77	7.221	7.221 (0.833)		273047	50.0000	50.0
33 Bromochloromethane	128	7.385	7.385 (0.852)		78389	50.0000	50.0
34 Chloroform	83	7.528	7.528 (0.869)		310319	50.0000	50.0
35 Carbon Tetrachloride	117	7.743	7.743 (0.812)		195014	50.0000	50.0
36 Tetrahydrofuran	42	7.785	7.786 (0.899)		351720	250.000	250
\$ 37 Dibromofluoromethane	113	7.843	7.843 (0.905)		148434	50.0000	50.0
38 1,1,1-Trichloroethane	97	7.871	7.871 (0.908)		266899	50.0000	50.0
39 1,1-Dichloropropene	75	8.086	8.086 (0.848)		248123	50.0000	50.0
40 2-Butanone	43	8.064	8.064 (0.931)		565164	250.000	250
41 Benzene	78	8.500	8.500 (0.892)		776339	50.0000	50.0
* 42 Pentafluorobenzene	168	8.665	8.665 (1.000)		302966	50.0000	
43 Cyclohexane	56	7.371	7.371 (0.851)		318560	50.0000	50.0
44 Ethyl Methacrylate	69	10.666	10.667 (1.119)		151667	50.0000	50.0
\$ 45 1,2-Dichloroethane-D4	65	8.736	8.737 (1.008)		195337	50.0000	50.0
46 Tertiary-amyl methyl ether	73	8.715	8.715 (1.006)		556520	50.0000	50.0
47 1,2-Dichloroethane	62	8.843	8.843 (0.928)		251230	50.0000	50.0
48 Trichloroethene	95	9.458	9.458 (0.993)		174618	50.0000	50.0
* 49 1,4-Difluorobenzene	114	9.530	9.530 (1.000)		537776	50.0000	
50 Dibromomethane	93	10.130	10.130 (1.063)		111446	50.0000	50.0
51 1,2-Dichloropropane	63	10.287	10.287 (1.080)		193669	50.0000	50.0
52 Bromodichloromethane	83	10.394	10.394 (1.091)		242903	50.0000	50.0
53 cis-1,3-dichloropropene	75	11.367	11.367 (1.193)		311830	50.0000	50.0
54 1,4-Dioxane	88	10.709	10.709 (1.124)		39866	1000.00	1000
\$ 55 Toluene-D8	98	11.645	11.646 (1.222)		629340	50.0000	50.0
56 2-Chloroethylvinylether	63	11.295	11.295 (1.185)		112094	50.0000	50.0
57 Toluene	92	11.724	11.724 (1.230)		491339	50.0000	50.0
58 4-methyl-2-pentanone	43	12.310	12.311 (1.292)		1120370	250.000	250
59 Tetrachloroethene	164	12.289	12.289 (0.885)		142359	50.0000	50.0
60 trans-1,3-Dichloropropene	75	12.360	12.360 (1.297)		270049	50.0000	50.0
61 1,1,2-Trichloroethane	83	12.596	12.596 (1.322)		146837	50.0000	50.0
62 Dibromochloromethane	129	12.846	12.846 (0.925)		163598	50.0000	50.0
63 1,3-Dichloropropane	76	12.989	12.989 (0.935)		328327	50.0000	50.0
64 1,2-Dibromoethane	107	13.175	13.175 (1.383)		171774	50.0000	50.0
65 2-Hexanone	43	13.518	13.519 (0.973)		817291	250.000	250
* 66 Chlorobenzene-D5	117	13.890	13.890 (1.000)		481213	50.0000	
67 Chlorobenzene	112	13.911	13.911 (1.002)		503286	50.0000	50.0
152 1-Chlorohexane	91	13.897	13.897 (1.000)		276242	50.0000	50.0
68 Ethylbenzene	106	13.954	13.954 (1.005)		282037	50.0000	50.0
69 1,1,1,2-Tetrachloroethane	131	14.004	14.004 (1.008)		165820	50.0000	50.0
M 70 Xylenes (total)	106				1025945	150.000	150
71 m+p-Xylenes	106	14.154	14.155 (1.019)		683730	100.000	100
72 o-Xylene	106	14.726	14.726 (1.060)		342215	50.0000	50.0
73 Styrene	104	14.798	14.798 (1.065)		595814	50.0000	50.0
74 Bromoform	173	14.826	14.827 (1.067)		108230	50.0000	50.0
75 Isopropylbenzene	105	15.134	15.134 (0.896)		856835	50.0000	50.0
\$ 76 P-Bromofluorobenzene	95	15.491	15.491 (1.626)		270319	50.0000	50.0

Compounds	QUANT SIG			AMOUNTS				REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.584	15.584	(0.923)	88142	50.0000	50.0	
78 trans-1,4-Dichloro-2-Butene	53	15.984	15.985	(0.947)	72570	50.0000	50.0	
79 Bromobenzene	156	15.627	15.627	(0.925)	213977	50.0000	50.0	
80 N-Propylbenzene	91	15.663	15.663	(0.928)	1054852	50.0000	50.0	
81 1,1,2,2-Tetrachloroethane	83	15.763	15.763	(0.934)	262793	50.0000	50.0	
82 1,3,5-Trimethylbenzene	105	15.913	15.913	(0.942)	740273	50.0000	50.0	
83 2-Chlorotoluene	91	15.856	15.856	(0.939)	637440	50.0000	50.0	
84 1,2,3-Trichloropropane	75	15.927	15.927	(0.943)	207275	50.0000	50.0	
85 4-Chlorotoluene	91	16.070	16.070	(0.952)	680594	50.0000	50.0	
86 tert-Butylbenzene	119	16.306	16.306	(0.966)	687355	50.0000	50.0	
87 Pentachloroethane	117	16.334	16.335	(0.967)	124118	50.0000	50.0	
88 1,2,4-Trimethylbenzene	105	16.392	16.392	(0.971)	737078	50.0000	50.0	
89 P-Isopropyltoluene	119	16.706	16.706	(0.989)	766387	50.0000	50.0	
90 1,3-Dichlorobenzene	146	16.799	16.799	(0.995)	405384	50.0000	50.0	
* 91 1,4-Dichlorobenzene-D4	152	16.885	16.885	(1.000)	261966	50.0000		
92 1,4-Dichlorobenzene	146	16.906	16.906	(1.001)	425137	50.0000	50.0	
93 N-Butylbenzene	91	17.221	17.221	(1.020)	727439	50.0000	50.0	
94 sec-Butylbenzene	105	16.527	16.527	(0.979)	905134	50.0000	50.0	
95 1,2-Dichlorobenzene	146	17.421	17.421	(1.032)	391325	50.0000	50.0	
96 1,2-Dibromo-3-Chloropropane	75	18.386	18.386	(1.089)	45408	50.0000	50.0	
97 1,3,5-Trichlorobenzene	180	18.422	18.422	(1.091)	258848	50.0000	50.0	
98 Hexachlorobutadiene	225	19.151	19.151	(1.134)	81110	50.0000	50.0	
99 1,2,4-Trichlorobenzene	180	19.194	19.194	(1.137)	243244	50.0000	50.0	
100 1,2,3-Trimethylbenzene	105	16.935	16.935	(1.003)	729400	50.0000	50.0	
101 Naphthalene	128	19.615	19.616	(1.162)	554386	50.0000	50.0	
102 1,2,3-Trichlorobenzene	180	19.858	19.858	(1.176)	198223	50.0000	50.0	
103 Methyl Acetate	43	4.955	4.955	(0.572)	199452	50.0000	50.0	
104 Methylcyclohexane	83	9.429	9.429	(1.088)	297469	50.0000	50.0	
M 153 Total Alkylbenzenes	100				5618518	50.0000	350	

Data File: \\Target\_server\88\chem\goms-p.1\P120315.b\3678.JD  
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 Client ID:

Sample Info: M0175386-4  
 Purge Volume: 5.0  
 Column phase: RTX-WHS

Instrument: goms-p.1  
 Operator: JSS  
 Column diameter: 0.18





Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120315.b\P3679.D  
 Lab Smp Id: WG175386-3  
 Inj Date : 03-DEC-2015 11:29 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : JSS Inst ID: gcms-p.i  
 Smp Info : WG175386-3  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120315.b\P826A20.m  
 Meth Date : 03-Dec-2015 14:06 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 11:29 Cal File: P3679.D  
 Als bottle: 3 Calibration Sample, Level: 3  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	AMOUNTS					REVIEW CODE		
		MASS	RT	EXP RT	REL RT	RESPONSE		CAL-AMT ( ug/l)	ON-COL ( ug/l)
1 Dichlorodifluoromethane	85		2.167	2.167	(0.250)	94406	20.0000	20.0	
2 Chloromethane	50		2.425	2.424	(0.280)	137589	20.0000	20.0	
3 Vinyl chloride	62		2.496	2.496	(0.288)	107409	20.0000	19.8	
4 Bromomethane	94		2.889	2.889	(0.333)	38991	20.0000	20.4	
5 Chloroethane	64		3.040	3.040	(0.351)	61120	20.0000	20.3	
6 Trichlorofluoromethane	101		3.204	3.204	(0.370)	100150	20.0000	20.3	
7 Diethyl Ether	59		3.583	3.582	(0.414)	72446	20.0000	19.8	
8 Tertiary-butyl alcohol	59		5.255	5.248	(0.607)	43869	100.000	98.9	
9 1,1-Dichloroethene	96		3.854	3.854	(0.445)	65897	20.0000	19.6	
10 Carbon Disulfide	76		3.912	3.911	(0.451)	220638	20.0000	19.6	
11 Freon-113	151		3.897	3.897	(0.450)	39690	20.0000	20.2	
12 Iodomethane	142		4.069	4.069	(0.470)	45072	20.0000	18.0	
13 Acrolein	56		4.326	4.325	(0.499)	74150	100.000	98.8	
14 Methylene Chloride	84		4.691	4.691	(0.541)	84187	20.0000	20.0	
15 Acetone	43		4.762	4.762	(0.550)	175953	100.000	103	
16 Isobutyl Alcohol	43		8.915	8.915	(1.029)	79196	400.000	404	
17 trans-1,2-Dichloroethene	96		4.934	4.933	(0.569)	70967	20.0000	20.0	
18 Allyl Chloride	41		4.526	4.526	(0.522)	128113	20.0000	19.8	
19 Methyl tert-butyl ether	73		5.105	5.098	(0.589)	457450	40.0000	39.9	
20 Acetonitrile	39		5.548	5.541	(0.640)	28022	200.000	205	
21 Di-isopropyl ether	45		5.770	5.777	(0.666)	277800	20.0000	20.0	
22 Chloroprene	53		5.977	5.977	(0.690)	123027	20.0000	20.3	
23 Propionitrile	54		8.565	8.564	(0.988)	139771	200.000	199	

Compounds	QUANT SIG					AMOUNTS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.601	8.601	(0.993)	568649	200.000	200	
25 1,1-Dichloroethane	63	6.020	6.020	(0.695)	135477	20.0000	19.8	
26 Acrylonitrile	52	6.135	6.135	(0.708)	152781	100.000	99.9	
27 Ethyl tertiary-butyl ether	59	6.478	6.477	(0.748)	260836	20.0000	19.9	
28 Vinyl Acetate	43	6.513	6.513	(0.683)	200099	20.0000	19.9	
29 cis-1,2-Dichloroethene	96	7.028	7.028	(0.811)	84107	20.0000	20.0	
M 30 1,2-Dichloroethylene (total)	96				155074	20.0000	40.0	
31 Methyl Methacrylate	41	10.666	10.666	(1.119)	82245	20.0000	20.3	
32 2,2-Dichloropropane	77	7.221	7.221	(0.833)	106863	20.0000	19.6	
33 Bromochloromethane	128	7.385	7.385	(0.852)	31629	20.0000	19.8	
34 Chloroform	83	7.528	7.528	(0.869)	122254	20.0000	19.6	
35 Carbon Tetrachloride	117	7.743	7.743	(0.812)	77622	20.0000	19.9	
36 Tetrahydrofuran	42	7.793	7.786	(0.899)	141974	100.000	99.3	
\$ 37 Dibromofluoromethane	113	7.843	7.843	(0.905)	152619	50.0000	50.1	
38 1,1,1-Trichloroethane	97	7.864	7.871	(0.908)	105664	20.0000	19.7	
39 1,1-Dichloropropene	75	8.079	8.086	(0.848)	100374	20.0000	20.1	
40 2-Butanone	43	8.065	8.064	(0.931)	236159	100.000	101	
41 Benzene	78	8.501	8.500	(0.892)	306670	20.0000	19.9	
* 42 Pentafluorobenzene	168	8.665	8.665	(1.000)	309950	50.0000		
43 Cyclohexane	56	7.371	7.371	(0.851)	129102	20.0000	19.9	
44 Ethyl Methacrylate	69	10.666	10.667	(1.119)	59538	20.0000	19.8	
\$ 45 1,2-Dichloroethane-D4	65	8.736	8.737	(1.008)	196955	50.0000	49.6	
46 Tertiary-amyl methyl ether	73	8.715	8.715	(1.006)	222535	20.0000	19.8	
47 1,2-Dichloroethane	62	8.851	8.843	(0.929)	100953	20.0000	20.0	
48 Trichloroethene	95	9.458	9.458	(0.993)	70856	20.0000	20.1	
* 49 1,4-Difluorobenzene	114	9.530	9.530	(1.000)	538499	50.0000		
50 Dibromomethane	93	10.130	10.130	(1.063)	44054	20.0000	19.9	
51 1,2-Dichloropropane	63	10.288	10.287	(1.080)	77095	20.0000	19.9	
52 Bromodichloromethane	83	10.395	10.394	(1.091)	94650	20.0000	19.7	
53 cis-1,3-dichloropropene	75	11.367	11.367	(1.193)	122164	20.0000	19.8	
54 1,4-Dioxane	88	10.709	10.709	(1.124)	19846	400.000	443	
\$ 55 Toluene-D8	98	11.646	11.646	(1.222)	637320	50.0000	50.3	
56 2-Chloroethylvinylether	63	11.295	11.295	(1.185)	44238	20.0000	19.8	
57 Toluene	92	11.724	11.724	(1.230)	196584	20.0000	20.0	
58 4-methyl-2-pentanone	43	12.310	12.311	(1.292)	456531	100.000	101	
59 Tetrachloroethene	164	12.289	12.289	(0.885)	56403	20.0000	19.8	
60 trans-1,3-Dichloropropene	75	12.361	12.360	(1.297)	105404	20.0000	19.7	
61 1,1,2-Trichloroethane	83	12.596	12.596	(1.322)	59214	20.0000	20.1	
62 Dibromochloromethane	129	12.847	12.846	(0.925)	62520	20.0000	19.5	
63 1,3-Dichloropropane	76	12.990	12.989	(0.935)	133827	20.0000	20.1	
64 1,2-Dibromoethane	107	13.175	13.175	(1.383)	67844	20.0000	19.8	
65 2-Hexanone	43	13.518	13.519	(0.973)	338126	100.000	101	
* 66 Chlorobenzene-D5	117	13.890	13.890	(1.000)	484378	50.0000		
67 Chlorobenzene	112	13.912	13.911	(1.002)	196531	20.0000	19.7	
152 1-Chlorohexane	91	13.897	13.897	(1.000)	109045	20.0000	19.8	
68 Ethylbenzene	106	13.955	13.954	(1.005)	113623	20.0000	20.0	
69 1,1,1,2-Tetrachloroethane	131	14.005	14.004	(1.008)	63047	20.0000	19.4	
M 70 Xylenes (total)	106				412112	60.0000	59.9	
71 m+p-Xylenes	106	14.155	14.155	(1.019)	278656	40.0000	40.2	
72 o-Xylene	106	14.726	14.726	(1.060)	133456	20.0000	19.7	
73 Styrene	104	14.798	14.798	(1.065)	232627	20.0000	19.7	
74 Bromoform	173	14.827	14.827	(1.067)	40311	20.0000	19.2	
75 Isopropylbenzene	105	15.134	15.134	(0.896)	337322	20.0000	19.8	
\$ 76 P-Bromofluorobenzene	95	15.491	15.491	(1.626)	272266	50.0000	50.1	

Compounds	QUANT SIG		AMOUNTS					REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.584	15.584	(0.923)	32939	20.0000	19.3	
78 trans-1,4-Dichloro-2-Butene	53	15.985	15.985	(0.947)	27845	20.0000	19.6	
79 Bromobenzene	156	15.627	15.627	(0.925)	84531	20.0000	19.8	
80 N-Propylbenzene	91	15.663	15.663	(0.928)	420691	20.0000	20.0	
81 1,1,2,2-Tetrachloroethane	83	15.763	15.763	(0.934)	101637	20.0000	19.6	
82 1,3,5-Trimethylbenzene	105	15.913	15.913	(0.942)	297473	20.0000	20.0	
83 2-Chlorotoluene	91	15.856	15.856	(0.939)	255170	20.0000	20.0	
84 1,2,3-Trichloropropane	75	15.927	15.927	(0.943)	81215	20.0000	19.8	
85 4-Chlorotoluene	91	16.070	16.070	(0.952)	275389	20.0000	20.1	
86 tert-Butylbenzene	119	16.306	16.306	(0.966)	273518	20.0000	19.9	
87 Pentachloroethane	117	16.335	16.335	(0.967)	48034	20.0000	19.6	
88 1,2,4-Trimethylbenzene	105	16.392	16.392	(0.971)	296782	20.0000	20.0	
89 P-Isopropyltoluene	119	16.699	16.706	(0.989)	303355	20.0000	19.9	
90 1,3-Dichlorobenzene	146	16.799	16.799	(0.995)	165419	20.0000	20.2	
* 91 1,4-Dichlorobenzene-D4	152	16.885	16.885	(1.000)	262371	50.0000		
92 1,4-Dichlorobenzene	146	16.907	16.906	(1.001)	165501	20.0000	19.7	
93 N-Butylbenzene	91	17.221	17.221	(1.020)	298851	20.0000	20.2	
94 sec-Butylbenzene	105	16.528	16.527	(0.979)	368546	20.0000	20.2	
95 1,2-Dichlorobenzene	146	17.421	17.421	(1.032)	156210	20.0000	20.0	
96 1,2-Dibromo-3-Chloropropane	75	18.386	18.386	(1.089)	18736	20.0000	20.3	
97 1,3,5-Trichlorobenzene	180	18.415	18.422	(1.091)	104418	20.0000	20.1	
98 Hexachlorobutadiene	225	19.151	19.151	(1.134)	35306	20.0000	20.8	
99 1,2,4-Trichlorobenzene	180	19.194	19.194	(1.137)	95279	20.0000	19.8	
100 1,2,3-Trimethylbenzene	105	16.935	16.935	(1.003)	298547	20.0000	20.2	
101 Naphthalene	128	19.616	19.616	(1.162)	209275	20.0000	19.4	
102 1,2,3-Trichlorobenzene	180	19.859	19.858	(1.176)	77458	20.0000	19.8	
103 Methyl Acetate	43	4.948	4.955	(0.571)	78524	20.0000	19.6	
104 Methylcyclohexane	83	9.437	9.429	(1.089)	116979	20.0000	19.6	
M 153 Total Alkylbenzenes	100				2259216	20.0000	140	

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Date : 03-DEC-2015 11:29

Client ID:

Sample Info: M6175386-3

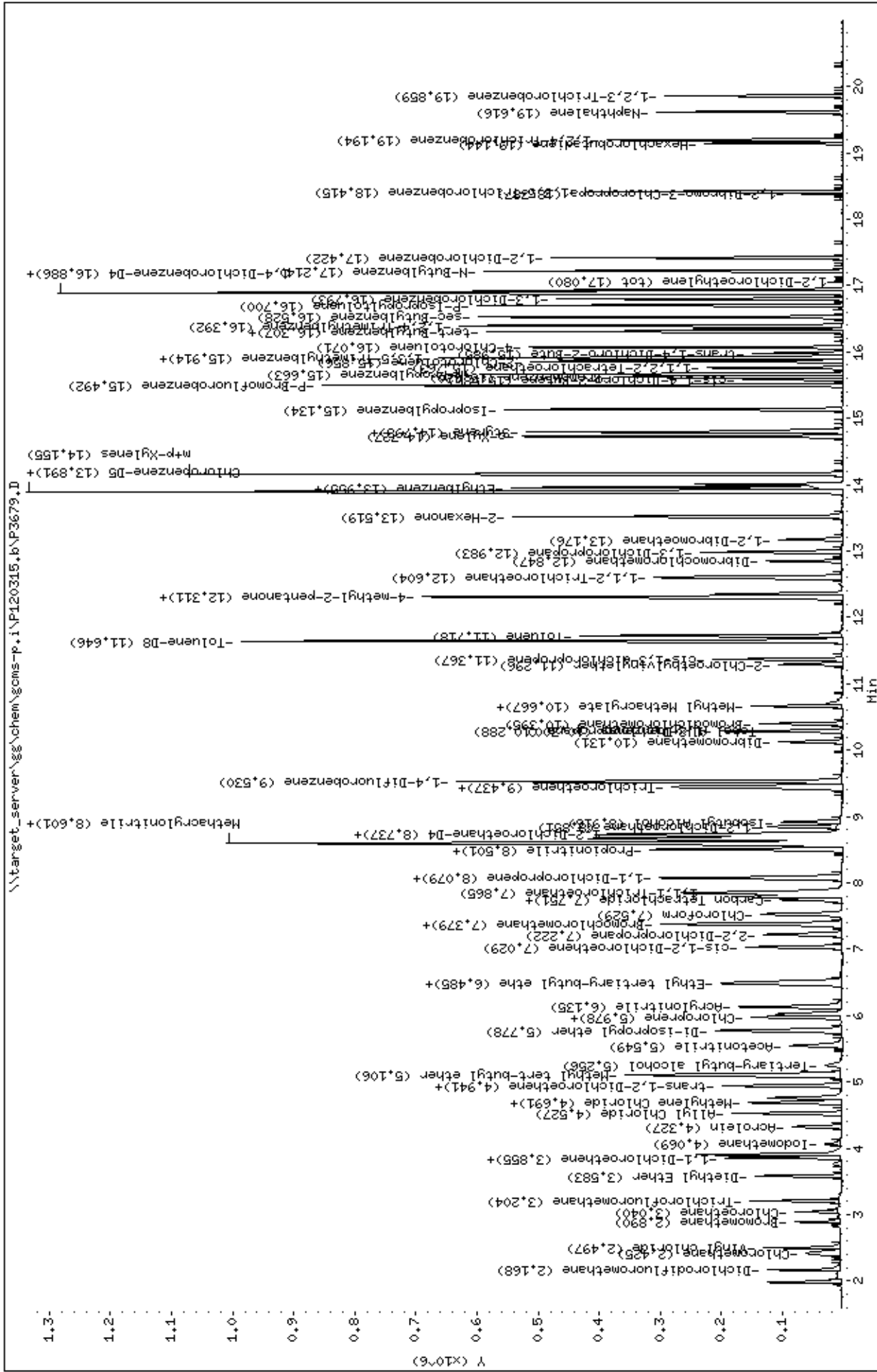
Purge Volume: 5.0

Column phase: RTX-VHS

Instrument: gcms-p.i

Operator: JSS

Column diameter: 0.18



Katahdin Analytical Services

Data file : \\Target\_server\gg\chem\gcms-p.i\P120315.b\P3680.D  
 Lab Smp Id: WG175386-2  
 Inj Date : 03-DEC-2015 11:55 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : JSS Inst ID: gcms-p.i  
 Smp Info : WG175386-2  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120315.b\P826A20.m  
 Meth Date : 03-Dec-2015 14:06 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 11:55 Cal File: P3680.D  
 Als bottle: 4 Calibration Sample, Level: 2  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT	SIG	AMOUNTS					REVIEW CODE
			CAL-AMT	ON-COL	RESPONSE	REL RT	EXP RT	
====	====	====	( ug/l)	( ug/l)	====	====	====	
1 Dichlorodifluoromethane	85		5.00000	4.2	18434	0.250	2.167	
2 Chloromethane	50		5.00000	4.7	31315	0.279	2.424	
3 Vinyl chloride	62		5.00000	4.5	23340	0.289	2.496	
4 Bromomethane	94		5.00000	4.8	8987	0.333	2.889	
5 Chloroethane	64		5.00000	4.7	13860	0.351	3.040	
6 Trichlorofluoromethane	101		5.00000	4.3	19953	0.370	3.204	
7 Diethyl Ether	59		5.00000	4.6	15827	0.413	3.582	
8 Tertiary-butyl alcohol	59		25.0000	23.8	10272	0.606	5.248	
9 1,1-Dichloroethene	96		5.00000	4.3	13442	0.445	3.854	
10 Carbon Disulfide	76		5.00000	4.2	43461	0.451	3.911	
11 Freon-113	151		5.00000	4.0	7036	0.450	3.897	
12 Iodomethane	142		5.00000	3.4	7341	0.469	4.069	
13 Acrolein	56		25.0000	22.3	15775	0.500	4.325	
14 Methylene Chloride	84		5.00000	4.7(a)	19334	0.541	4.691	
15 Acetone	43		25.0000	23.5	38814	0.549	4.762	
16 Isobutyl Alcohol	43		100.000	84.9	15376	1.029	8.915	
17 trans-1,2-Dichloroethene	96		5.00000	4.5	14985	0.570	4.933	
18 Allyl Chloride	41		5.00000	4.6	28888	0.522	4.526	
19 Methyl tert-butyl ether	73		10.0000	9.1	98774	0.589	5.098	
20 Acetonitrile	39		50.0000	44.7	5779	0.639	5.541	
21 Di-isopropyl ether	45		5.00000	4.4	58322	0.666	5.777	
22 Chloroprene	53		5.00000	4.3	24544	0.689	5.977	
23 Propionitrile	54		50.0000	44.1	29141	0.988	8.564	

Compounds	QUANT SIG				AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.598	8.601 (0.992)		121873	50.0000	45.2	
25 1,1-Dichloroethane	63	6.025	6.020 (0.695)		29474	5.00000	4.5	
26 Acrylonitrile	52	6.132	6.135 (0.707)		32637	25.0000	22.5	
27 Ethyl tertiary-butyl ether	59	6.483	6.477 (0.748)		54490	5.00000	4.4	
28 Vinyl Acetate	43	6.518	6.513 (0.684)		40755	5.00000	4.3	
29 cis-1,2-Dichloroethene	96	7.033	7.028 (0.811)		18291	5.00000	4.6	
M 30 1,2-Dichloroethylene (total)	96				33276	5.00000	9.0	
31 Methyl Methacrylate	41	10.664	10.666 (1.119)		16172	5.00000	4.2	
32 2,2-Dichloropropane	77	7.219	7.221 (0.833)		22438	5.00000	4.4	
33 Bromochloromethane	128	7.383	7.385 (0.852)		6719	5.00000	4.5	
34 Chloroform	83	7.533	7.528 (0.869)		27359	5.00000	4.6	
35 Carbon Tetrachloride	117	7.748	7.743 (0.813)		15080	5.00000	4.2	
36 Tetrahydrofuran	42	7.798	7.786 (0.899)		31349	25.0000	22.9	
\$ 37 Dibromofluoromethane	113	7.841	7.843 (0.904)		152431	50.0000	50.2	
38 1,1,1-Trichloroethane	97	7.869	7.871 (0.908)		21496	5.00000	4.3	
39 1,1-Dichloropropene	75	8.084	8.086 (0.848)		20209	5.00000	4.3	
40 2-Butanone	43	8.069	8.064 (0.931)		50996	25.0000	22.8	
41 Benzene	78	8.505	8.500 (0.893)		65209	5.00000	4.4	
* 42 Pentafluorobenzene	168	8.670	8.665 (1.000)		308544	50.0000		
43 Cyclohexane	56	7.376	7.371 (0.851)		24786	5.00000	4.2	
44 Ethyl Methacrylate	69	10.664	10.667 (1.119)		12095	5.00000	4.3	
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737 (1.007)		201382	50.0000	50.6	
46 Tertiary-amyl methyl ether	73	8.720	8.715 (1.006)		46797	5.00000	4.4	
47 1,2-Dichloroethane	62	8.849	8.843 (0.929)		23203	5.00000	4.7	
48 Trichloroethene	95	9.456	9.458 (0.992)		14842	5.00000	4.4	
* 49 1,4-Difluorobenzene	114	9.528	9.530 (1.000)		543279	50.0000		
50 Dibromomethane	93	10.128	10.130 (1.063)		8798	5.00000	4.2	
51 1,2-Dichloropropane	63	10.285	10.287 (1.080)		16187	5.00000	4.4	
52 Bromodichloromethane	83	10.393	10.394 (1.091)		18900	5.00000	4.2	
53 cis-1,3-dichloropropene	75	11.372	11.367 (1.194)		24532	5.00000	4.2	
54 1,4-Dioxane	88	10.707	10.709 (1.124)		4682	100.000	102	
\$ 55 Toluene-D8	98	11.643	11.646 (1.222)		633029	50.0000	49.7	
56 2-Chloroethylvinylether	63	11.293	11.295 (1.185)		9397	5.00000	4.4	
57 Toluene	92	11.722	11.724 (1.230)		42722	5.00000	4.5	
58 4-methyl-2-pentanone	43	12.308	12.311 (1.292)		93791	25.0000	21.8	
59 Tetrachloroethene	164	12.287	12.289 (0.885)		13483	5.00000	4.8	
60 trans-1,3-Dichloropropene	75	12.358	12.360 (1.297)		20803	5.00000	4.2	
61 1,1,2-Trichloroethane	83	12.594	12.596 (1.322)		12595	5.00000	4.4	
62 Dibromochloromethane	129	12.844	12.846 (0.925)		11962	5.00000	4.1	
63 1,3-Dichloropropane	76	12.987	12.989 (0.935)		28027	5.00000	4.4	
64 1,2-Dibromoethane	107	13.173	13.175 (1.383)		14321	5.00000	4.4	
65 2-Hexanone	43	13.516	13.519 (0.973)		69772	25.0000	22.2	
* 66 Chlorobenzene-D5	117	13.888	13.890 (1.000)		482728	50.0000		
67 Chlorobenzene	112	13.909	13.911 (1.002)		43473	5.00000	4.6	
152 1-Chlorohexane	91	13.895	13.897 (1.000)		22441	5.00000	4.4	
68 Ethylbenzene	106	13.952	13.954 (1.005)		23581	5.00000	4.4	
69 1,1,1,2-Tetrachloroethane	131	14.002	14.004 (1.008)		12482	5.00000	4.2	
M 70 Xylenes (total)	106				88566	15.0000	13.5	
71 m+p-Xylenes	106	14.152	14.155 (1.019)		60053	10.0000	9.1	
72 o-Xylene	106	14.724	14.726 (1.060)		28513	5.00000	4.4	
73 Styrene	104	14.796	14.798 (1.065)		46802	5.00000	4.3	
74 Bromoform	173	14.824	14.827 (1.067)		7859	5.00000	4.1	
75 Isopropylbenzene	105	15.132	15.134 (0.896)		72289	5.00000	4.5	
\$ 76 P-Bromofluorobenzene	95	15.496	15.491 (1.626)		271587	50.0000	49.7	

Compounds	QUANT SIG			AMOUNTS				REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.589	15.584	(0.923)	6712	5.00000	4.3	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.985	(0.946)	5524	5.00000	4.2	
79 Bromobenzene	156	15.625	15.627	(0.925)	17974	5.00000	4.5	
80 N-Propylbenzene	91	15.661	15.663	(0.927)	89022	5.00000	4.5	
81 1,1,2,2-Tetrachloroethane	83	15.761	15.763	(0.933)	21646	5.00000	4.4	
82 1,3,5-Trimethylbenzene	105	15.911	15.913	(0.942)	62105	5.00000	4.4	
83 2-Chlorotoluene	91	15.854	15.856	(0.939)	56061	5.00000	4.6	
84 1,2,3-Trichloropropane	75	15.925	15.927	(0.943)	17575	5.00000	4.5	
85 4-Chlorotoluene	91	16.068	16.070	(0.951)	59086	5.00000	4.5	
86 tert-Butylbenzene	119	16.311	16.306	(0.966)	54512	5.00000	4.3	
87 Pentachloroethane	117	16.340	16.335	(0.967)	8058	5.00000	3.7(M)	M9
88 1,2,4-Trimethylbenzene	105	16.397	16.392	(0.971)	63152	5.00000	4.5	
89 P-Isopropyltoluene	119	16.704	16.706	(0.989)	61809	5.00000	4.4	
90 1,3-Dichlorobenzene	146	16.797	16.799	(0.994)	36561	5.00000	4.6	
* 91 1,4-Dichlorobenzene-D4	152	16.890	16.885	(1.000)	259958	50.0000		
92 1,4-Dichlorobenzene	146	16.904	16.906	(1.001)	37571	5.00000	4.7	
93 N-Butylbenzene	91	17.219	17.221	(1.019)	61504	5.00000	4.4	
94 sec-Butylbenzene	105	16.526	16.527	(0.978)	76375	5.00000	4.4	
95 1,2-Dichlorobenzene	146	17.419	17.421	(1.031)	32778	5.00000	4.4	
96 1,2-Dibromo-3-Chloropropane	75	18.384	18.386	(1.088)	3213	5.00000	3.9	
97 1,3,5-Trichlorobenzene	180	18.420	18.422	(1.091)	21843	5.00000	4.5	
98 Hexachlorobutadiene	225	19.149	19.151	(1.134)	7261	5.00000	4.5	
99 1,2,4-Trichlorobenzene	180	19.192	19.194	(1.136)	19261	5.00000	4.3	
100 1,2,3-Trimethylbenzene	105	16.933	16.935	(1.003)	64643	5.00000	4.6	
101 Naphthalene	128	19.613	19.616	(1.161)	37185	5.00000	3.9	
102 1,2,3-Trichlorobenzene	180	19.857	19.858	(1.176)	15971	5.00000	4.4	
103 Methyl Acetate	43	4.953	4.955	(0.571)	18085	5.00000	4.7	
104 Methylcyclohexane	83	9.435	9.429	(1.088)	22320	5.00000	4.1	
M 153 Total Alkylbenzenes	100				468479	5.00000	31.0	

*AAB*

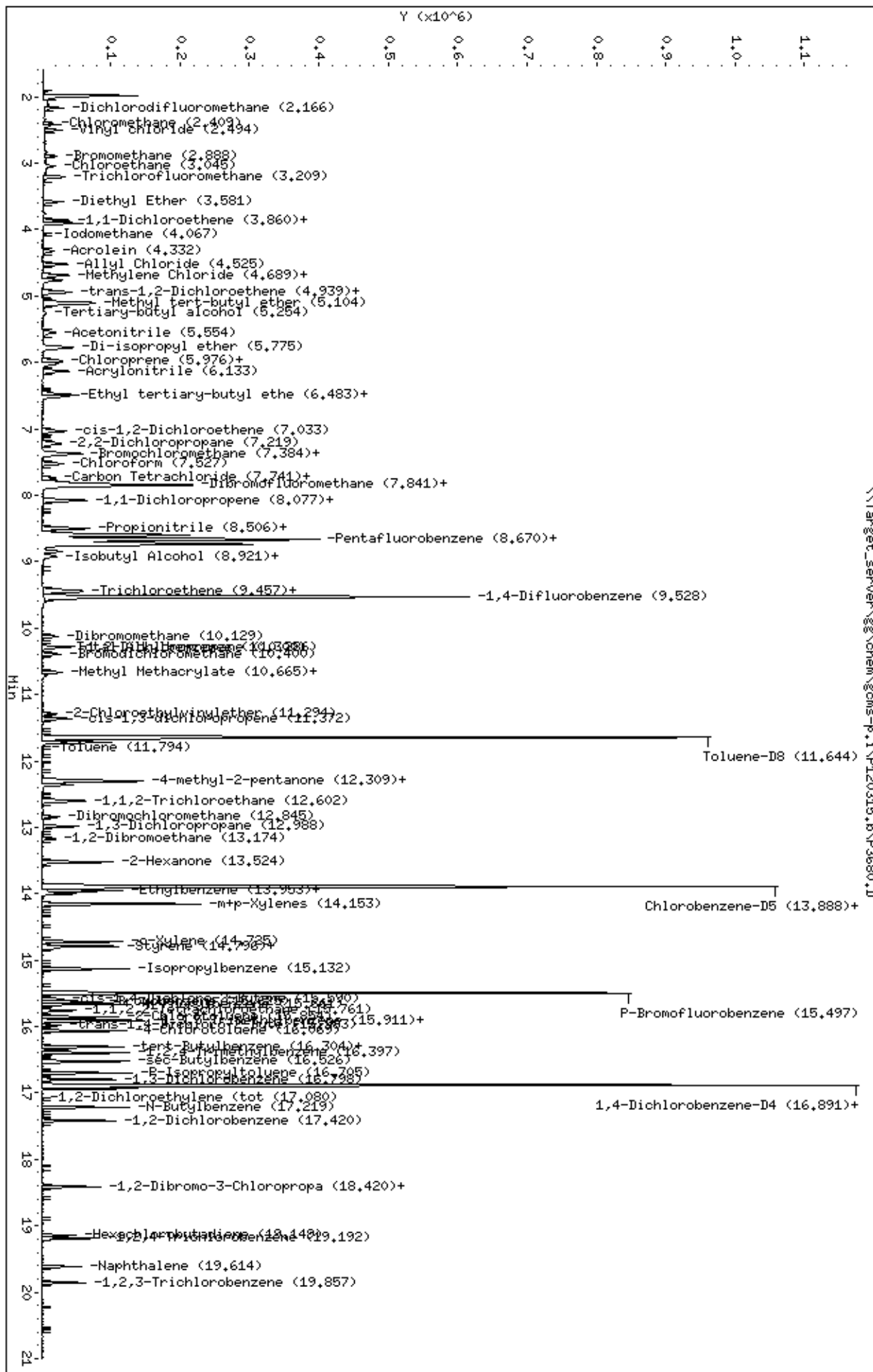
9:25 am, Dec 16, 2015

QC Flag Legend

- a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
- M - Compound response manually integrated.

Data File: \\Target\_server\gchem\chem\goms-p.i\PI20315.b\PI3680.D  
 Date : 03-DEC-2015 11:55  
 Client ID:  
 Sample Info: M0175386-2  
 Purge Volume: 5.0  
 Column phase: RTX-VHS

Instrument: goms-p.i  
 Operator: JSS  
 Column diameter: 0.18





Katahdin Analytical Services

Data file : \\Target\_server\gg\chem\gcms-p.i\P120315.b\P3681.D  
 Lab Smp Id: WG175386-1  
 Inj Date : 03-DEC-2015 12:22 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : JSS Inst ID: gcms-p.i  
 Smp Info : WG175386-1  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120315.b\P826A20.m  
 Meth Date : 03-Dec-2015 14:06 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:22 Cal File: P3681.D  
 Als bottle: 5 Calibration Sample, Level: 1  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG		AMOUNTS		REVIEW CODE
	MASS	SIG	CAL-AMT	ON-COL	
===== =====	===== =====	===== =====	===== =====	===== =====	===== =====
1 Dichlorodifluoromethane	85		2.172	0.94(a)	
2 Chloromethane	50		2.422	0.99(aM)	M9
3 Vinyl chloride	62		2.500	0.99(a)	
4 Bromomethane	94		2.893	1.1	
5 Chloroethane	64		3.044	1.0	
6 Trichlorofluoromethane	101		3.208	0.91(a)	
7 Diethyl Ether	59		3.587	0.89(a)	
8 Tertiary-butyl alcohol	59		5.252	3.6(a)	
9 1,1-Dichloroethene	96		3.851	1.2	
10 Carbon Disulfide	76		3.909	1.0	
11 Freon-113	151		3.901	0.80(a)	
12 Iodomethane	142		4.059	0.57(aM)	M6
13 Acrolein	56		4.323	4.5(a)	
14 Methylene Chloride	84		4.688	1.4(a)	
15 Acetone	43		4.766	6.0	
16 Isobutyl Alcohol	43		8.919	21.9(M)	M9
17 trans-1,2-Dichloroethene	96		4.945	1.1	
18 Allyl Chloride	41		4.523	0.99(a)	
19 Methyl tert-butyl ether	73		5.109	1.9	
20 Acetonitrile	39		5.560	11.0(aM)	M9
21 Di-isopropyl ether	45		5.774	0.92(a)	
22 Chloroprene	53		5.974	0.94(a)	
23 Propionitrile	54		8.562	9.4(a)	

*AAB*

9:25 am, Dec 16, 2015

Compounds	QUANT SIG				AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.598	8.601 (0.992)		24112	10.0000	9.2(a)	
25 1,1-Dichloroethane	63	6.024	6.020 (0.695)		6635	1.00000	1.0	
26 Acrylonitrile	52	6.124	6.135 (0.706)		5898	5.00000	4.3(a)	
27 Ethyl tertiary-butyl ether	59	6.482	6.477 (0.748)		11084	1.00000	0.92(a)	
28 Vinyl Acetate	43	6.518	6.513 (0.684)		8723	1.00000	0.93(a)	
29 cis-1,2-Dichloroethene	96	7.032	7.028 (0.811)		4158	1.00000	1.0	
M 30 1,2-Dichloroethylene (total)	96				7944	1.00000	2.1	
31 Methyl Methacrylate	41	10.671	10.666 (1.120)		3666	1.00000	0.97(a)	
32 2,2-Dichloropropane	77	7.211	7.221 (0.832)		4681	1.00000	0.93(a)	
33 Bromochloromethane	128	7.382	7.385 (0.852)		1637	1.00000	1.1	
34 Chloroform	83	7.533	7.528 (0.869)		6942	1.00000	1.1	
35 Carbon Tetrachloride	117	7.754	7.743 (0.814)		2811	1.00000	0.82(a)	
36 Tetrahydrofuran	42	7.811	7.786 (0.901)		7430	5.00000	5.3	
\$ 37 Dibromofluoromethane	113	7.847	7.843 (0.905)		152489	50.0000	50.2	
38 1,1,1-Trichloroethane	97	7.868	7.871 (0.908)		4534	1.00000	0.93(a)	
39 1,1-Dichloropropene	75	8.076	8.086 (0.848)		5254	1.00000	1.1	
40 2-Butanone	43	8.076	8.064 (0.932)		11823	5.00000	5.2	
41 Benzene	78	8.505	8.500 (0.893)		14872	1.00000	1.0	
* 42 Pentafluorobenzene	168	8.669	8.665 (1.000)		308277	50.0000		
43 Cyclohexane	56	7.368	7.371 (0.850)		6528	1.00000	1.1	
44 Ethyl Methacrylate	69	10.663	10.667 (1.119)		2246	1.00000	0.83(a)	
\$ 45 1,2-Dichloroethane-D4	65	8.733	8.737 (1.007)		203834	50.0000	51.0	
46 Tertiary-amyl methyl ether	73	8.712	8.715 (1.005)		9522	1.00000	0.92(a)	
47 1,2-Dichloroethane	62	8.841	8.843 (0.928)		6422	1.00000	1.2	
48 Trichloroethene	95	9.462	9.458 (0.993)		3441	1.00000	1.0	
* 49 1,4-Difluorobenzene	114	9.527	9.530 (1.000)		547574	50.0000		
50 Dibromomethane	93	10.120	10.130 (1.062)		1870	1.00000	0.92(a)	
51 1,2-Dichloropropane	63	10.292	10.287 (1.080)		3579	1.00000	0.97(aM)	M6
52 Bromodichloromethane	83	10.385	10.394 (1.090)		3955	1.00000	0.90(aM)	M6
53 cis-1,3-dichloropropene	75	11.371	11.367 (1.194)		5304	1.00000	0.93(a)	
54 1,4-Dioxane	88	10.713	10.709 (1.125)		940	20.0000	20.3(M)	M9
\$ 55 Toluene-D8	98	11.643	11.646 (1.222)		639090	50.0000	49.8	
56 2-Chloroethylvinylether	63	11.300	11.295 (1.186)		2027	1.00000	0.96(aM)	M6
57 Toluene	92	11.721	11.724 (1.230)		9979	1.00000	1.0	
58 4-methyl-2-pentanone	43	12.315	12.311 (1.293)		20622	5.00000	4.8(a)	
59 Tetrachloroethene	164	12.293	12.289 (0.885)		3138	1.00000	1.1	
60 trans-1,3-Dichloropropene	75	12.357	12.360 (1.297)		4292	1.00000	0.89(a)	
61 1,1,2-Trichloroethane	83	12.593	12.596 (1.322)		2884	1.00000	1.0	
62 Dibromochloromethane	129	12.843	12.846 (0.925)		2565	1.00000	0.91(a)	
63 1,3-Dichloropropane	76	12.994	12.989 (0.936)		6161	1.00000	0.99(a)	
64 1,2-Dibromoethane	107	13.179	13.175 (1.383)		3248	1.00000	0.99(aM)	M6
65 2-Hexanone	43	13.523	13.519 (0.974)		14573	5.00000	4.7(a)	
* 66 Chlorobenzene-D5	117	13.887	13.890 (1.000)		479746	50.0000		
67 Chlorobenzene	112	13.916	13.911 (1.002)		9879	1.00000	1.0	
152 1-Chlorohexane	91	13.894	13.897 (1.000)		6849	1.00000	1.2	
68 Ethylbenzene	106	13.959	13.954 (1.005)		5666	1.00000	1.0	
69 1,1,1,2-Tetrachloroethane	131	14.009	14.004 (1.009)		2526	1.00000	0.88(a)	
M 70 Xylenes (total)	106				20454	5.00000	3.1	
71 m+p-Xylenes	106	14.152	14.155 (1.019)		14173	2.00000	2.1	
72 o-Xylene	106	14.723	14.726 (1.060)		6281	1.00000	0.99(a)	
73 Styrene	104	14.795	14.798 (1.065)		10474	1.00000	0.97(a)	
74 Bromoform	173	14.831	14.827 (1.068)		1615	1.00000	0.88(aM)	M6
75 Isopropylbenzene	105	15.138	15.134 (0.896)		16975	1.00000	1.0	
\$ 76 P-Bromofluorobenzene	95	15.495	15.491 (1.626)		275196	50.0000	50.0	

*AAB*

9:25 am, Dec 16, 2015

Compounds	QUANT SIG			AMOUNTS				REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.588	15.584	(0.923)	988	1.00000	0.69(a)	
78 trans-1,4-Dichloro-2-Butene	53	15.989	15.985	(0.947)	866	1.00000	0.72(a)	
79 Bromobenzene	156	15.624	15.627	(0.925)	3621	1.00000	0.92(a)	
80 N-Propylbenzene	91	15.660	15.663	(0.927)	21110	1.00000	1.0	
81 1,1,2,2-Tetrachloroethane	83	15.760	15.763	(0.933)	4561	1.00000	0.95(a)	
82 1,3,5-Trimethylbenzene	105	15.910	15.913	(0.942)	13684	1.00000	0.98(a)	
83 2-Chlorotoluene	91	15.860	15.856	(0.939)	13011	1.00000	1.0	
84 1,2,3-Trichloropropane	75	15.931	15.927	(0.943)	3861	1.00000	0.99(aM)	M6
85 4-Chlorotoluene	91	16.067	16.070	(0.951)	14163	1.00000	1.1	
86 tert-Butylbenzene	119	16.310	16.306	(0.966)	12517	1.00000	0.98(a)	
87 Pentachloroethane	117	16.339	16.335	(0.967)	1340	1.00000	0.68(a)	
88 1,2,4-Trimethylbenzene	105	16.396	16.392	(0.971)	13594	1.00000	0.98(a)	
89 P-Isopropyltoluene	119	16.703	16.706	(0.989)	14276	1.00000	1.0	
90 1,3-Dichlorobenzene	146	16.796	16.799	(0.994)	7317	1.00000	0.94(a)	
* 91 1,4-Dichlorobenzene-D4	152	16.889	16.885	(1.000)	261192	50.0000		
92 1,4-Dichlorobenzene	146	16.904	16.906	(1.001)	8774	1.00000	1.1	
93 N-Butylbenzene	91	17.218	17.221	(1.019)	14649	1.00000	1.0	
94 sec-Butylbenzene	105	16.525	16.527	(0.978)	18376	1.00000	1.0	
95 1,2-Dichlorobenzene	146	17.418	17.421	(1.031)	7743	1.00000	1.0	
96 1,2-Dibromo-3-Chloropropane	75	18.390	18.386	(1.089)	281	1.00000	0.41(a)	
97 1,3,5-Trichlorobenzene	180	18.419	18.422	(1.091)	4444	1.00000	0.93(a)	
98 Hexachlorobutadiene	225	19.141	19.151	(1.133)	1910	1.00000	1.1	
99 1,2,4-Trichlorobenzene	180	19.191	19.194	(1.136)	4157	1.00000	0.94(a)	
100 1,2,3-Trimethylbenzene	105	16.932	16.935	(1.003)	12737	1.00000	0.92(a)	
101 Naphthalene	128	19.613	19.616	(1.161)	5730	1.00000	0.66(a)	
102 1,2,3-Trichlorobenzene	180	19.856	19.858	(1.176)	3156	1.00000	0.89(a)	
103 Methyl Acetate	43	4.952	4.955	(0.571)	4350	1.00000	1.1	
104 Methylcyclohexane	83	9.434	9.429	(1.088)	5411	1.00000	1.00	
M 153 Total Alkylbenzenes	100				108206	1.00000	7.1	

*AAB*

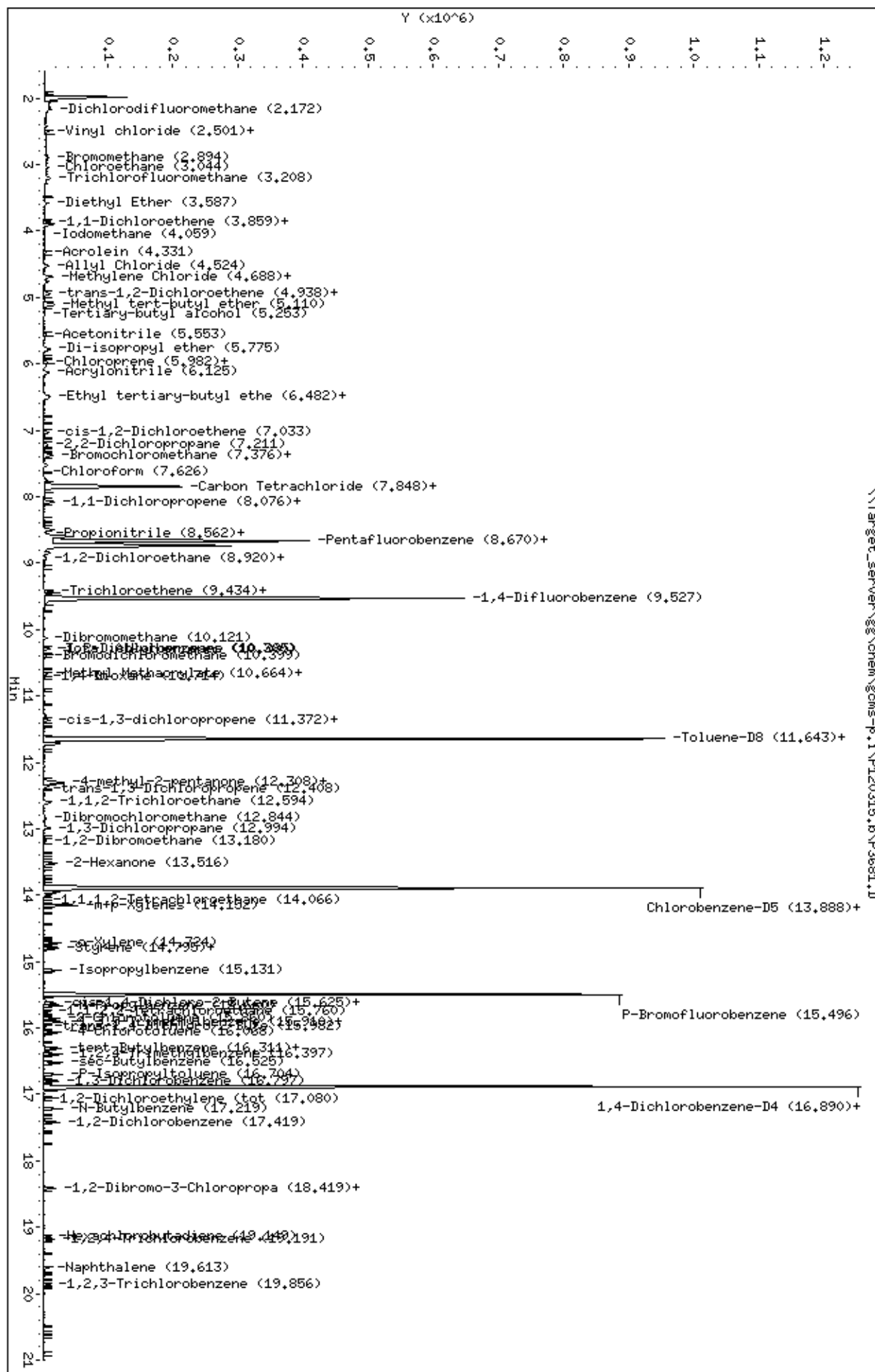
9:25 am, Dec 16, 2015

QC Flag Legend

- a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
- M - Compound response manually integrated.

Data File: \\Target\_server\gsg\chem\goms-p.i\PI20315.b\PI3681.D  
 Date : 03-DEC-2015 12:22  
 Client ID:  
 Sample Info: M0175386-1  
 Purge Volume: 5.0  
 Column phase: RTX-VMS

Instrument: goms-p.i  
 Operator: JSS  
 Column diameter: 0.18



Katahdin Analytical Services

Data file : \\Target\_server\gg\chem\gcms-p.i\P120315.b\P3682.D  
 Lab Smp Id: WG175386-6  
 Inj Date : 03-DEC-2015 12:49 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : JSS Inst ID: gcms-p.i  
 Smp Info : WG175386-6  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120315.b\P826A20.m  
 Meth Date : 03-Dec-2015 14:06 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 6 Calibration Sample, Level: 6  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG		RT		REL RT	RESPONSE	AMOUNTS		REVIEW CODE
	MASS		EXP RT				CAL-AMT ( ug/l)	ON-COL ( ug/l)	
1 Dichlorodifluoromethane	85		2.164	2.167 (0.250)		987691	200.000	211(A)	
2 Chloromethane	50		2.422	2.424 (0.279)		1501347	200.000	208(AM)	M9
3 Vinyl chloride	62		2.500	2.496 (0.288)		1155526	200.000	205(A)	
4 Bromomethane	94		2.886	2.889 (0.333)		408690	200.000	194	
5 Chloroethane	64		3.029	3.040 (0.349)		233536	200.000	87.7(M)	M9
6 Trichlorofluoromethane	101		3.194	3.204 (0.368)		1120010	200.000	224(A)	
7 Diethyl Ether	59		3.587	3.582 (0.414)		766422	200.000	208(A)	
8 Tertiary-butyl alcohol	59		5.274	5.248 (0.608)		496519	1000.00	634	
9 1,1-Dichloroethene	96		3.858	3.854 (0.445)		727204	200.000	205(A)	
10 Carbon Disulfide	76		3.908	3.911 (0.451)		2336381	200.000	205(A)	
11 Freon-113	151		3.894	3.897 (0.449)		416471	200.000	219(A)	
12 Iodomethane	142		4.066	4.069 (0.469)		480816	200.000	216(A)	
13 Acrolein	56		4.330	4.325 (0.500)		796105	1000.00	617	
14 Methylene Chloride	84		4.687	4.691 (0.541)		890842	200.000	181	
15 Acetone	43		4.766	4.762 (0.550)		1858781	1000.00	602	
16 Isobutyl Alcohol	43		8.933	8.915 (1.031)		876397	4000.00	951	
17 trans-1,2-Dichloroethene	96		4.938	4.933 (0.570)		731874	200.000	198	
18 Allyl Chloride	41		4.530	4.526 (0.523)		1131537	200.000	174	
19 Methyl tert-butyl ether	73		5.109	5.098 (0.589)		4552658	400.000	335	
20 Acetonitrile	39		5.552	5.541 (0.641)		289907	2000.00	790	
21 Di-isopropyl ether	45		5.781	5.777 (0.667)		2855541	200.000	204(A)	
22 Chloroprene	53		5.974	5.977 (0.689)		1247007	200.000	204(A)	
23 Propionitrile	54		8.590	8.564 (0.991)		1448467	2000.00	782	

*AAB*

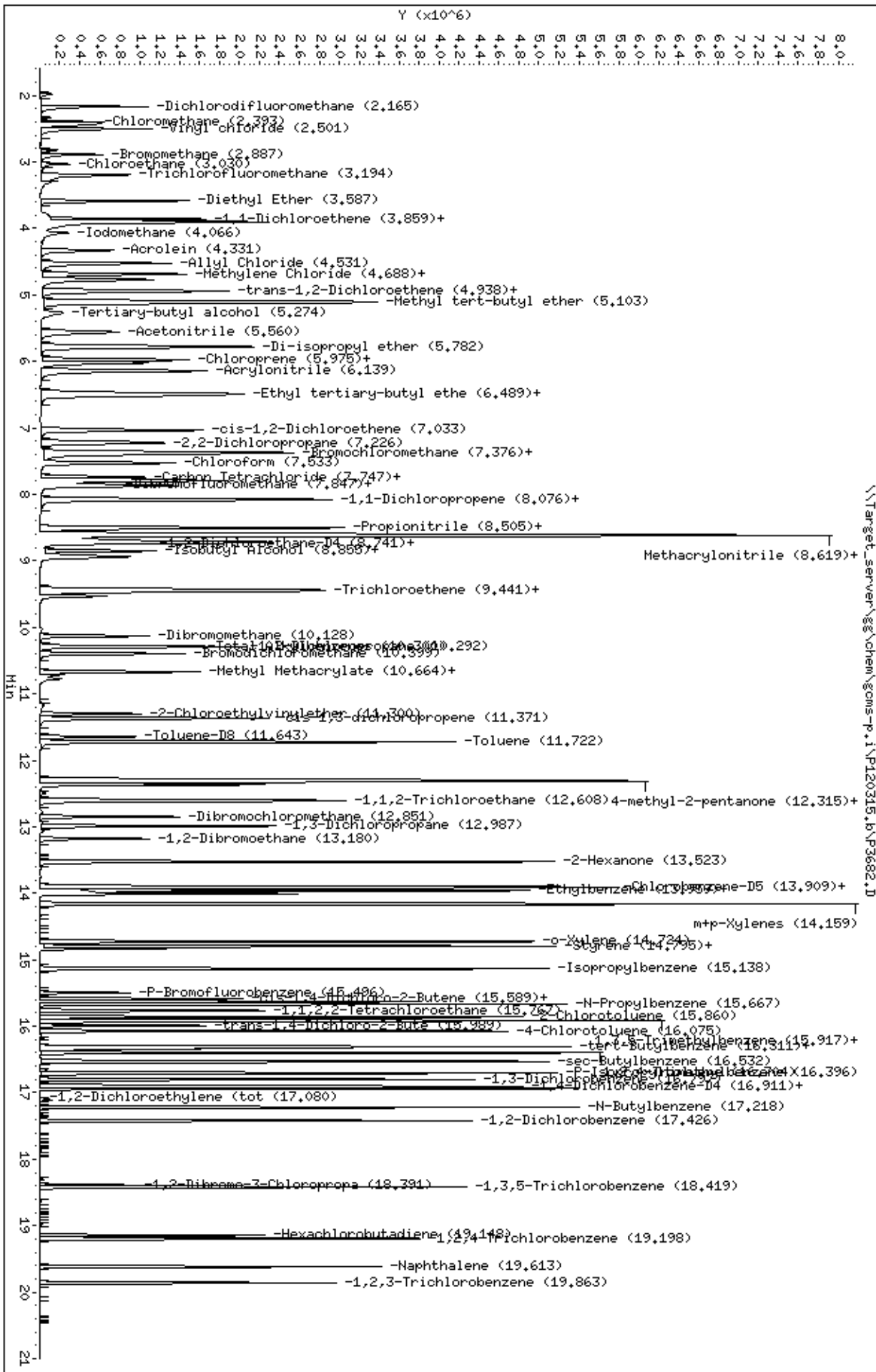
9:25 am, Dec 16, 2015

Compounds	QUANT SIG					AMOUNTS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.619	8.601	(0.994)	4678734	2000.00	672	
25 1,1-Dichloroethane	63	6.024	6.020	(0.695)	1422985	200.000	202(A)	
26 Acrylonitrile	52	6.139	6.135	(0.708)	1630822	1000.00	617	
27 Ethyl tertiary-butyl ether	59	6.482	6.477	(0.748)	2709825	200.000	206(A)	
28 Vinyl Acetate	43	6.517	6.513	(0.684)	1883026	200.000	196	
29 cis-1,2-Dichloroethene	96	7.032	7.028	(0.811)	891768	200.000	203(A)	
M 30 1,2-Dichloroethylene (total)	96				1623642	200.000	401	
31 Methyl Methacrylate	41	10.663	10.666	(1.119)	851950	200.000	211(A)	
32 2,2-Dichloropropane	77	7.225	7.221	(0.833)	1094267	200.000	202(A)	
33 Bromochloromethane	128	7.389	7.385	(0.852)	304644	200.000	190	
34 Chloroform	83	7.532	7.528	(0.869)	1284765	200.000	195	
35 Carbon Tetrachloride	117	7.747	7.743	(0.813)	833445	200.000	222(A)	
36 Tetrahydrofuran	42	7.790	7.786	(0.899)	1463405	1000.00	582	
\$ 37 Dibromofluoromethane	113	7.847	7.843	(0.905)	153035	50.0000	52.4	
38 1,1,1-Trichloroethane	97	7.868	7.871	(0.908)	1083150	200.000	203(A)	
39 1,1-Dichloropropene	75	8.083	8.086	(0.848)	1022018	200.000	201(A)	
40 2-Butanone	43	8.068	8.064	(0.931)	2296616	1000.00	572	
41 Benzene	78	8.505	8.500	(0.893)	3136410	200.000	202(A)	
* 42 Pentafluorobenzene	168	8.669	8.665	(1.000)	327979	50.0000		
43 Cyclohexane	56	7.375	7.371	(0.851)	1380448	200.000	208(A)	
44 Ethyl Methacrylate	69	10.663	10.667	(1.119)	664240	200.000	224(A)	
\$ 45 1,2-Dichloroethane-D4	65	8.740	8.737	(1.008)	188314	50.0000	49.6	
46 Tertiary-amyl methyl ether	73	8.719	8.715	(1.006)	2265270	200.000	202(A)	
47 1,2-Dichloroethane	62	8.848	8.843	(0.929)	998048	200.000	186	
48 Trichloroethene	95	9.462	9.458	(0.993)	731379	200.000	204(A)	
* 49 1,4-Difluorobenzene	114	9.527	9.530	(1.000)	558405	50.0000		
50 Dibromomethane	93	10.127	10.130	(1.063)	459946	200.000	212(A)	
51 1,2-Dichloropropane	63	10.292	10.287	(1.080)	832815	200.000	212(A)	
52 Bromodichloromethane	83	10.399	10.394	(1.092)	1026472	200.000	217(A)	
53 cis-1,3-dichloropropene	75	11.371	11.367	(1.194)	1353154	200.000	220(A)	
54 1,4-Dioxane	88	10.720	10.709	(1.125)	186704	4000.00	808	
\$ 55 Toluene-D8	98	11.642	11.646	(1.222)	667167	50.0000	55.4	
56 2-Chloroethylvinylether	63	11.299	11.295	(1.186)	435049	200.000	201(A)	
57 Toluene	92	11.721	11.724	(1.230)	2038573	200.000	202(A)	
58 4-methyl-2-pentanone	43	12.314	12.311	(1.293)	4009165	1000.00	537	
59 Tetrachloroethene	164	12.293	12.289	(0.885)	782212	200.000	233(A)	
60 trans-1,3-Dichloropropene	75	12.364	12.360	(1.298)	1116978	200.000	215(A)	
61 1,1,2-Trichloroethane	83	12.593	12.596	(1.322)	597004	200.000	201(A)	
62 Dibromochloromethane	129	12.850	12.846	(0.925)	720501	200.000	226(A)	
63 1,3-Dichloropropane	76	12.986	12.989	(0.935)	1369454	200.000	205(A)	
64 1,2-Dibromoethane	107	13.179	13.175	(1.383)	735174	200.000	212(A)	
65 2-Hexanone	43	13.522	13.519	(0.973)	3198350	1000.00	576	
* 66 Chlorobenzene-D5	117	13.894	13.890	(1.000)	503341	50.0000		
67 Chlorobenzene	112	13.916	13.911	(1.002)	2055441	200.000	200(A)	
152 1-Chlorohexane	91	13.901	13.897	(1.000)	1160799	200.000	199	
68 Ethylbenzene	106	13.958	13.954	(1.005)	1144337	200.000	199	
69 1,1,1,2-Tetrachloroethane	131	14.008	14.004	(1.008)	707121	200.000	221(A)	
M 70 Xylenes (total)	106				3942349	200.000	516	
71 m+p-Xylenes	106	14.159	14.155	(1.019)	2554843	400.000	313	
72 o-Xylene	106	14.730	14.726	(1.060)	1387506	200.000	203(A)	
73 Styrene	104	14.795	14.798	(1.065)	2379015	200.000	203(A)	
74 Bromoform	173	14.830	14.827	(1.067)	507523	200.000	239(A)	
75 Isopropylbenzene	105	15.138	15.134	(0.896)	3236273	200.000	190	
\$ 76 P-Bromofluorobenzene	95	15.495	15.491	(1.626)	280813	50.0000	54.5	

Compounds	QUANT SIG			AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.588	15.584	(0.923)	400913	200.000	241(A)
78 trans-1,4-Dichloro-2-Butene	53	15.988	15.985	(0.947)	295107	200.000	220(A)
79 Bromobenzene	156	15.624	15.627	(0.925)	917293	200.000	215(A)
80 N-Propylbenzene	91	15.667	15.663	(0.928)	3781398	200.000	181
81 1,1,2,2-Tetrachloroethane	83	15.767	15.763	(0.934)	1045264	200.000	204(A)
82 1,3,5-Trimethylbenzene	105	15.917	15.913	(0.942)	2738532	200.000	188
83 2-Chlorotoluene	91	15.860	15.856	(0.939)	2421786	200.000	188
84 1,2,3-Trichloropropane	75	15.931	15.927	(0.943)	791677	200.000	194
85 4-Chlorotoluene	91	16.074	16.070	(0.952)	2501983	200.000	183
86 tert-Butylbenzene	119	16.310	16.306	(0.966)	2541013	200.000	192
87 Pentachloroethane	117	16.339	16.335	(0.967)	346014	200.000	180
88 1,2,4-Trimethylbenzene	105	16.396	16.392	(0.971)	2718830	200.000	187
89 P-Isopropyltoluene	119	16.710	16.706	(0.989)	2848435	200.000	191
90 1,3-Dichlorobenzene	146	16.803	16.799	(0.995)	1634486	200.000	199
* 91 1,4-Dichlorobenzene-D4	152	16.889	16.885	(1.000)	271055	50.0000	
92 1,4-Dichlorobenzene	146	16.911	16.906	(1.001)	1634715	200.000	190
93 N-Butylbenzene	91	17.218	17.221	(1.019)	2631315	200.000	181
94 sec-Butylbenzene	105	16.532	16.527	(0.979)	3268617	200.000	181
95 1,2-Dichlorobenzene	146	17.425	17.421	(1.032)	1589215	200.000	200(A)
96 1,2-Dibromo-3-Chloropropane	75	18.390	18.386	(1.089)	211645	200.000	250(A)
97 1,3,5-Trichlorobenzene	180	18.419	18.422	(1.091)	1118466	200.000	213(A)
98 Hexachlorobutadiene	225	19.148	19.151	(1.134)	348000	200.000	197
99 1,2,4-Trichlorobenzene	180	19.198	19.194	(1.137)	1055372	200.000	218(A)
100 1,2,3-Trimethylbenzene	105	16.932	16.935	(1.003)	2659935	200.000	185
101 Naphthalene	128	19.612	19.616	(1.161)	2358807	200.000	235(A)
102 1,2,3-Trichlorobenzene	180	19.863	19.858	(1.176)	837080	200.000	215(A)
103 Methyl Acetate	43	4.959	4.955	(0.572)	877965	200.000	205(A)
104 Methylcyclohexane	83	9.434	9.429	(1.088)	1269474	200.000	211(A)
M 153 Total Alkylbenzenes	100				20528140	200.000	1300

QC Flag Legend

- A - Target compound detected but, quantitated amount exceeded maximum amount.
- M - Compound response manually integrated.





Katahdin Analytical Services

Data file : \\Target\_server\gg\chem\gcms-p.i\P120315.b\P3683.D  
 Lab Smp Id: WG175386-5  
 Inj Date : 03-DEC-2015 13:16 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : JSS Inst ID: gcms-p.i  
 Smp Info : WG175386-5  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120315.b\P826A20.m  
 Meth Date : 03-Dec-2015 14:06 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 13:16 Cal File: P3683.D  
 Als bottle: 7 Calibration Sample, Level: 5  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT	SIG	AMOUNTS				REVIEW CODE	
			CAL-AMT	ON-COL				
	MASS	RT	EXP RT	REL RT	RESPONSE	( ug/l)	( ug/l)	
=====	====	====	=====	=====	=====	=====	=====	=====
1 Dichlorodifluoromethane	85	2.164	2.167	(0.250)	509852	100.000	107	
2 Chloromethane	50	2.422	2.424	(0.279)	778793	100.000	107	
3 Vinyl chloride	62	2.500	2.496	(0.288)	634802	100.000	112	
4 Bromomethane	94	2.886	2.889	(0.333)	238934	100.000	113	
5 Chloroethane	64	3.029	3.040	(0.349)	240296	100.000	87.0	
6 Trichlorofluoromethane	101	3.201	3.204	(0.369)	560915	100.000	111	
7 Diethyl Ether	59	3.587	3.582	(0.414)	412703	100.000	111	
8 Tertiary-butyl alcohol	59	5.260	5.248	(0.607)	258318	500.000	578	
9 1,1-Dichloroethene	96	3.859	3.854	(0.445)	376080	100.000	104	
10 Carbon Disulfide	76	3.909	3.911	(0.451)	1257163	100.000	109	
11 Freon-113	151	3.901	3.897	(0.450)	229204	100.000	122	
12 Iodomethane	142	4.066	4.069	(0.469)	297713	100.000	139	
13 Acrolein	56	4.330	4.325	(0.500)	412707	500.000	542	
14 Methylene Chloride	84	4.688	4.691	(0.541)	468458	100.000	91.8	
15 Acetone	43	4.766	4.762	(0.550)	940371	500.000	490	
16 Isobutyl Alcohol	43	8.919	8.915	(1.029)	462552	2000.00	2220	
17 trans-1,2-Dichloroethene	96	4.938	4.933	(0.570)	394055	100.000	105	
18 Allyl Chloride	41	4.523	4.526	(0.522)	725664	100.000	111	
19 Methyl tert-butyl ether	73	5.102	5.098	(0.589)	2539393	200.000	218	
20 Acetonitrile	39	5.553	5.541	(0.641)	152613	1000.00	1040	
21 Di-isopropyl ether	45	5.774	5.777	(0.666)	1565284	100.000	111	
22 Chloroprene	53	5.974	5.977	(0.689)	692039	100.000	113	
23 Propionitrile	54	8.576	8.564	(0.989)	783368	1000.00	1100	

Compounds	QUANT SIG					AMOUNTS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.605	8.601	(0.993)	2898762	1000.00	1050	
25 1,1-Dichloroethane	63	6.024	6.020	(0.695)	760936	100.000	106	
26 Acrylonitrile	52	6.139	6.135	(0.708)	856306	500.000	556	
27 Ethyl tertiary-butyl ether	59	6.482	6.477	(0.748)	1461561	100.000	110	
28 Vinyl Acetate	43	6.518	6.513	(0.684)	1020407	100.000	106	
29 cis-1,2-Dichloroethene	96	7.032	7.028	(0.811)	478117	100.000	108	
M 30 1,2-Dichloroethylene (total)	96				872172	100.000	212	
31 Methyl Methacrylate	41	10.663	10.666	(1.119)	452890	100.000	113	
32 2,2-Dichloropropane	77	7.225	7.221	(0.833)	585459	100.000	107	
33 Bromochloromethane	128	7.390	7.385	(0.852)	160149	100.000	96.9	
34 Chloroform	83	7.525	7.528	(0.868)	694143	100.000	103	
35 Carbon Tetrachloride	117	7.747	7.743	(0.813)	439496	100.000	119	
36 Tetrahydrofuran	42	7.790	7.786	(0.899)	786001	500.000	518	
\$ 37 Dibromofluoromethane	113	7.847	7.843	(0.905)	158771	50.0000	48.4	
38 1,1,1-Trichloroethane	97	7.869	7.871	(0.908)	594712	100.000	111	
39 1,1-Dichloropropene	75	8.083	8.086	(0.848)	554358	100.000	109	
40 2-Butanone	43	8.069	8.064	(0.931)	1244597	500.000	509	
41 Benzene	78	8.505	8.500	(0.893)	1734913	100.000	112	
* 42 Pentafluorobenzene	168	8.669	8.665	(1.000)	336078	50.0000		
43 Cyclohexane	56	7.375	7.371	(0.851)	719340	100.000	107	
44 Ethyl Methacrylate	69	10.663	10.667	(1.119)	351917	100.000	121	
\$ 45 1,2-Dichloroethane-D4	65	8.741	8.737	(1.008)	202470	50.0000	47.5	
46 Tertiary-amyl methyl ether	73	8.712	8.715	(1.005)	1245608	100.000	110	
47 1,2-Dichloroethane	62	8.848	8.843	(0.929)	553318	100.000	102	
48 Trichloroethene	95	9.463	9.458	(0.993)	400552	100.000	112	
* 49 1,4-Difluorobenzene	114	9.527	9.530	(1.000)	567328	50.0000		
50 Dibromomethane	93	10.127	10.130	(1.063)	244924	100.000	114	
51 1,2-Dichloropropane	63	10.292	10.287	(1.080)	443042	100.000	114	
52 Bromodichloromethane	83	10.399	10.394	(1.092)	548178	100.000	117	
53 cis-1,3-dichloropropene	75	11.371	11.367	(1.194)	704019	100.000	115	
54 1,4-Dioxane	88	10.713	10.709	(1.125)	116858	2000.00	2440	
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	669950	50.0000	50.2	
56 2-Chloroethylvinylether	63	11.300	11.295	(1.186)	223278	100.000	102	
57 Toluene	92	11.721	11.724	(1.230)	1106854	100.000	110	
58 4-methyl-2-pentanone	43	12.315	12.311	(1.293)	2369030	500.000	543	
59 Tetrachloroethene	164	12.286	12.289	(0.885)	434071	100.000	133	
60 trans-1,3-Dichloropropene	75	12.358	12.360	(1.297)	597797	100.000	116	
61 1,1,2-Trichloroethane	83	12.593	12.596	(1.322)	326623	100.000	110	
62 Dibromochloromethane	129	12.844	12.846	(0.925)	374262	100.000	118	
63 1,3-Dichloropropane	76	12.987	12.989	(0.935)	735614	100.000	109	
64 1,2-Dibromoethane	107	13.180	13.175	(1.383)	381651	100.000	110	
65 2-Hexanone	43	13.523	13.519	(0.974)	1768564	500.000	535	
* 66 Chlorobenzene-D5	117	13.887	13.890	(1.000)	516782	50.0000		
67 Chlorobenzene	112	13.916	13.911	(1.002)	1134326	100.000	110	
152 1-Chlorohexane	91	13.894	13.897	(1.000)	599048	100.000	100	
68 Ethylbenzene	106	13.959	13.954	(1.005)	621856	100.000	107	
69 1,1,1,2-Tetrachloroethane	131	14.009	14.004	(1.009)	374214	100.000	117	
M 70 Xylenes (total)	106				2243973	100.000	320	
71 m+p-Xylenes	106	14.159	14.155	(1.020)	1483498	200.000	210	
72 o-Xylene	106	14.724	14.726	(1.060)	760475	100.000	110	
73 Styrene	104	14.795	14.798	(1.065)	1342991	100.000	114	
74 Bromoform	173	14.831	14.827	(1.068)	259078	100.000	123	
75 Isopropylbenzene	105	15.138	15.134	(0.896)	1880810	100.000	110	
\$ 76 P-Bromofluorobenzene	95	15.495	15.491	(1.626)	287669	50.0000	50.4	

Compounds	QUANT SIG				AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.588	15.584	(0.923)	207340	100.000	128	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.985	(0.946)	163110	100.000	124	
79 Bromobenzene	156	15.624	15.627	(0.925)	480444	100.000	113	
80 N-Propylbenzene	91	15.667	15.663	(0.928)	2269612	100.000	108	
81 1,1,2,2-Tetrachloroethane	83	15.760	15.763	(0.933)	562959	100.000	110	
82 1,3,5-Trimethylbenzene	105	15.910	15.913	(0.942)	1622901	100.000	111	
83 2-Chlorotoluene	91	15.860	15.856	(0.939)	1406595	100.000	108	
84 1,2,3-Trichloropropane	75	15.932	15.927	(0.943)	444873	100.000	108	
85 4-Chlorotoluene	91	16.067	16.070	(0.951)	1463070	100.000	106	
86 tert-Butylbenzene	119	16.310	16.306	(0.966)	1419153	100.000	106	
87 Pentachloroethane	117	16.339	16.335	(0.967)	171038	100.000	85.0 (M)	M9
88 1,2,4-Trimethylbenzene	105	16.396	16.392	(0.971)	1612501	100.000	110	
89 P-Isopropyltoluene	119	16.703	16.706	(0.989)	1650989	100.000	110	
90 1,3-Dichlorobenzene	146	16.796	16.799	(0.994)	910196	100.000	110	
* 91 1,4-Dichlorobenzene-D4	152	16.889	16.885	(1.000)	276793	50.0000		
92 1,4-Dichlorobenzene	146	16.911	16.906	(1.001)	929875	100.000	107	
93 N-Butylbenzene	91	17.218	17.221	(1.019)	1572036	100.000	107	
94 sec-Butylbenzene	105	16.525	16.527	(0.978)	1947095	100.000	107	
95 1,2-Dichlorobenzene	146	17.418	17.421	(1.031)	882900	100.000	111	
96 1,2-Dibromo-3-Chloropropane	75	18.390	18.386	(1.089)	117963	100.000	147	
97 1,3,5-Trichlorobenzene	180	18.419	18.422	(1.091)	613589	100.000	118	
98 Hexachlorobutadiene	225	19.148	19.151	(1.134)	191794	100.000	107	
99 1,2,4-Trichlorobenzene	180	19.191	19.194	(1.136)	566503	100.000	118	
100 1,2,3-Trimethylbenzene	105	16.932	16.935	(1.003)	1611412	100.000	112	
101 Naphthalene	128	19.613	19.616	(1.161)	1280329	100.000	131	
102 1,2,3-Trichlorobenzene	180	19.863	19.858	(1.176)	459510	100.000	119	
103 Methyl Acetate	43	4.952	4.955	(0.571)	450702	100.000	103	
104 Methylcyclohexane	83	9.434	9.429	(1.088)	682797	100.000	113	
M 153 Total Alkylbenzenes	100				12094287	100.000	760	

*AAB*

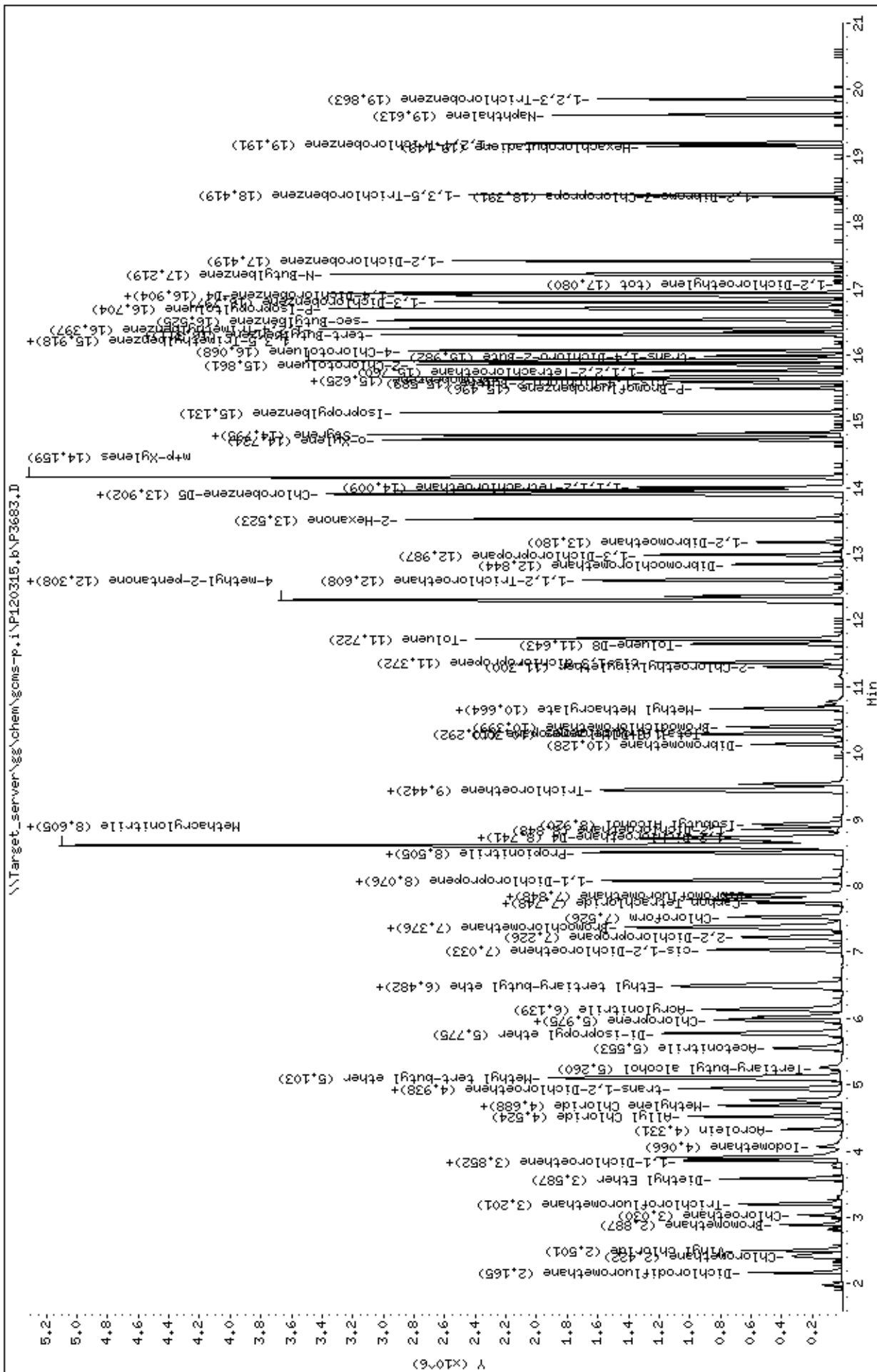
9:25 am, Dec 16, 2015

QC Flag Legend

M - Compound response manually integrated.

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 Client ID:  
 Sample Info: M6175386-5  
 Purge Volume: 5.0  
 Column phase: RTX-VHS

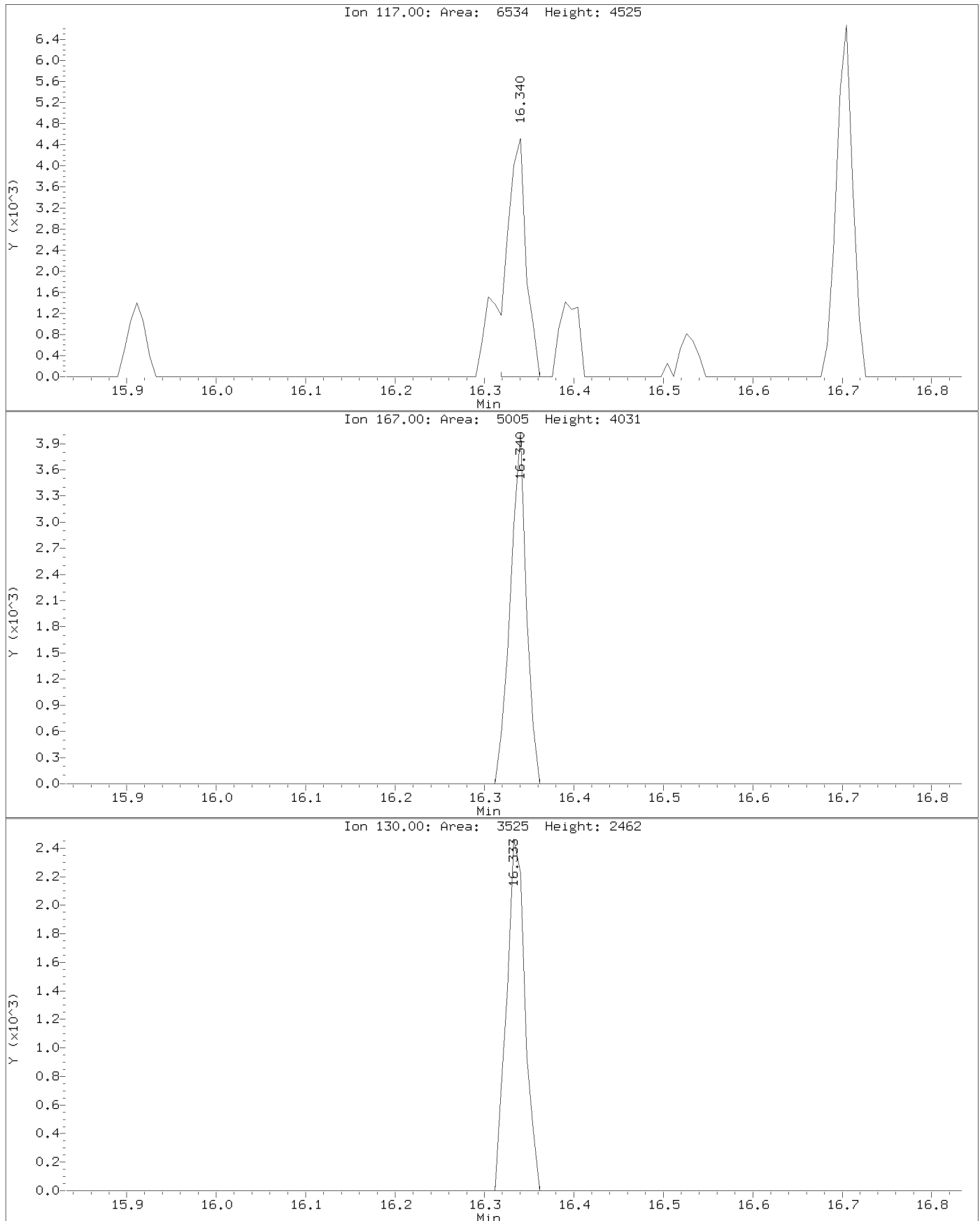
Instrument: gcms-p.i  
 Operator: JSS  
 Column diameter: 0.18



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Instrument: gcms-p.i  
Client Sample ID:

Compound: Pentachloroethane  
CAS Number: 76-01-1

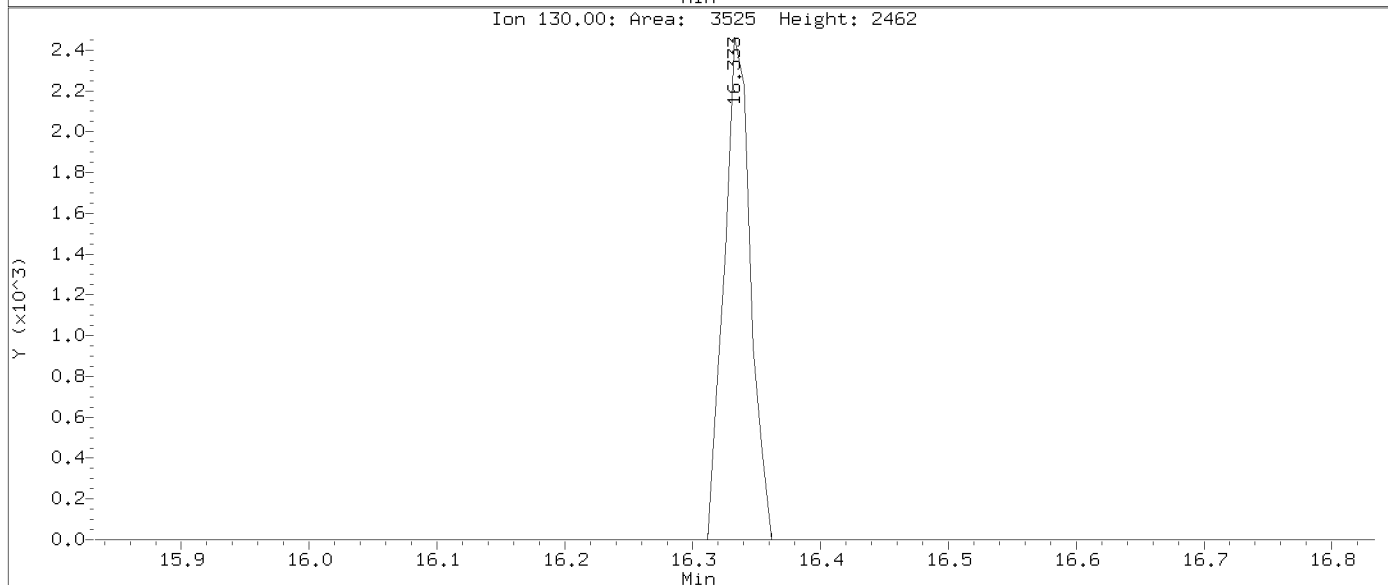
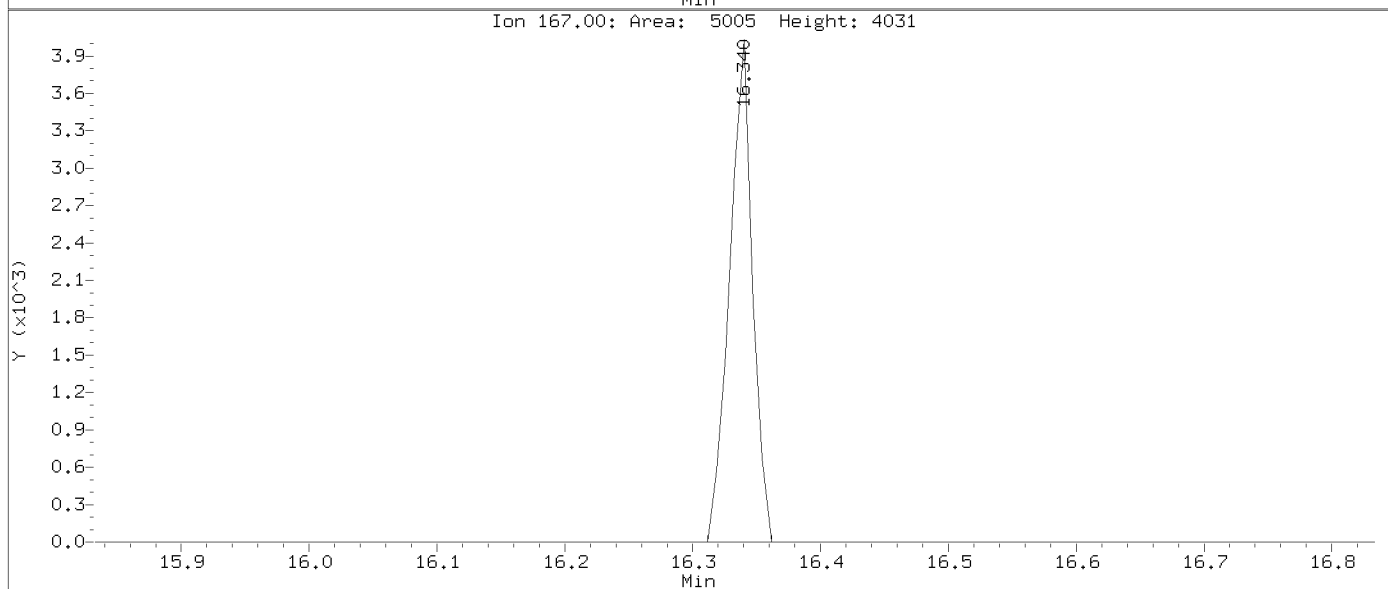
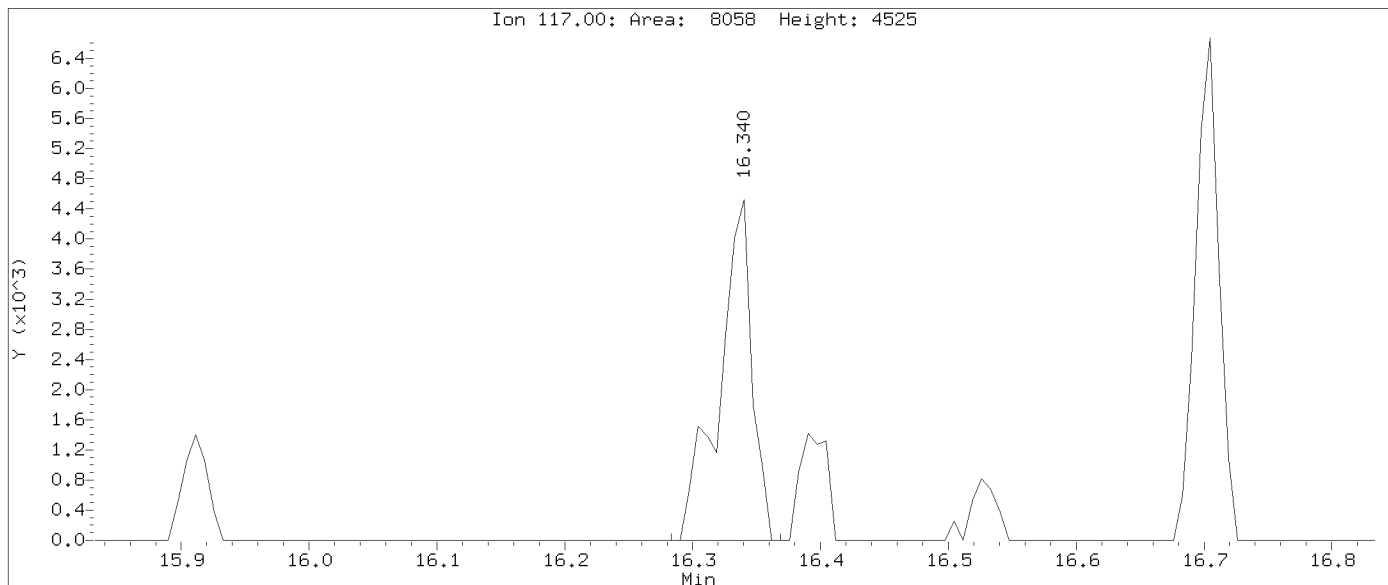
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Client Sample ID:

Compound: Pentachloroethane  
CAS Number: 76-01-1

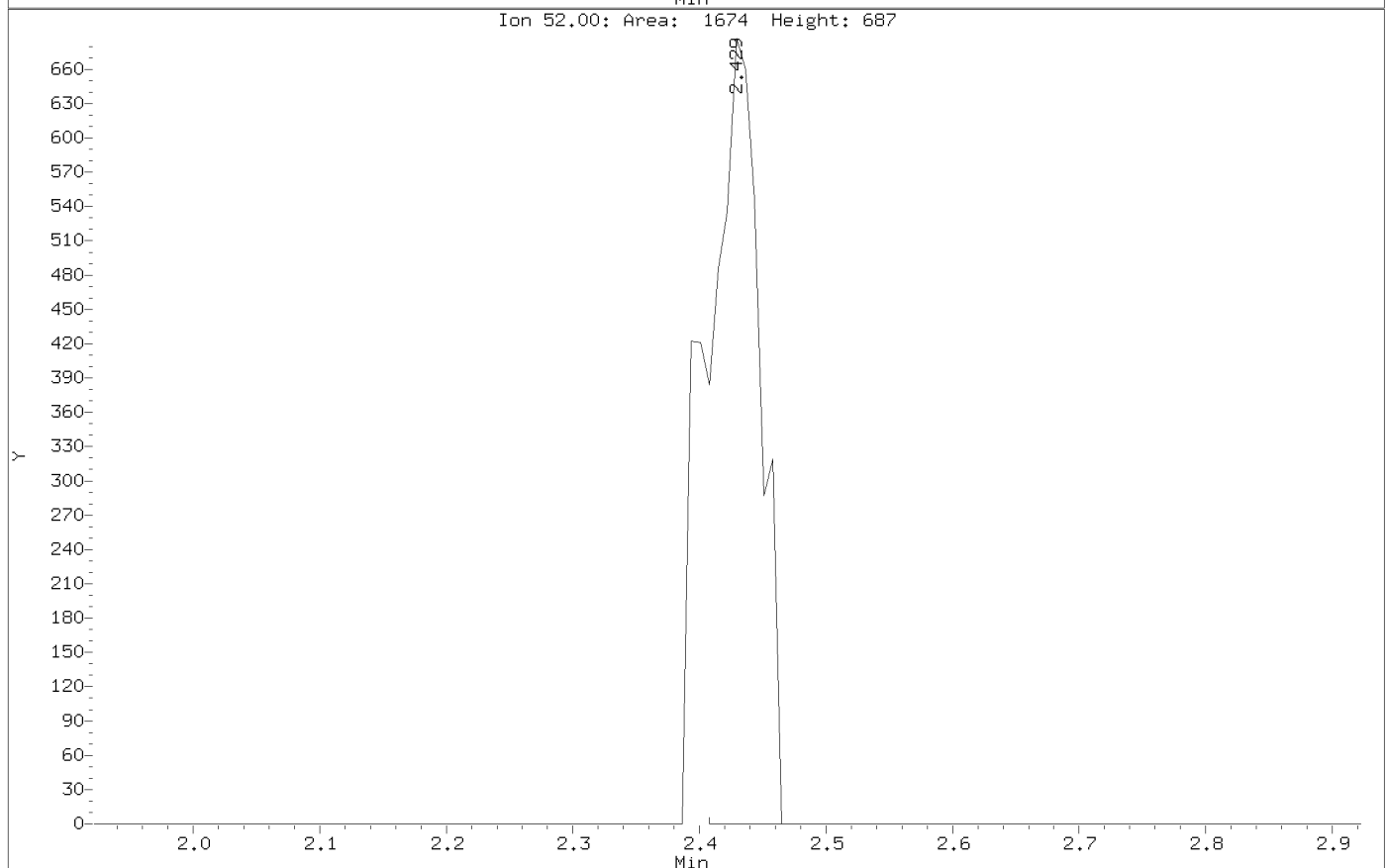
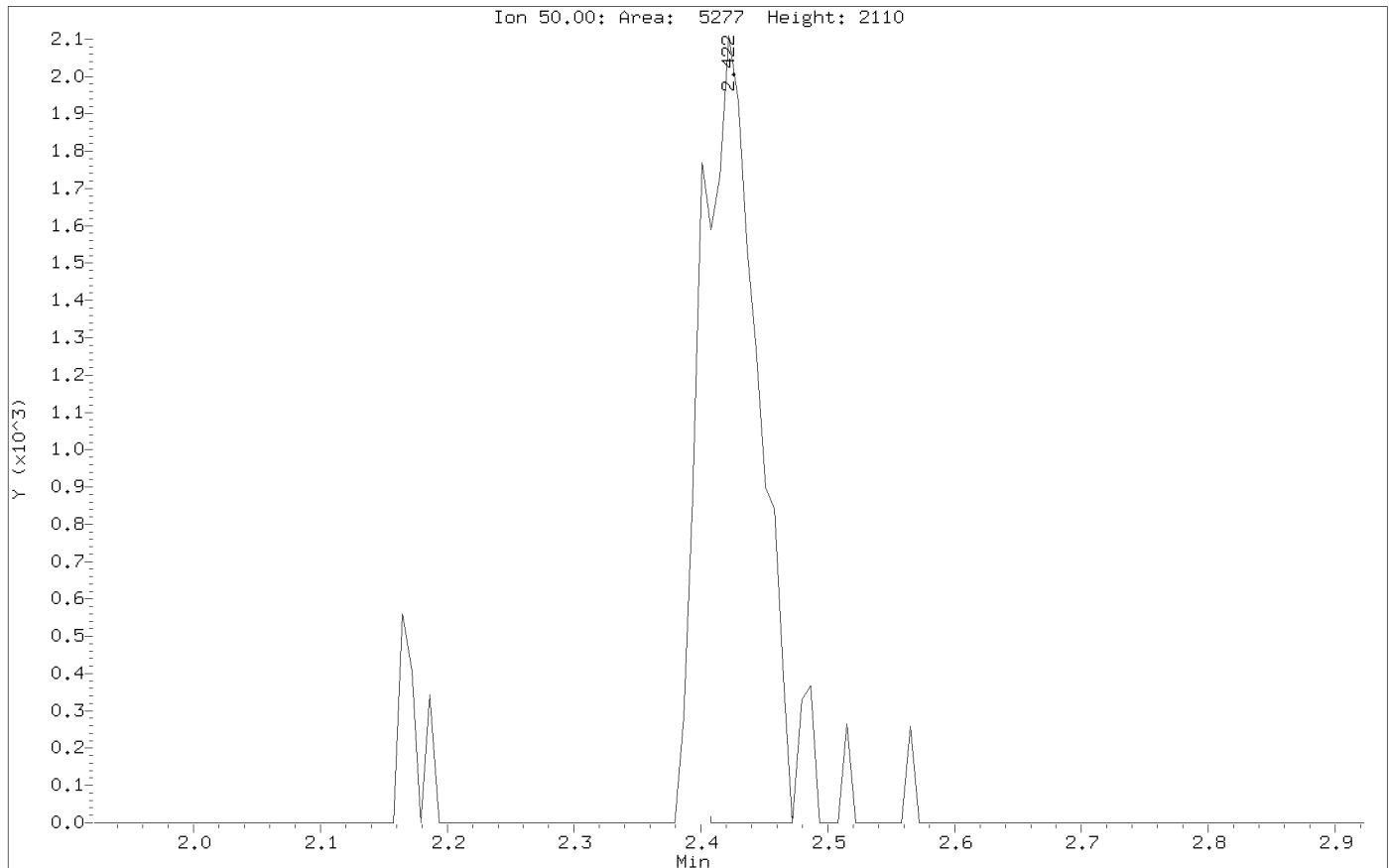
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Instrument: gcms-p.i  
Client Sample ID:

Compound: Chloromethane  
CAS Number: 74-87-3

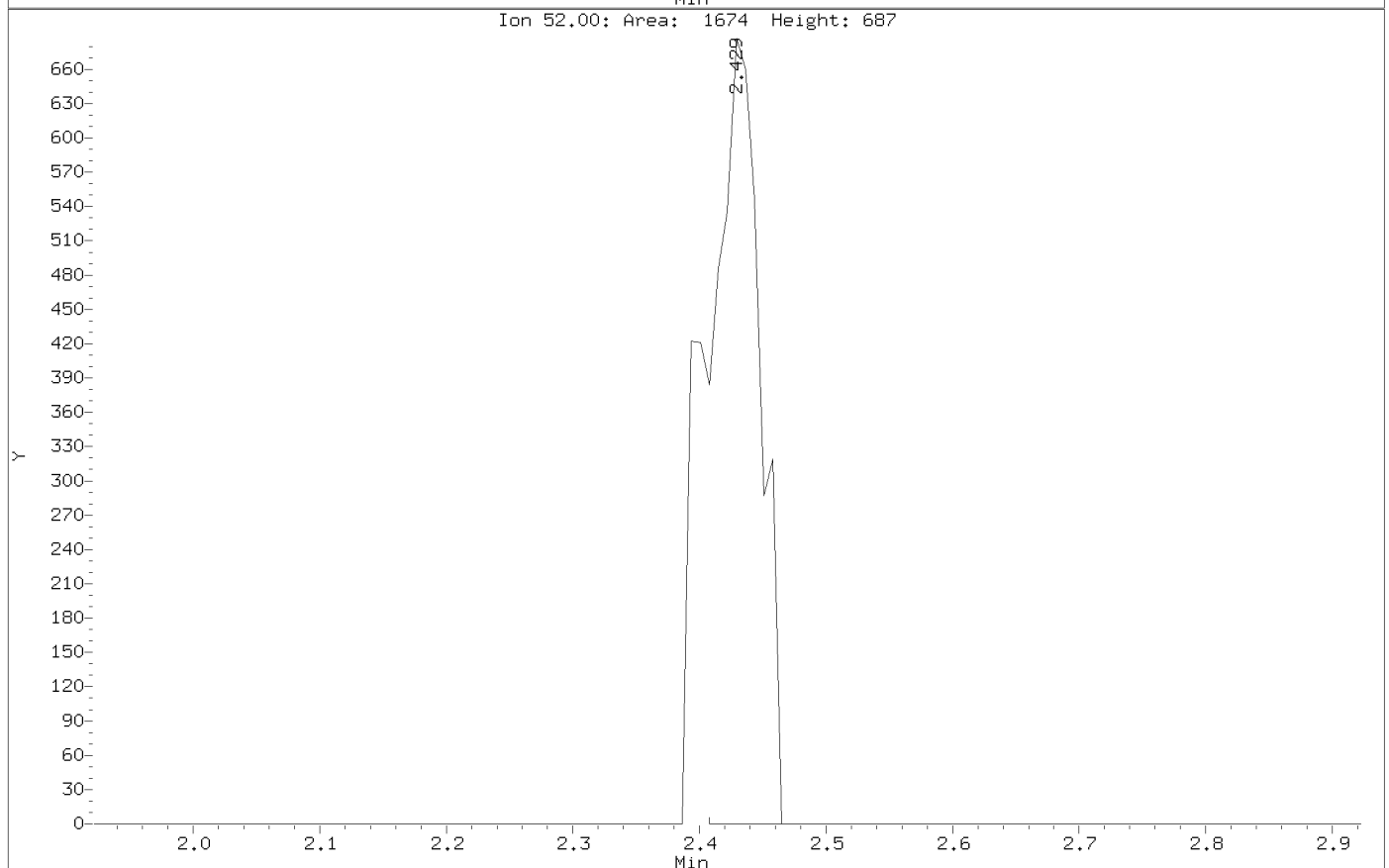
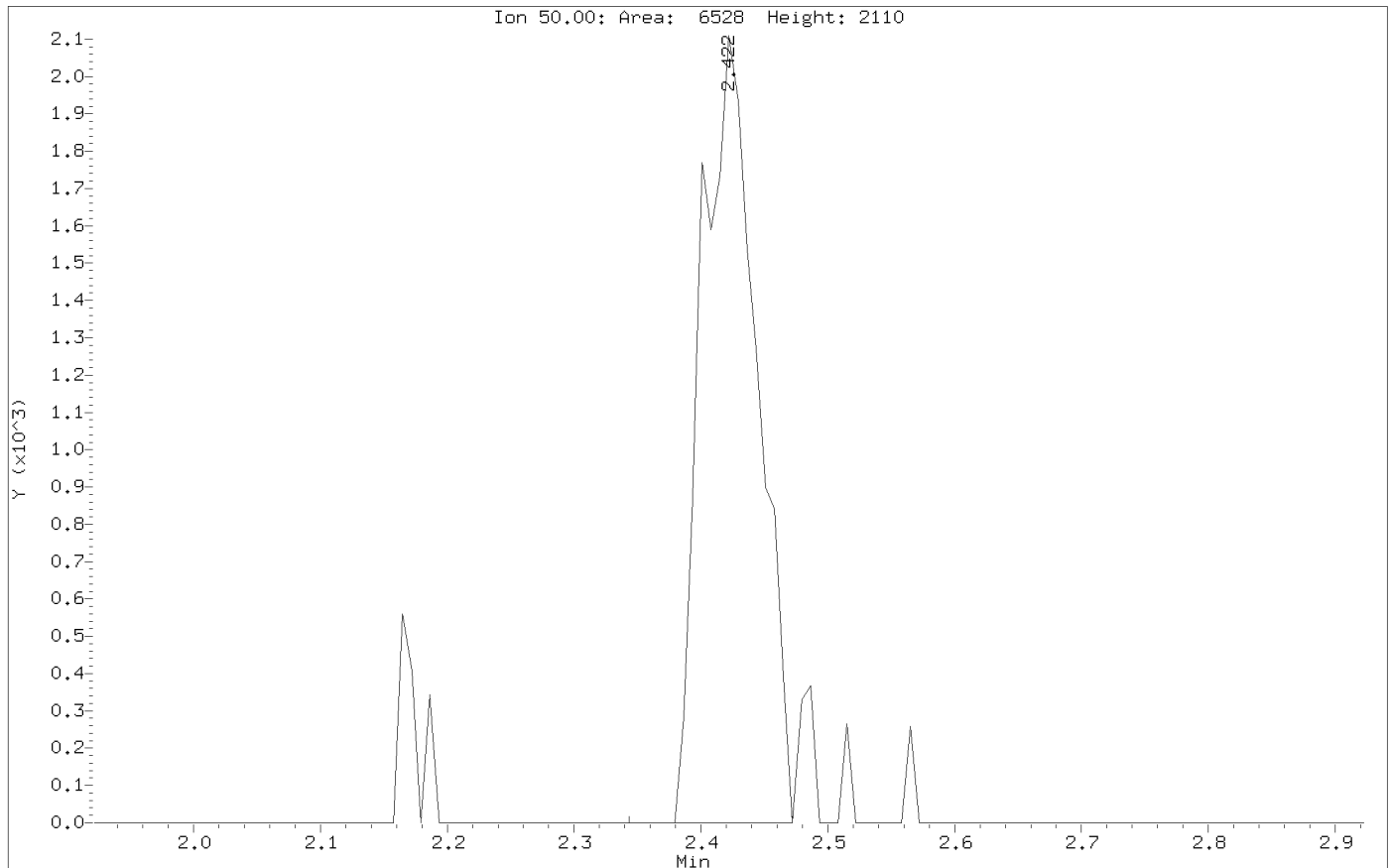
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Instrument: gcms-p.i  
Client Sample ID:

Compound: Chloromethane  
CAS Number: 74-87-3

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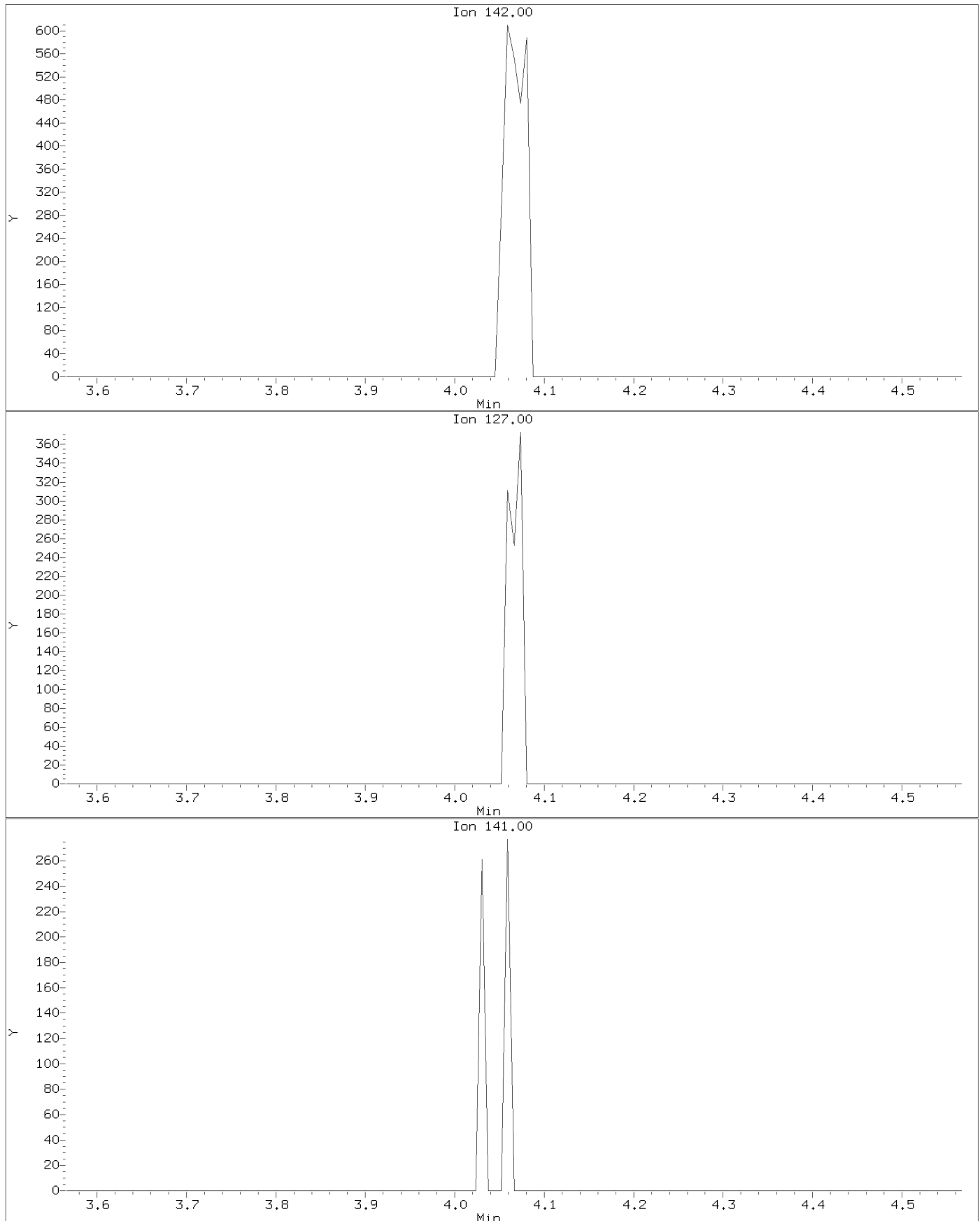




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Compound: Iodomethane  
CAS Number: 74-88-4

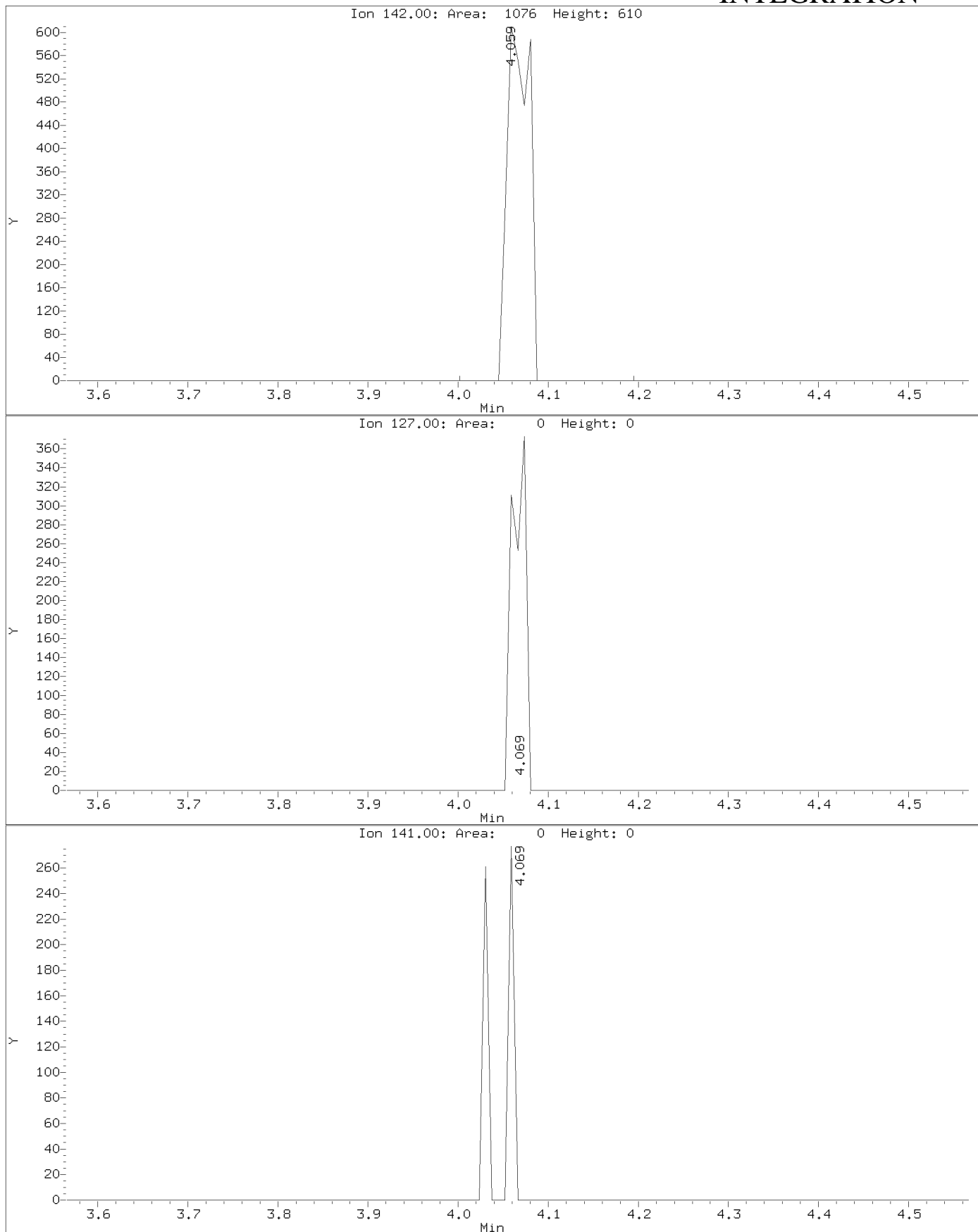
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Compound: Iodomethane  
CAS Number: 74-88-4

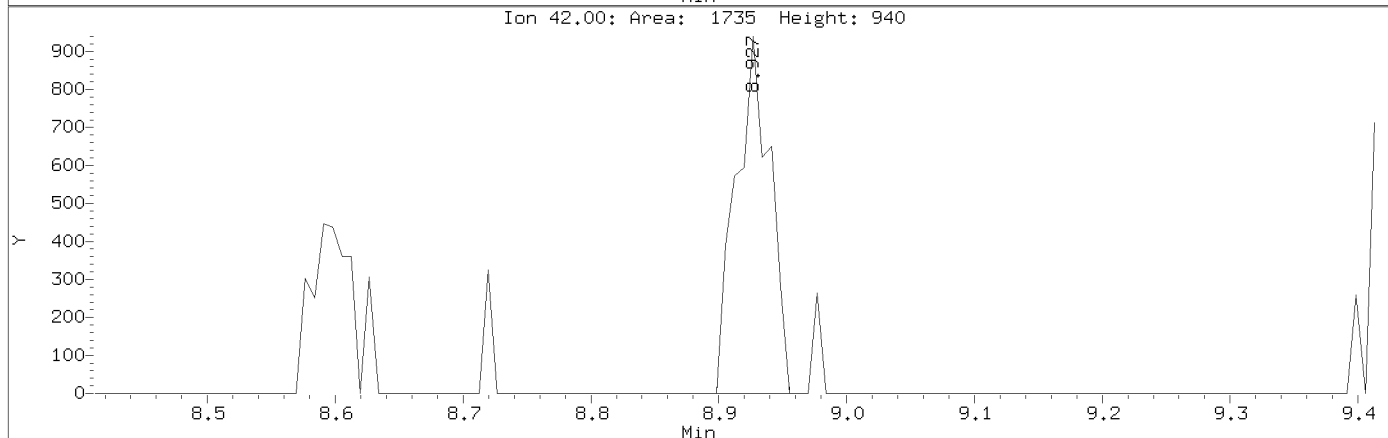
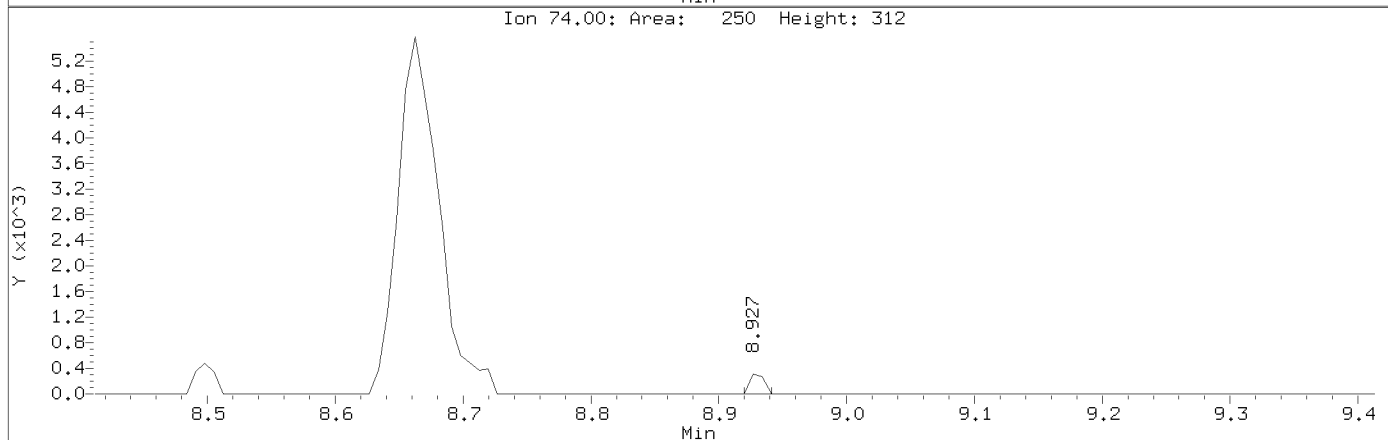
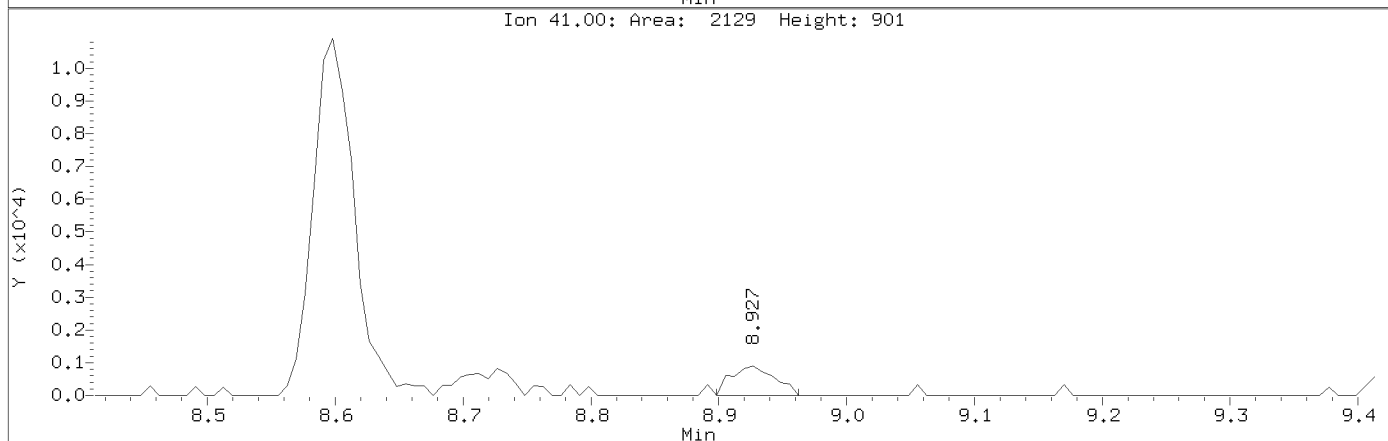
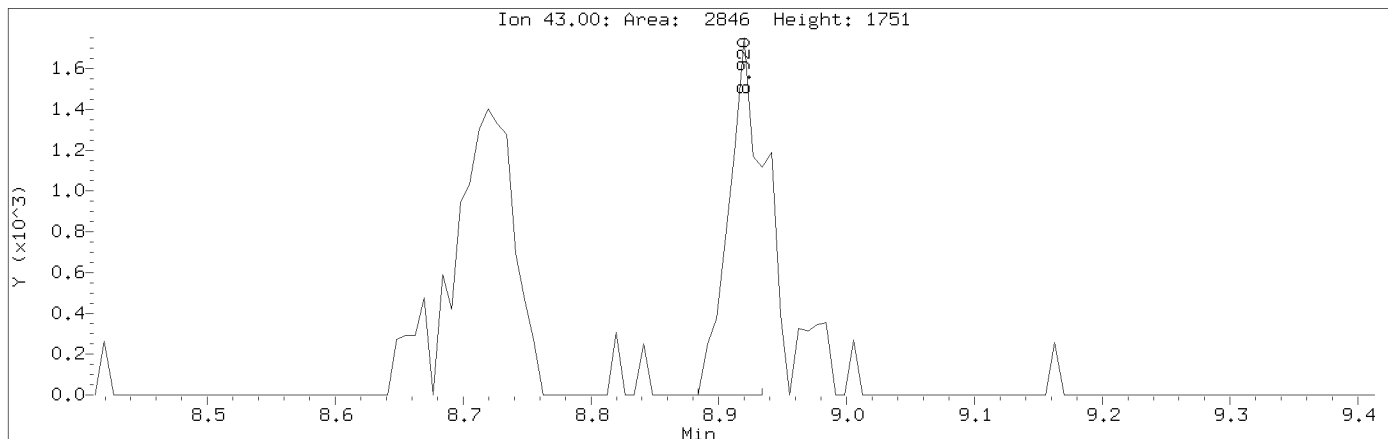
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Client Sample ID:

Compound: Isobutyl Alcohol  
CAS Number: 78-83-1

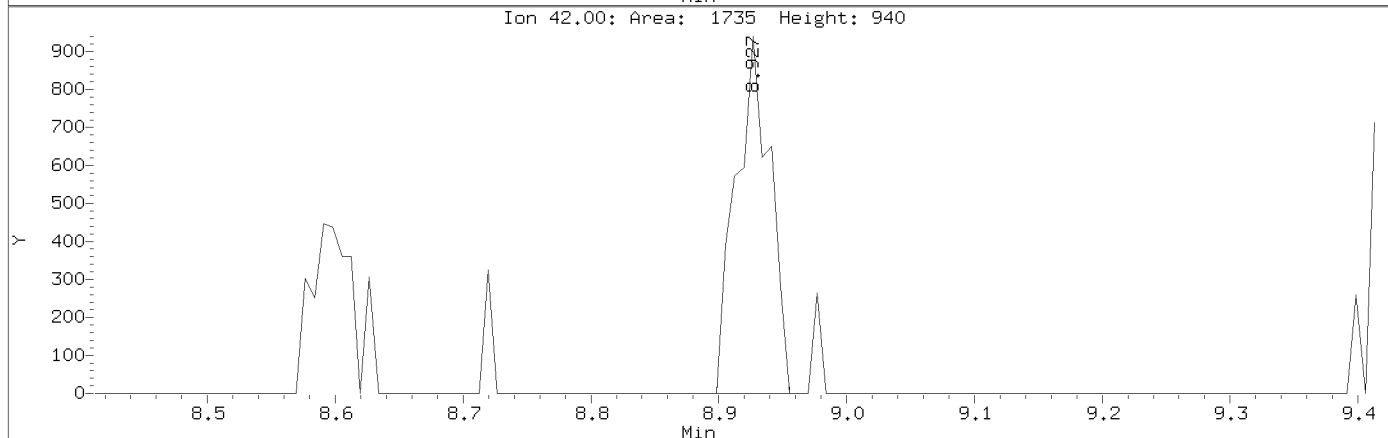
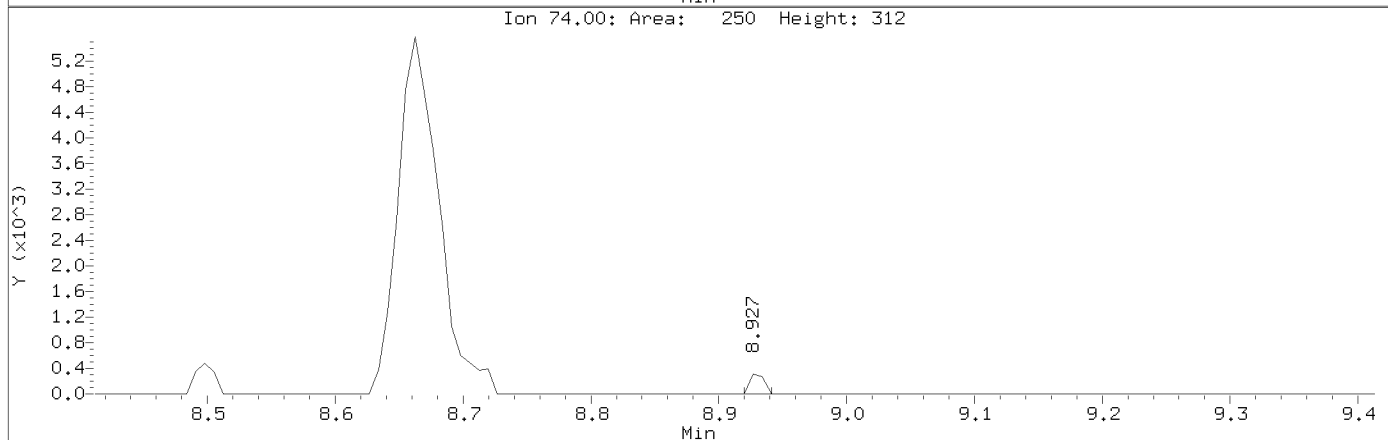
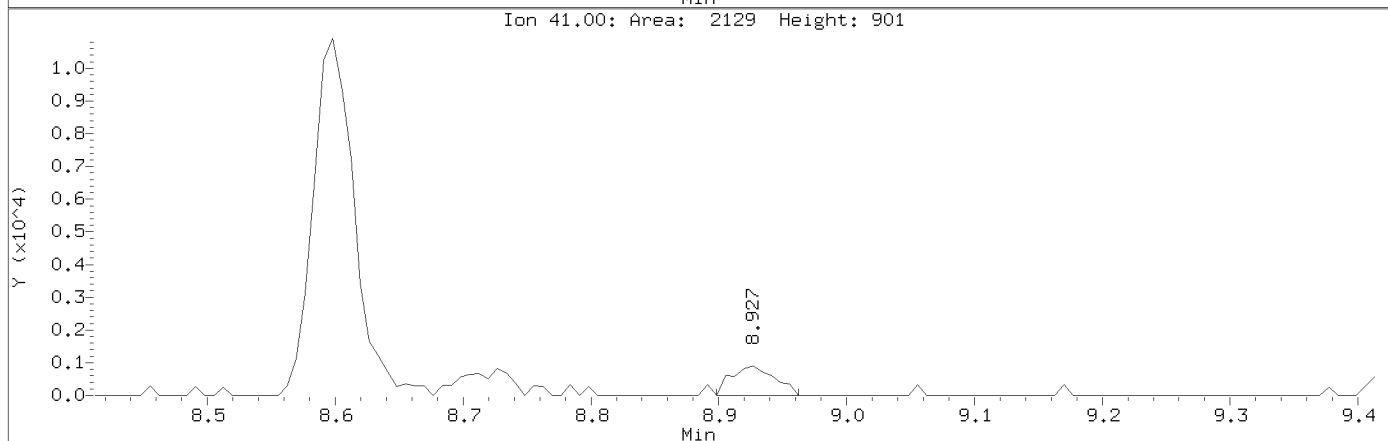
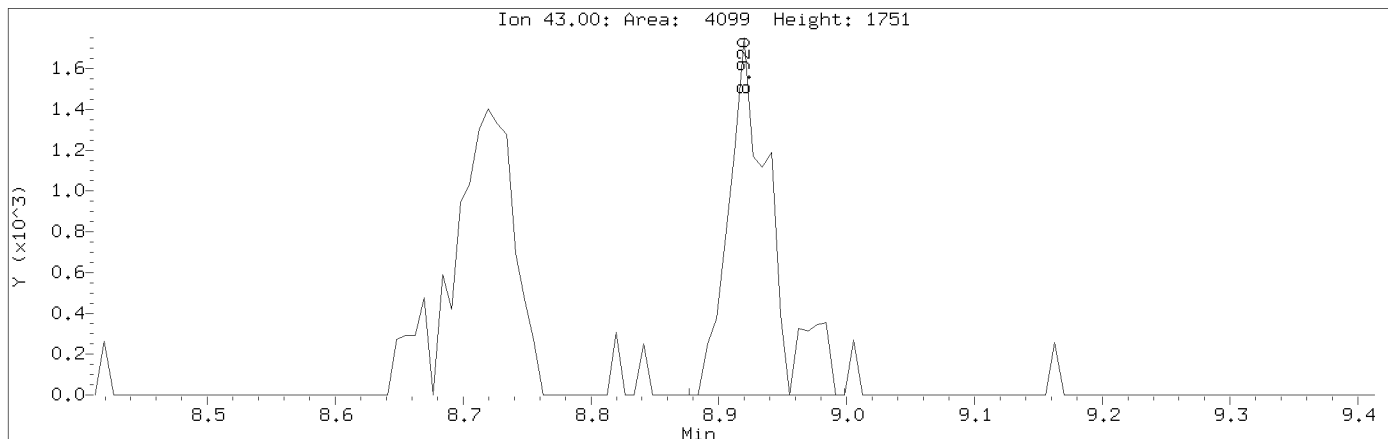
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Client Sample ID:

Compound: Isobutyl Alcohol  
CAS Number: 78-83-1

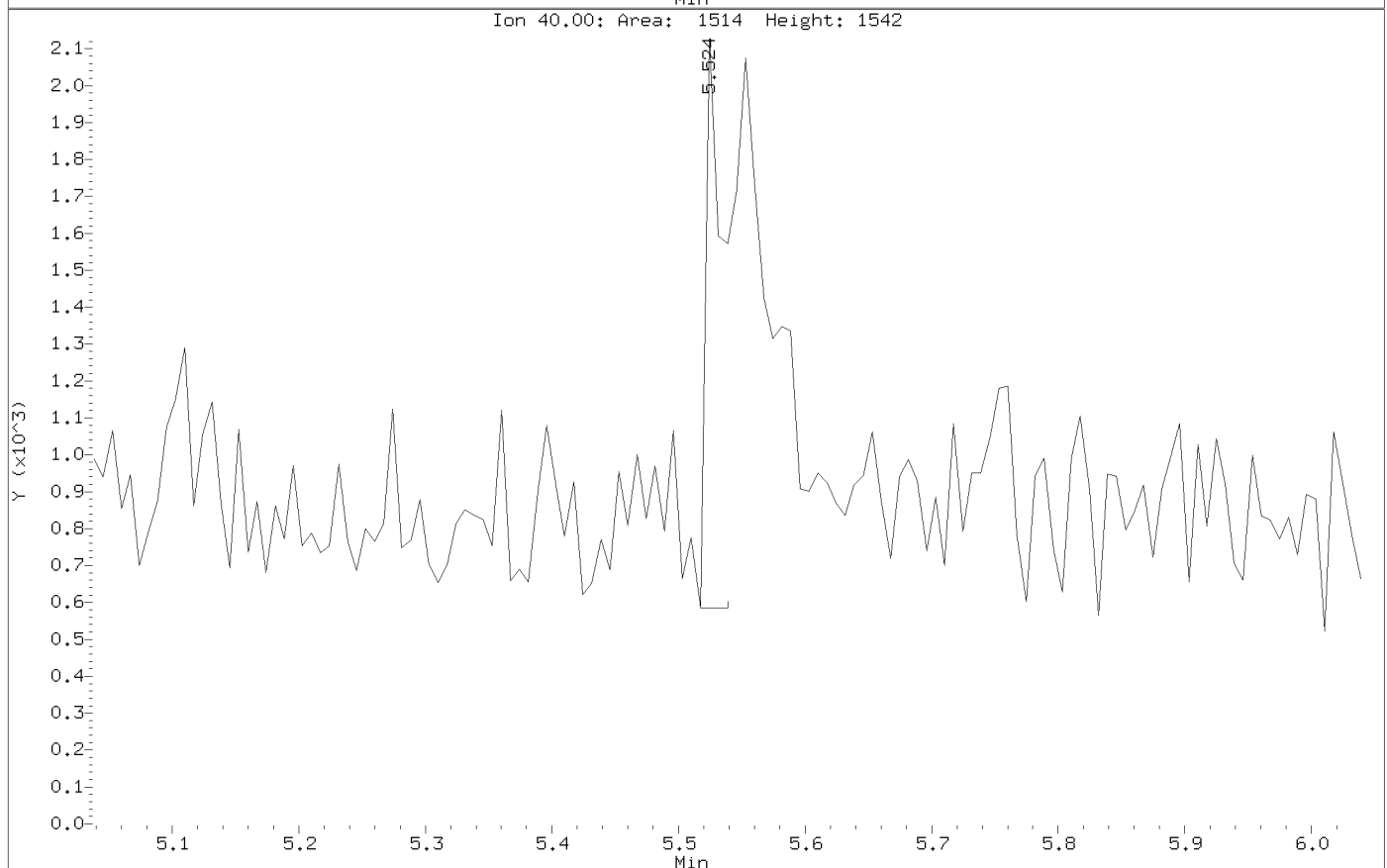
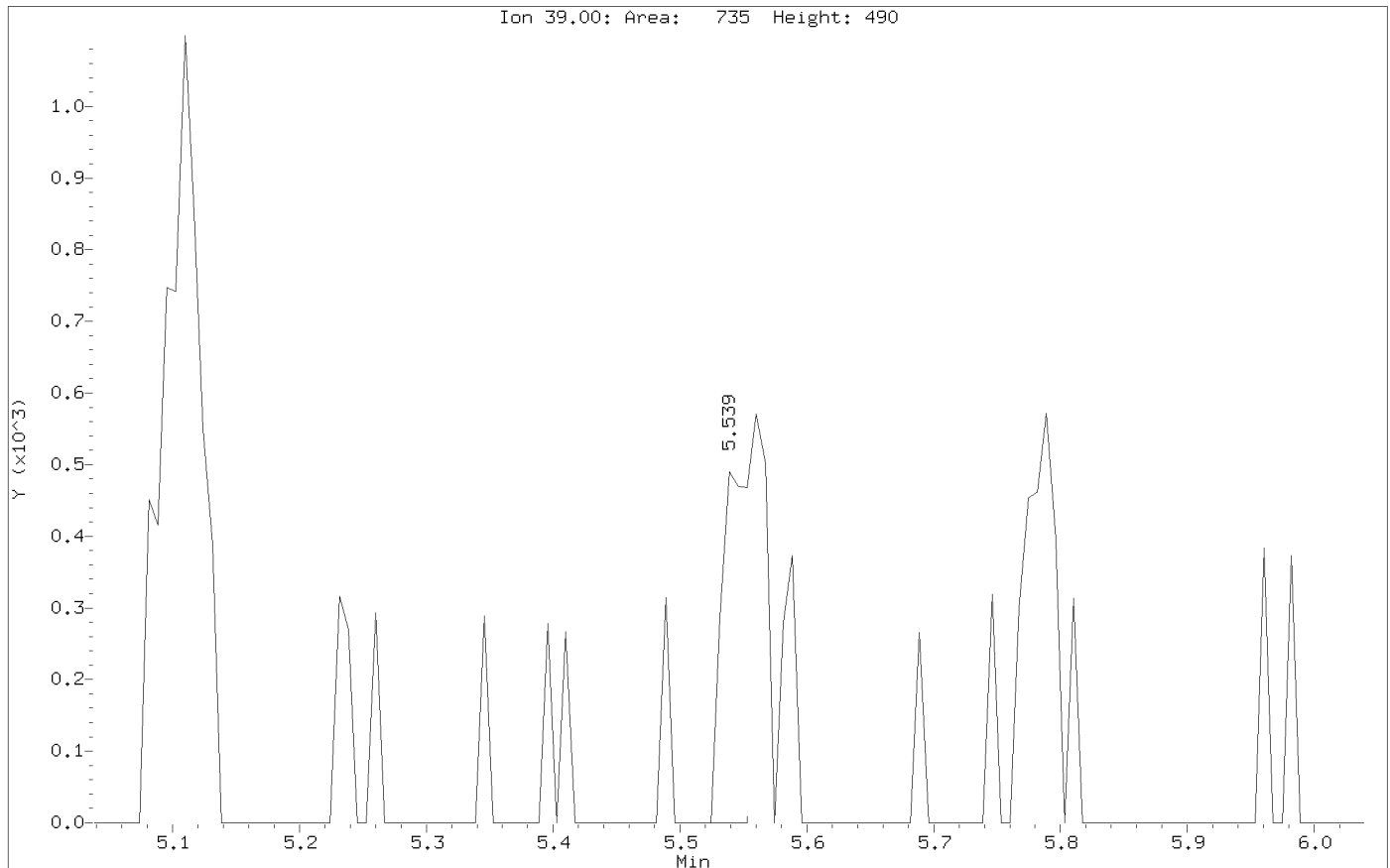
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Instrument: gcms-p.i  
Client Sample ID:

Compound: Acetonitrile  
CAS Number: 75-05-8

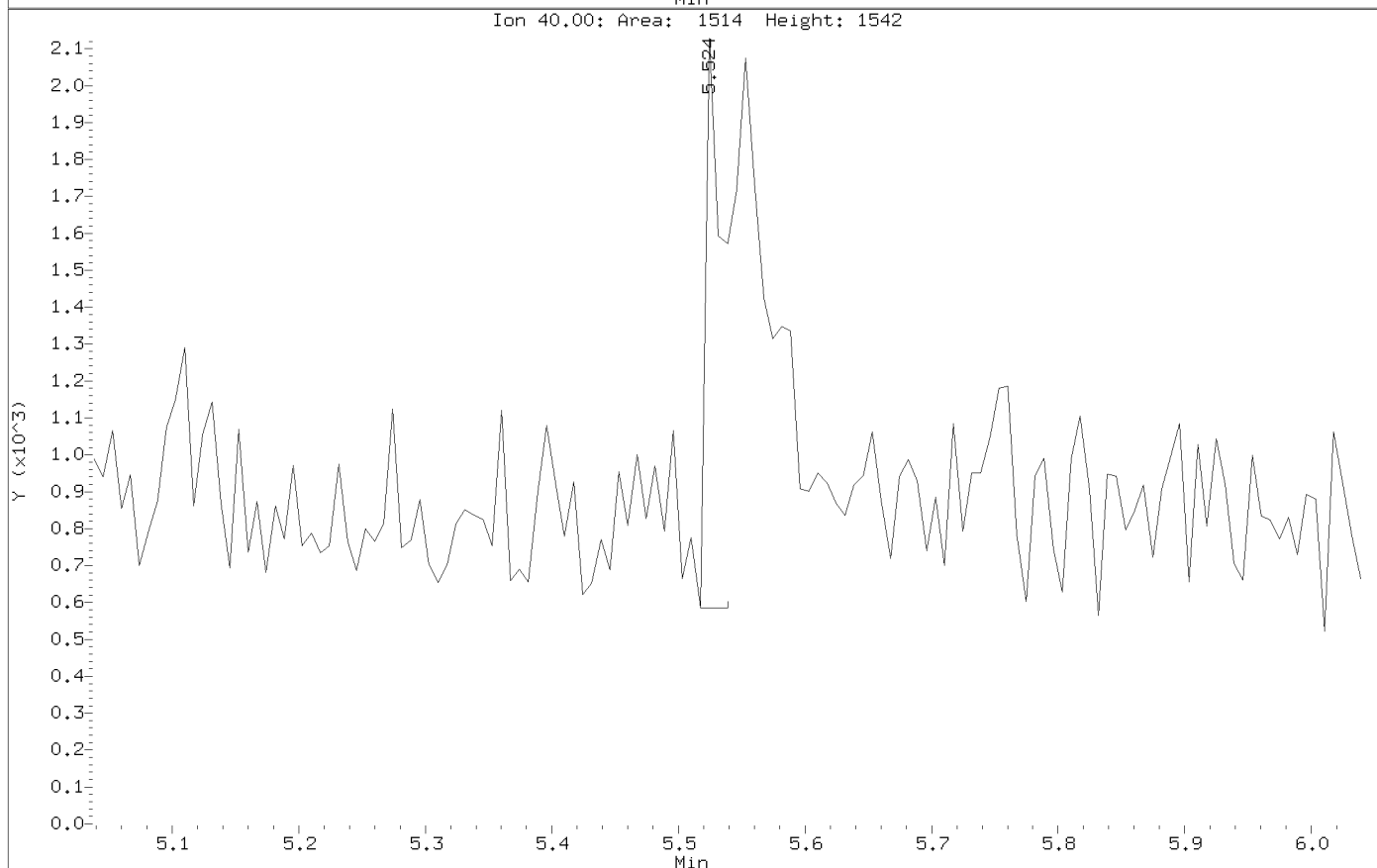
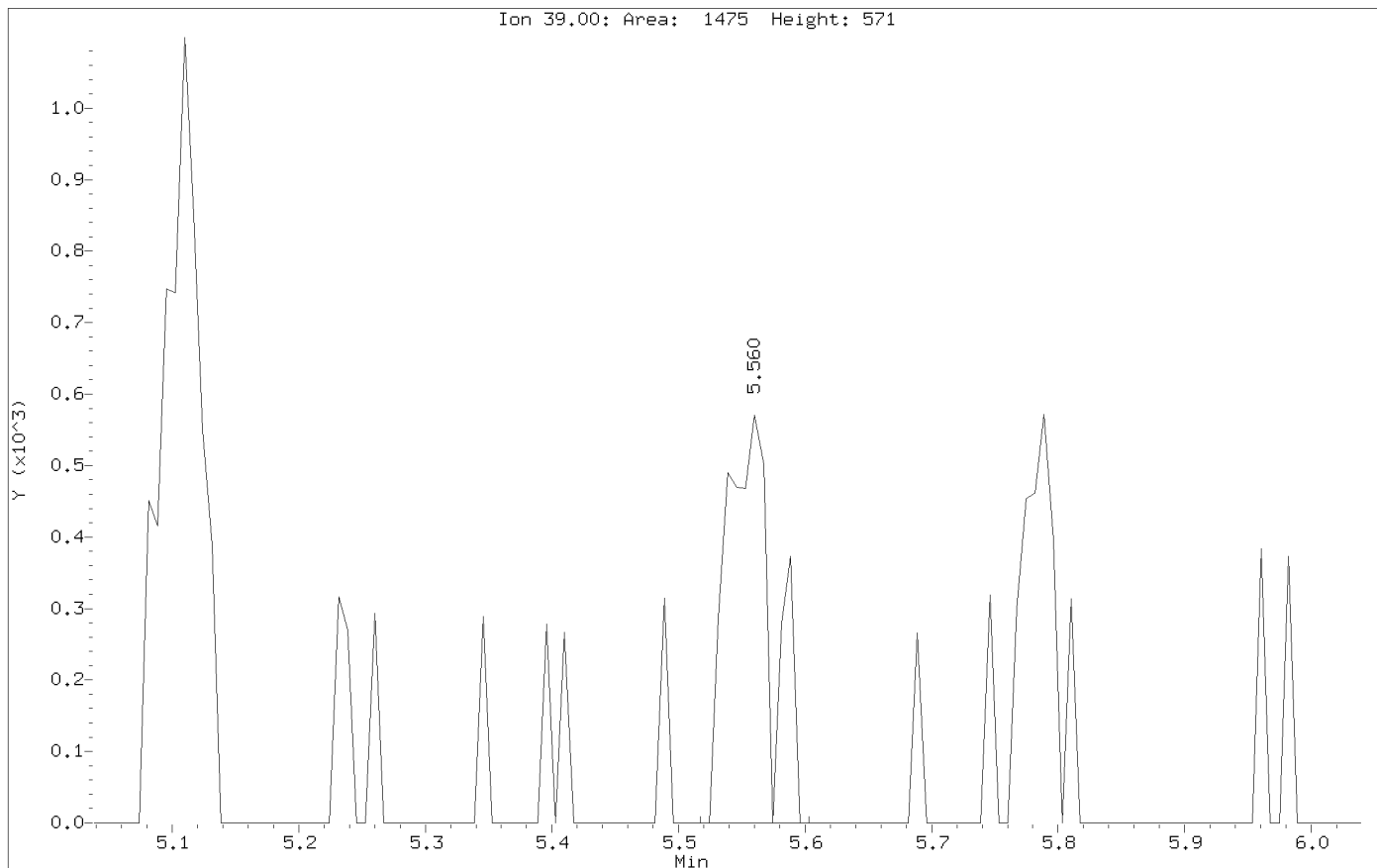
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Instrument: gcms-p.i  
Client Sample ID:

# AFTER MANUAL INTEGRATION

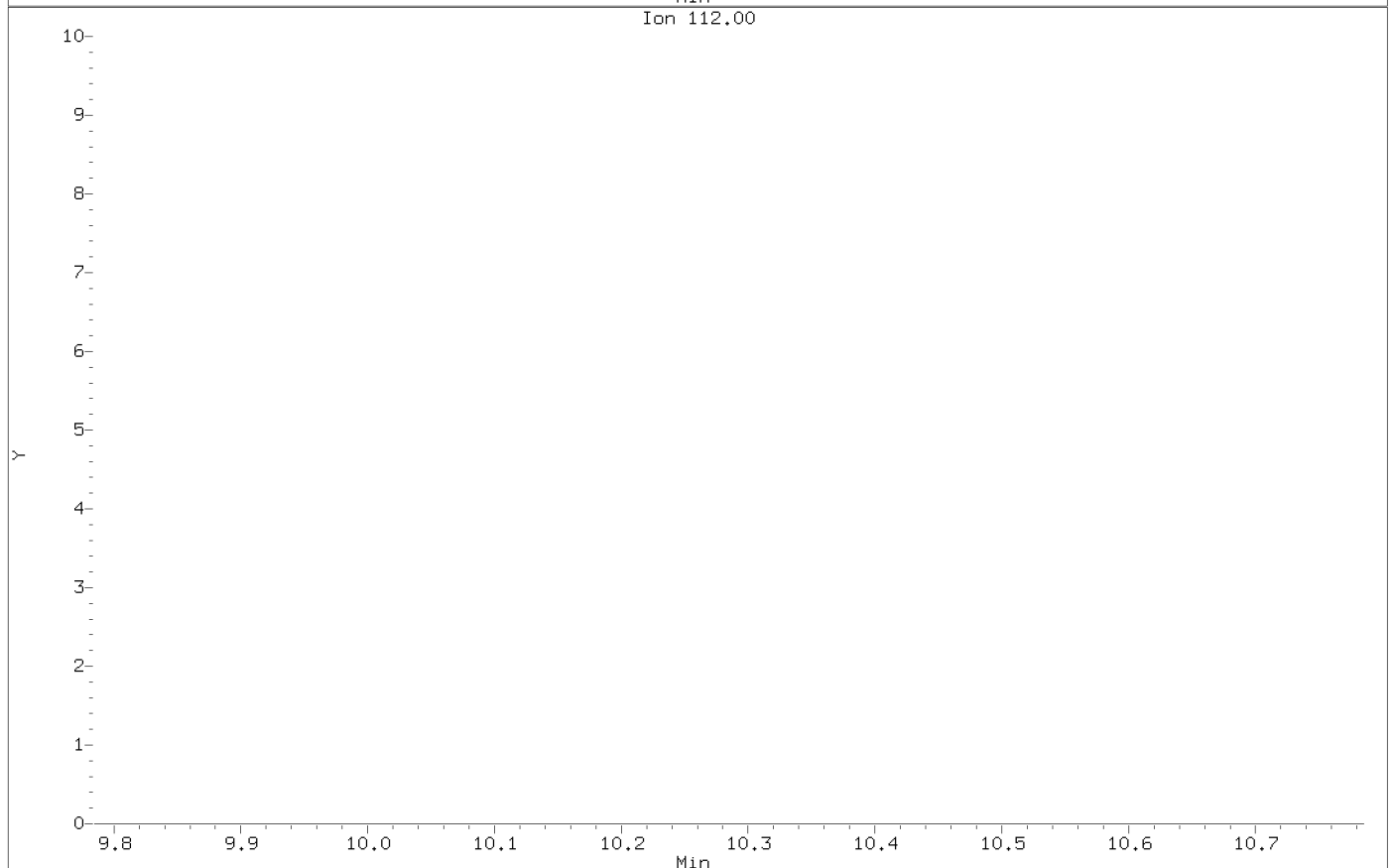
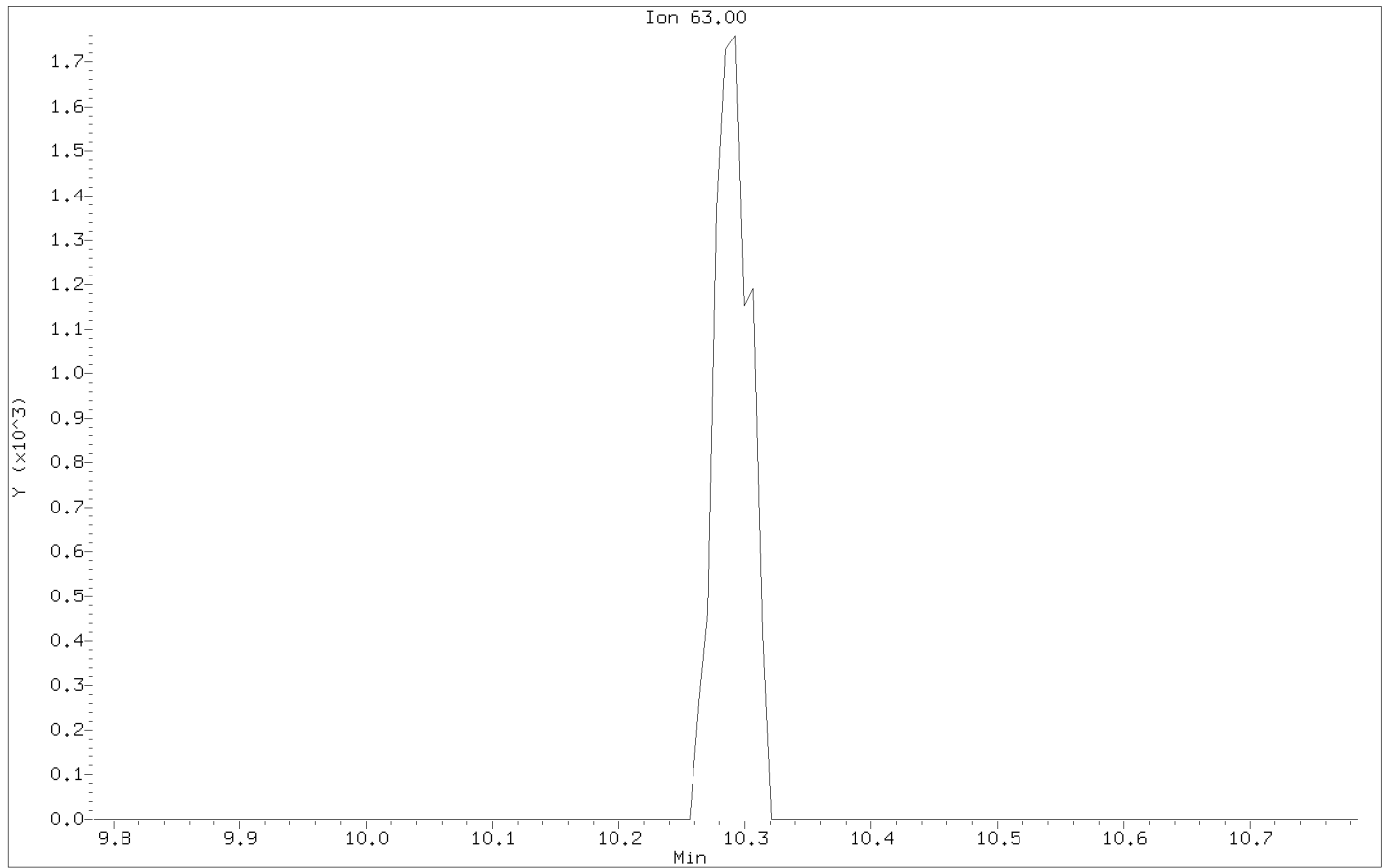
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CAS Number: 75-05-8



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Instrument: gcms-p.i  
Client Sample ID:

Compound: 1,2-Dichloropropane  
CAS Number: 78-87-5

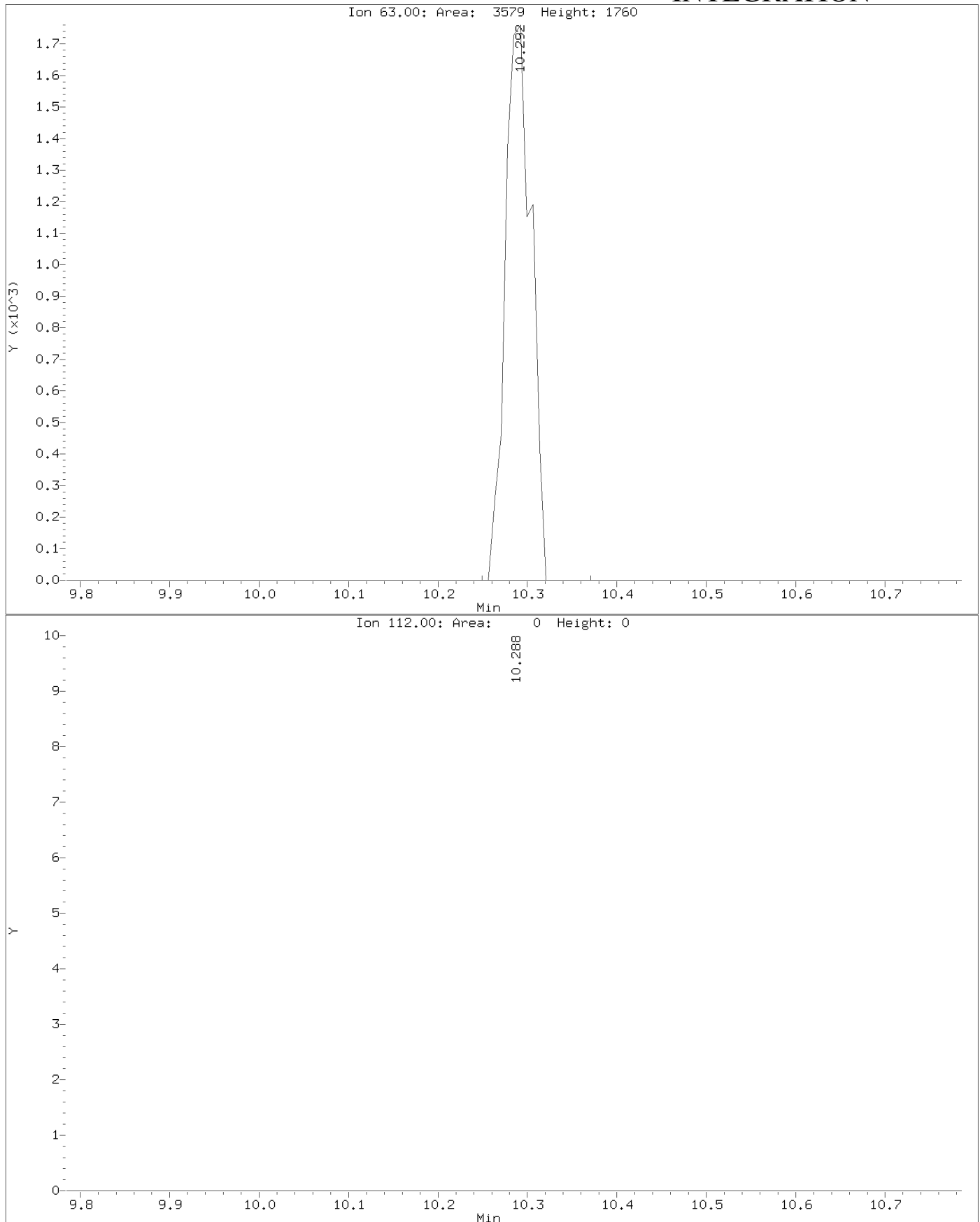
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Client Sample ID:

Compound: 1,2-Dichloropropane  
CAS Number: 78-87-5

# AFTER MANUAL INTEGRATION

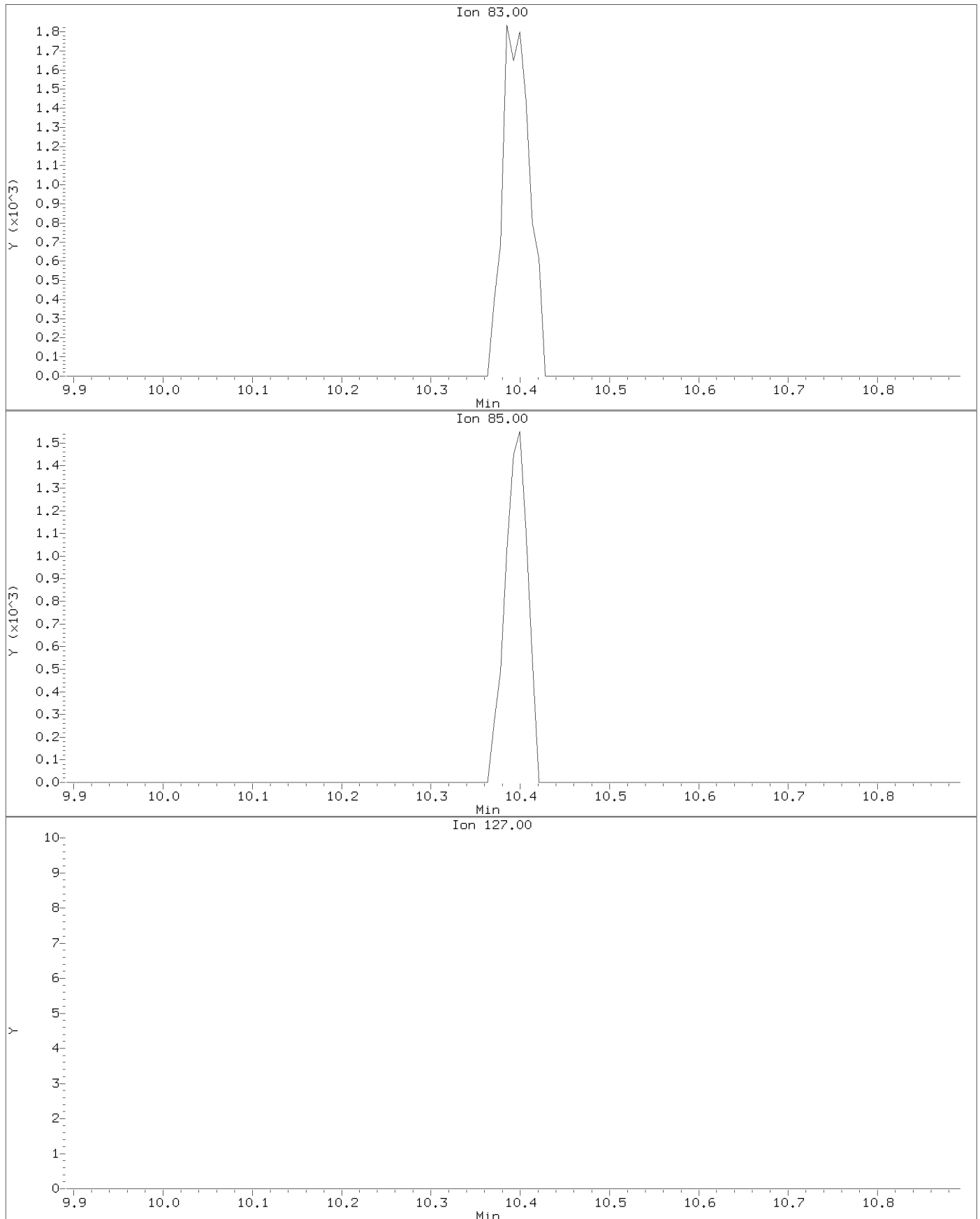




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Compound: Bromodichloromethane  
CAS Number: 75-27-4

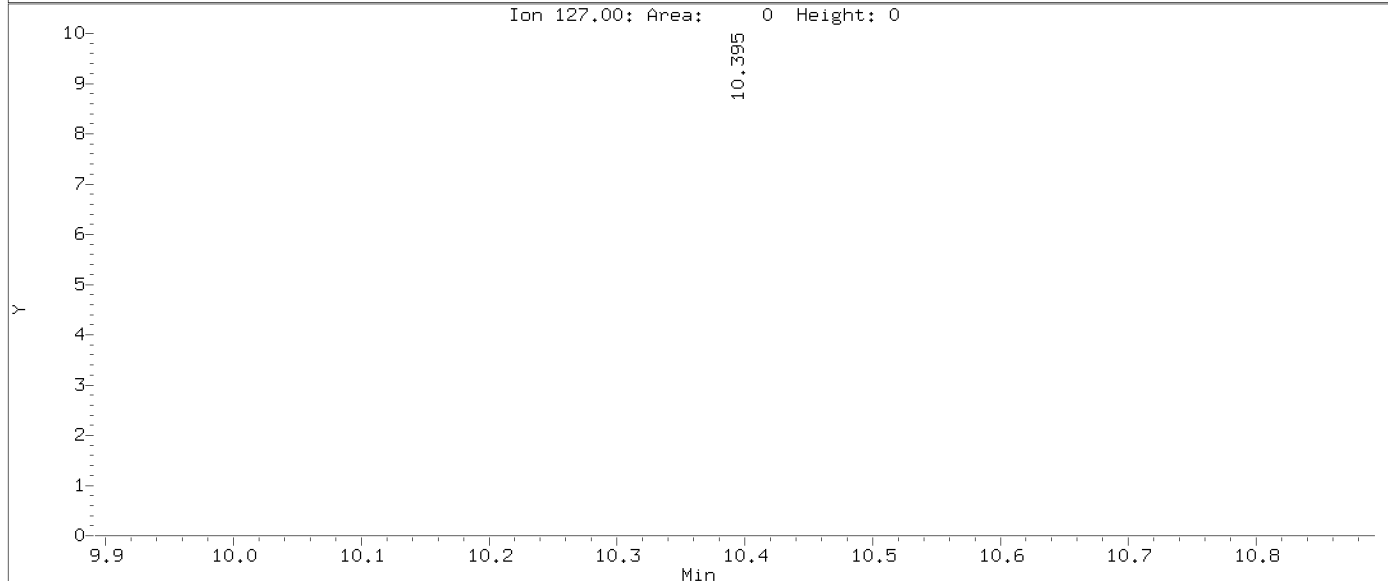
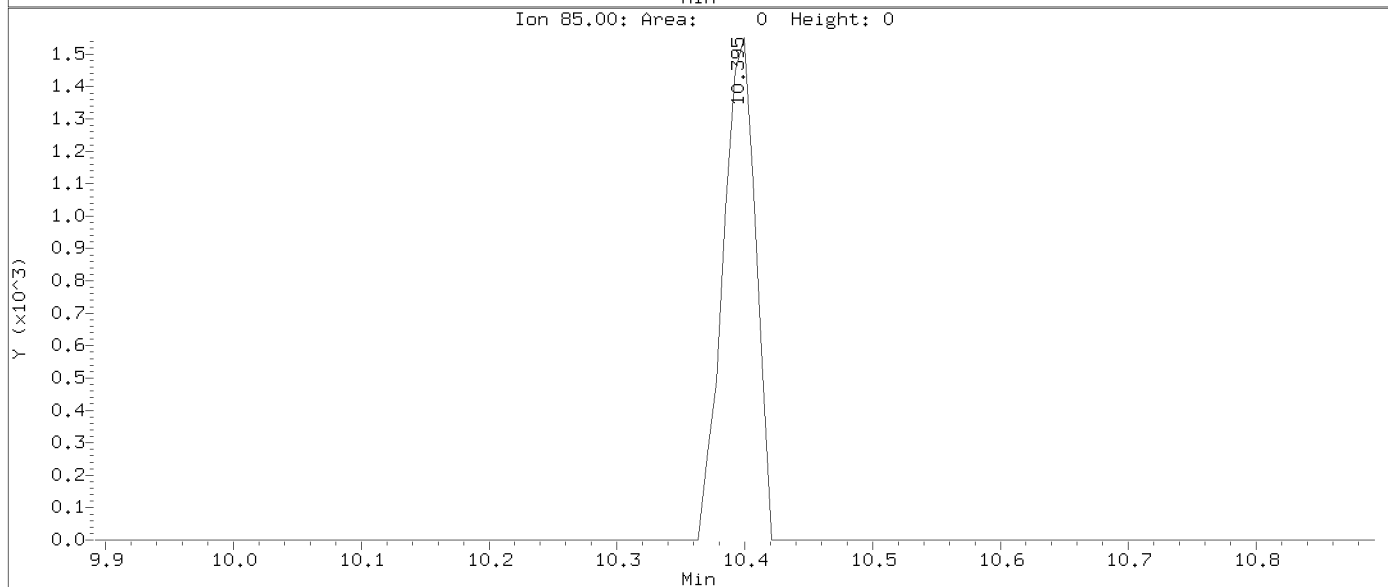
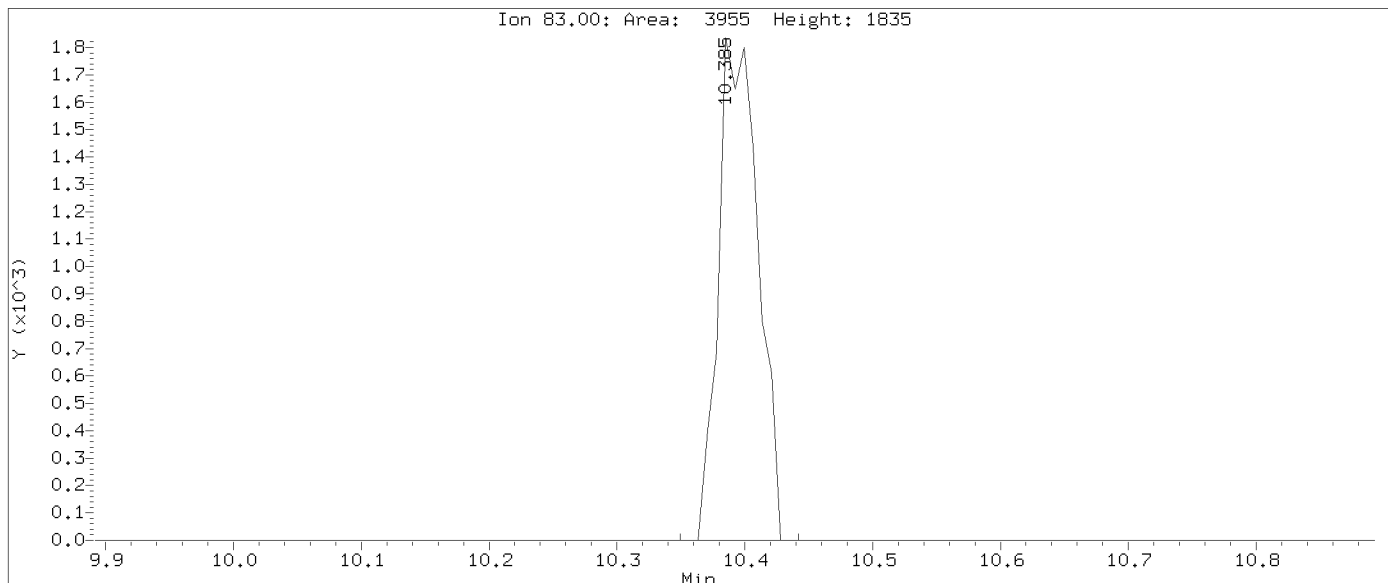
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Compound: Bromodichloromethane  
CAS Number: 75-27-4

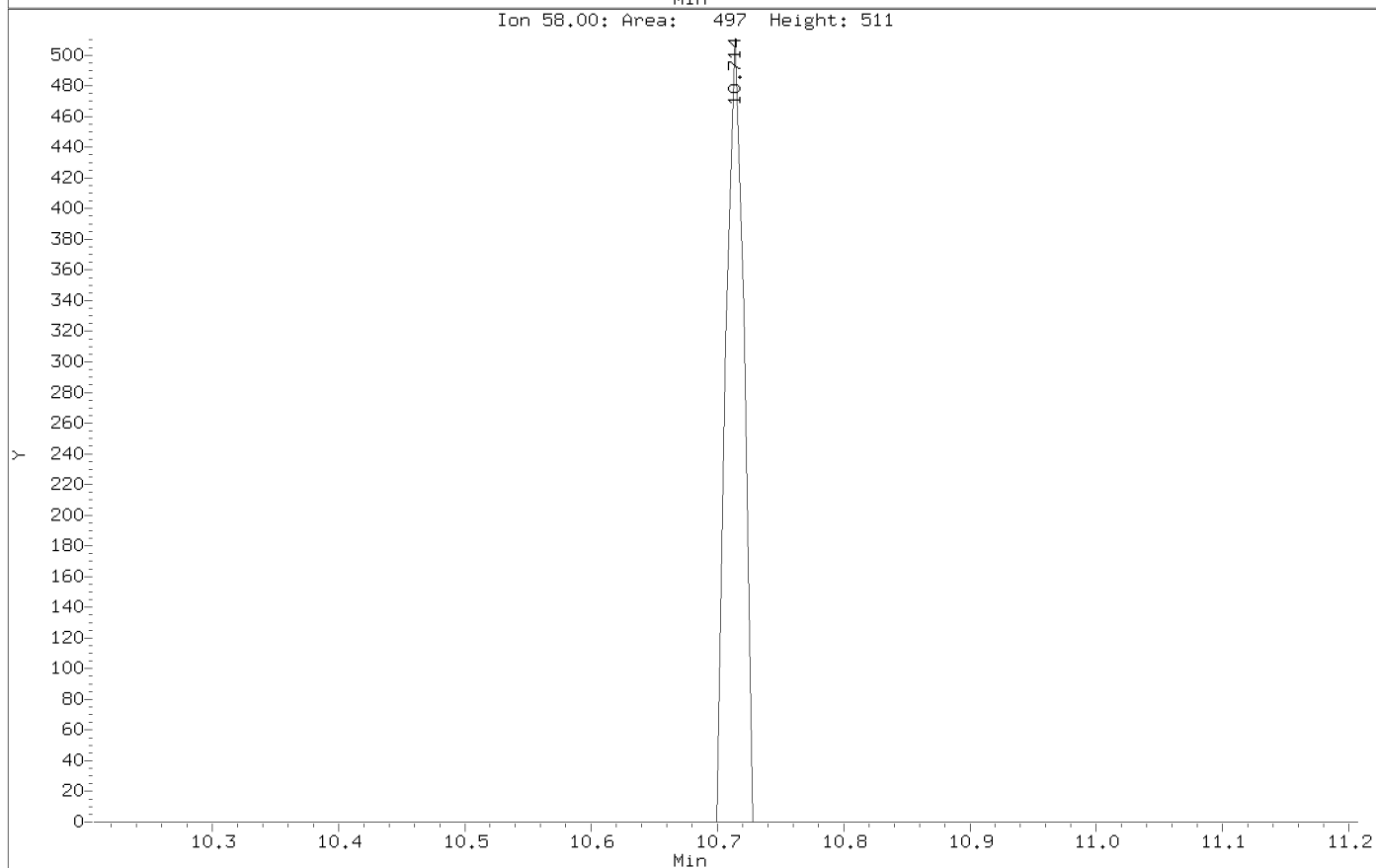
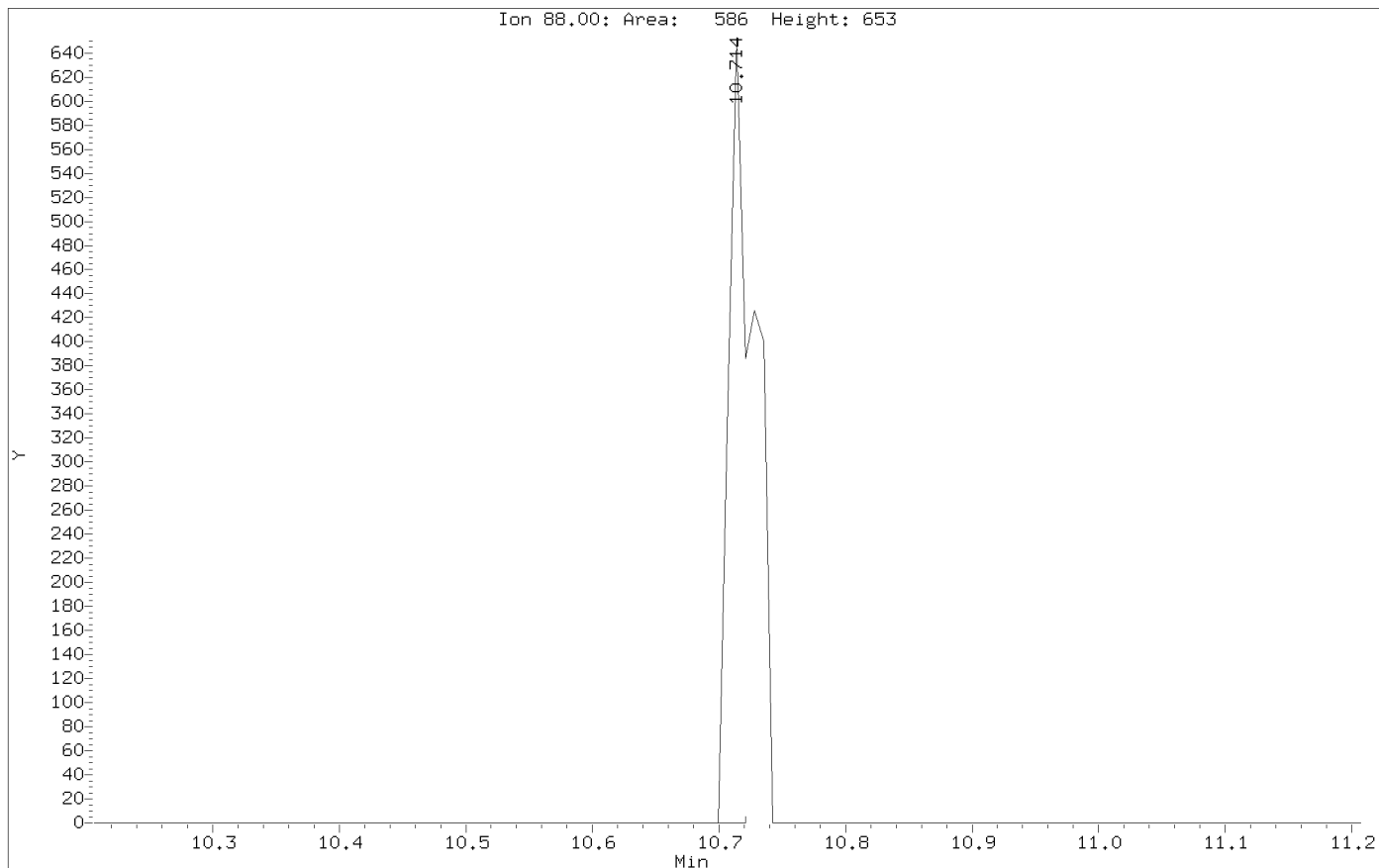
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Instrument: gcms-p.i  
Client Sample ID:

Compound: 1,4-Dioxane  
CAS Number: 123-91-1

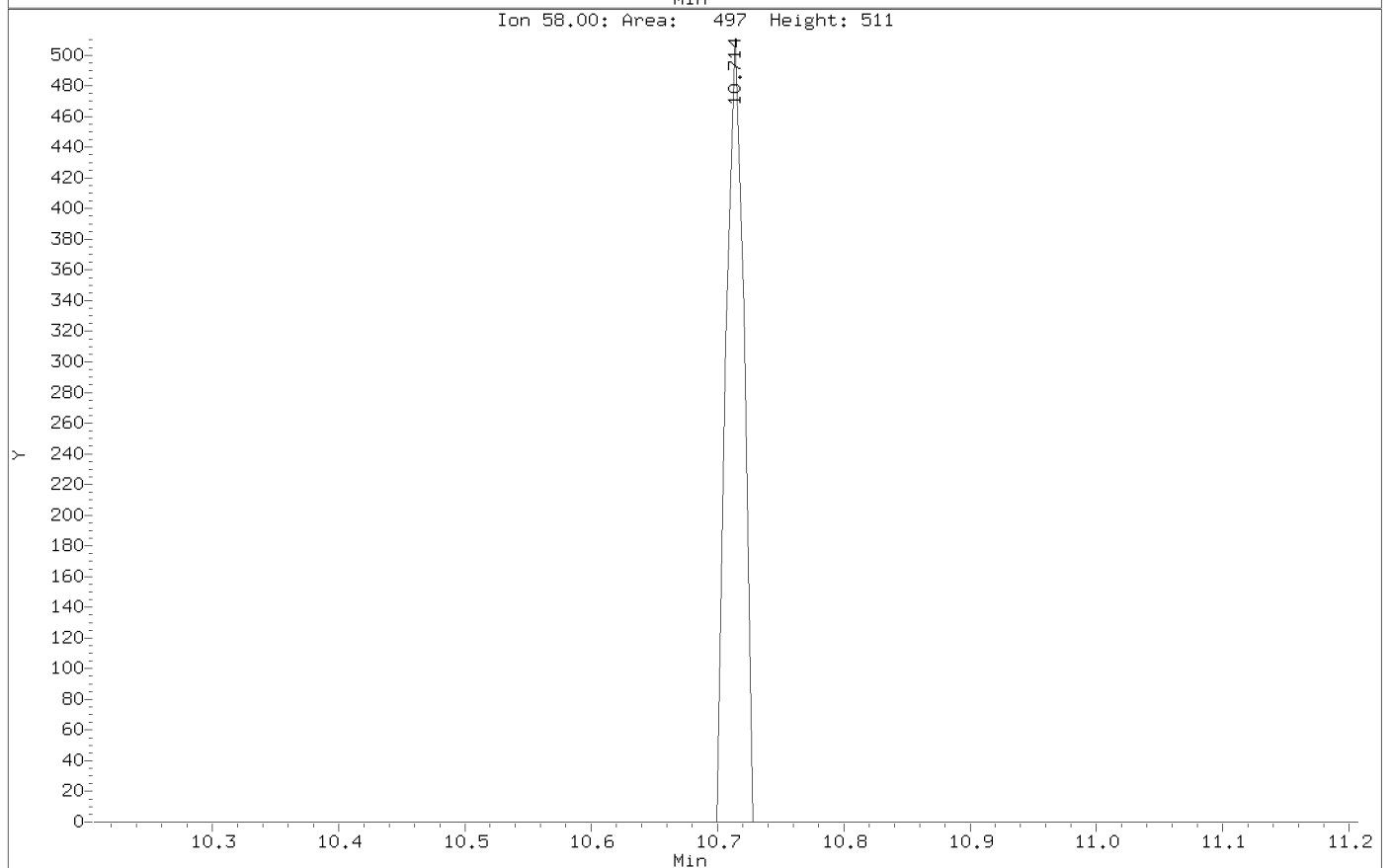
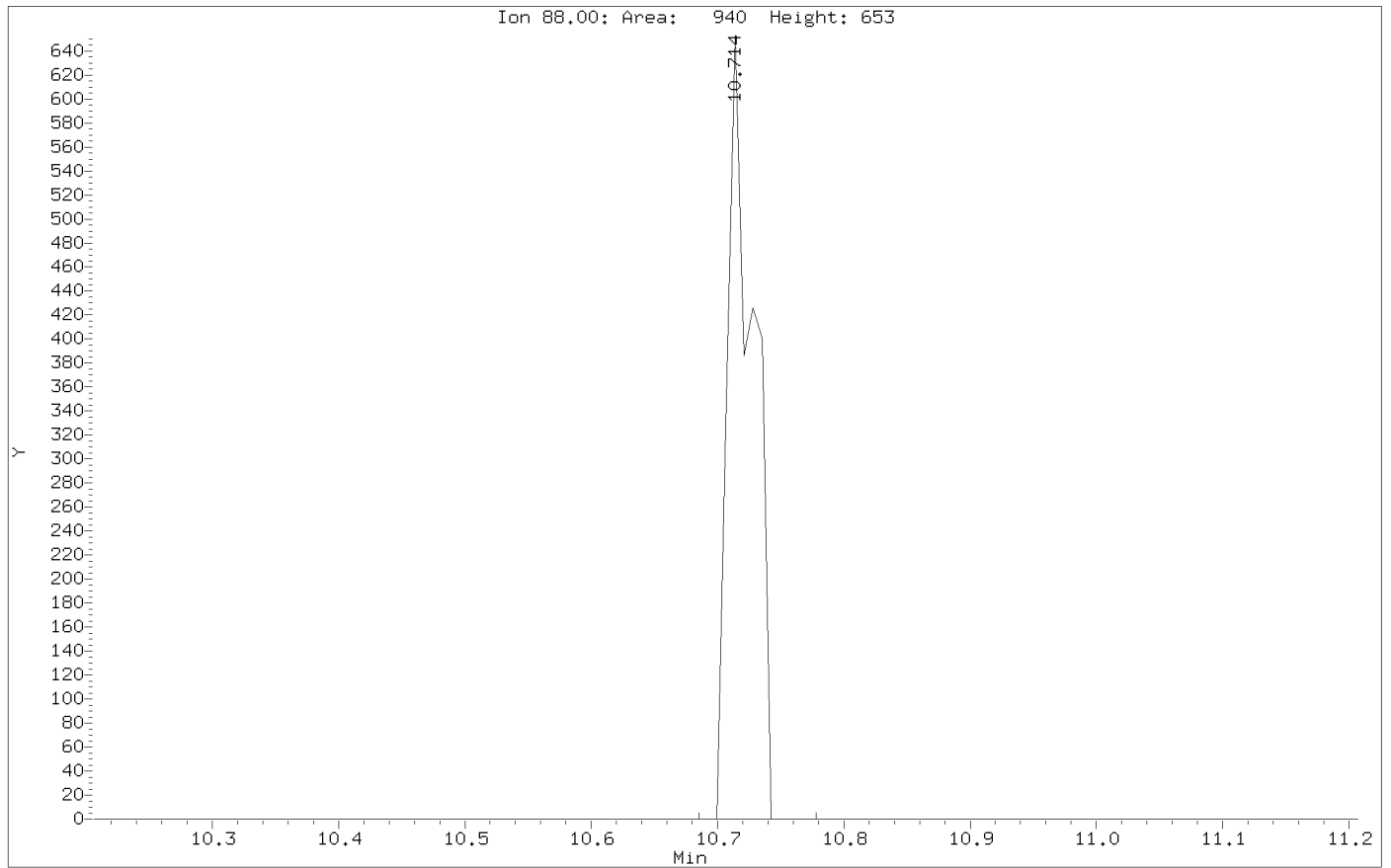
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Compound: 1,4-Dioxane  
CAS Number: 123-91-1

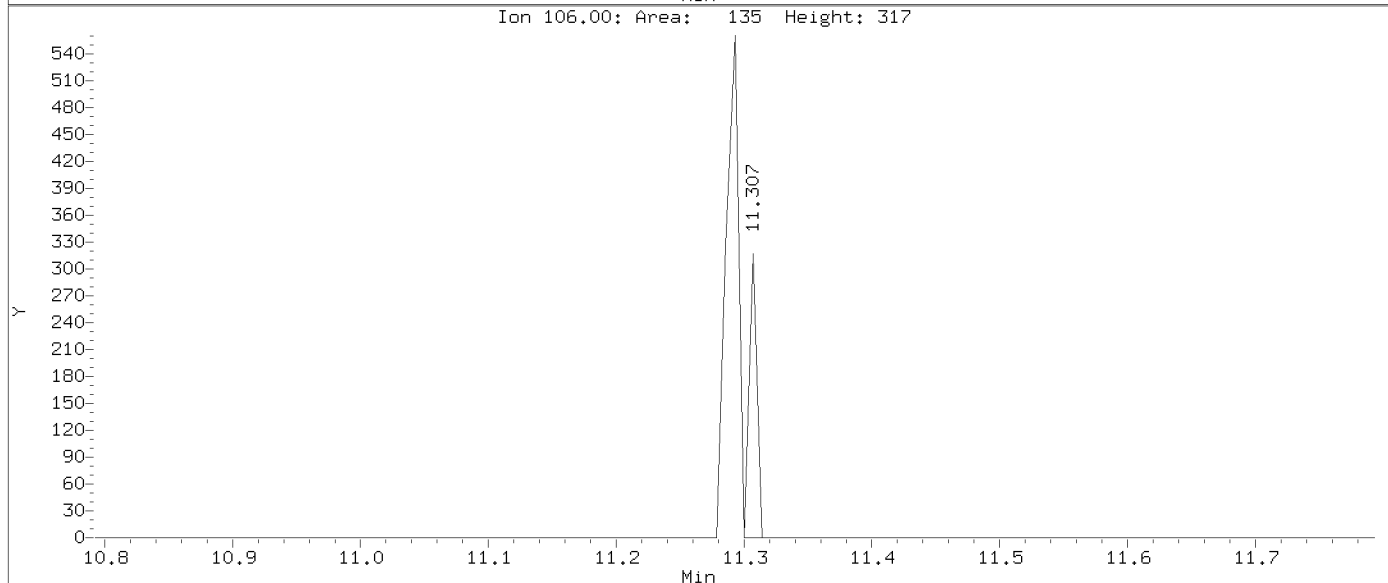
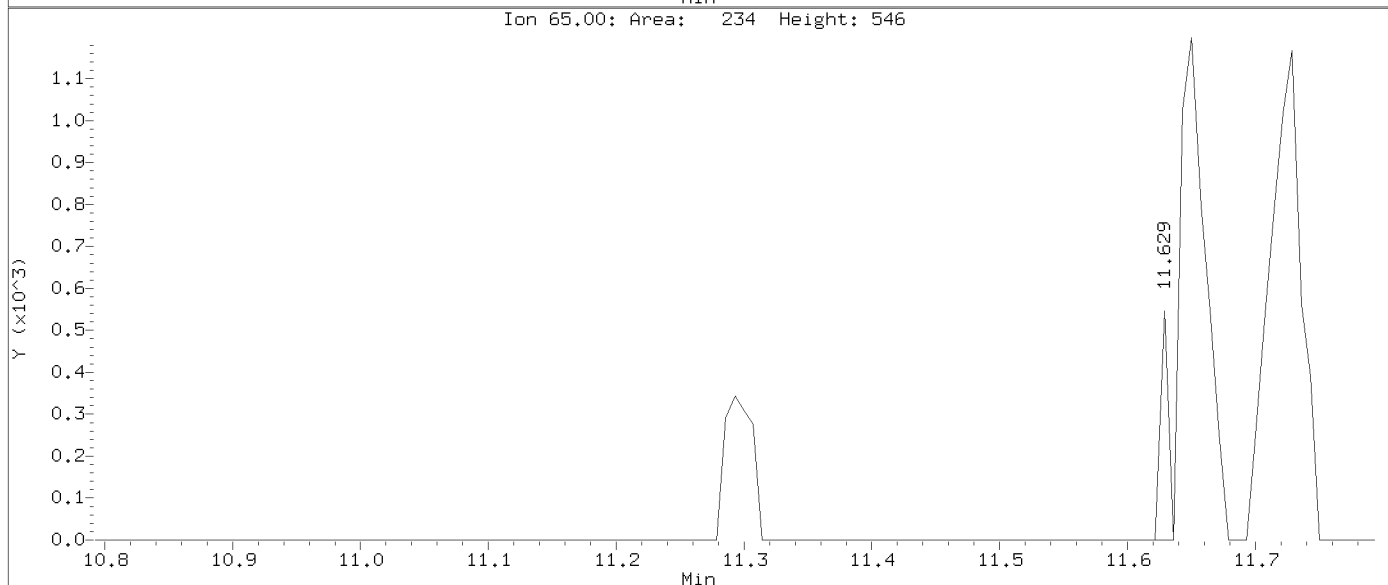
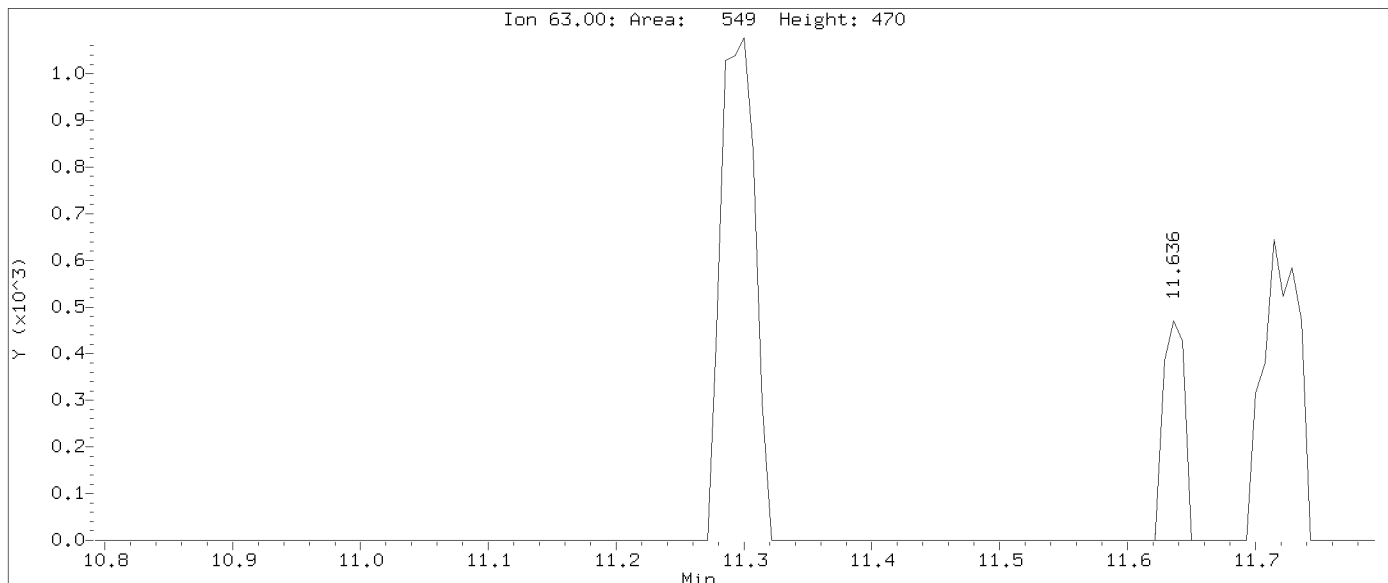
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Instrument: gcms-p.i  
Client Sample ID:

Compound: 2-Chloroethylvinylether  
CAS Number: 110-75-8

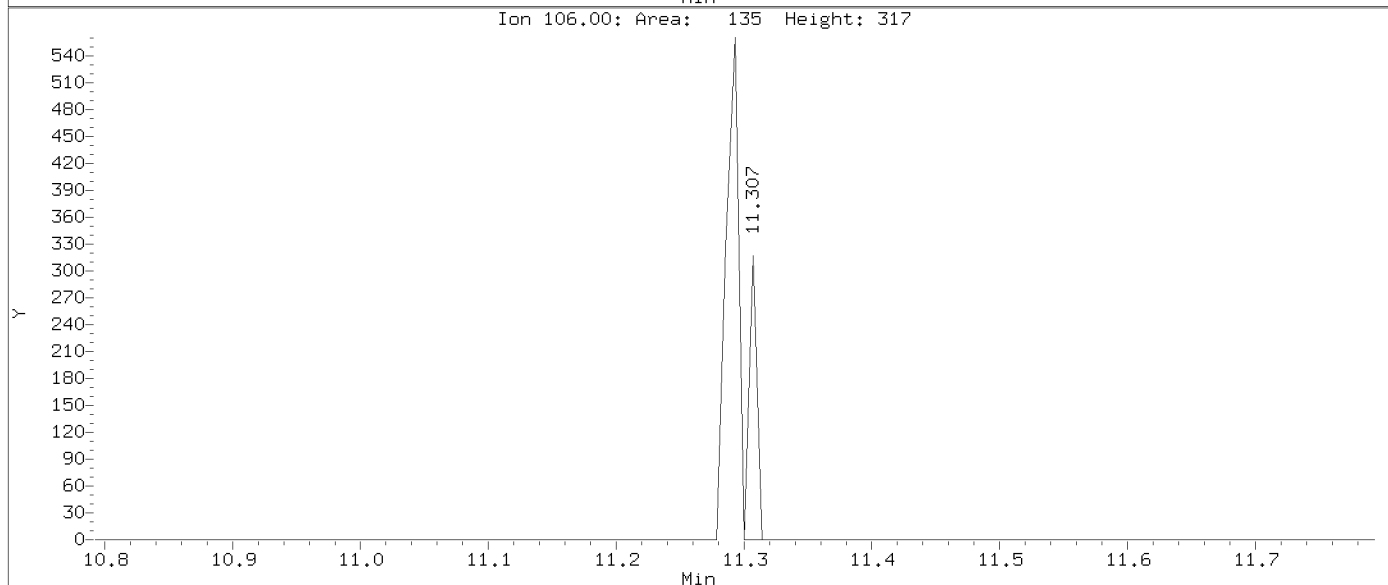
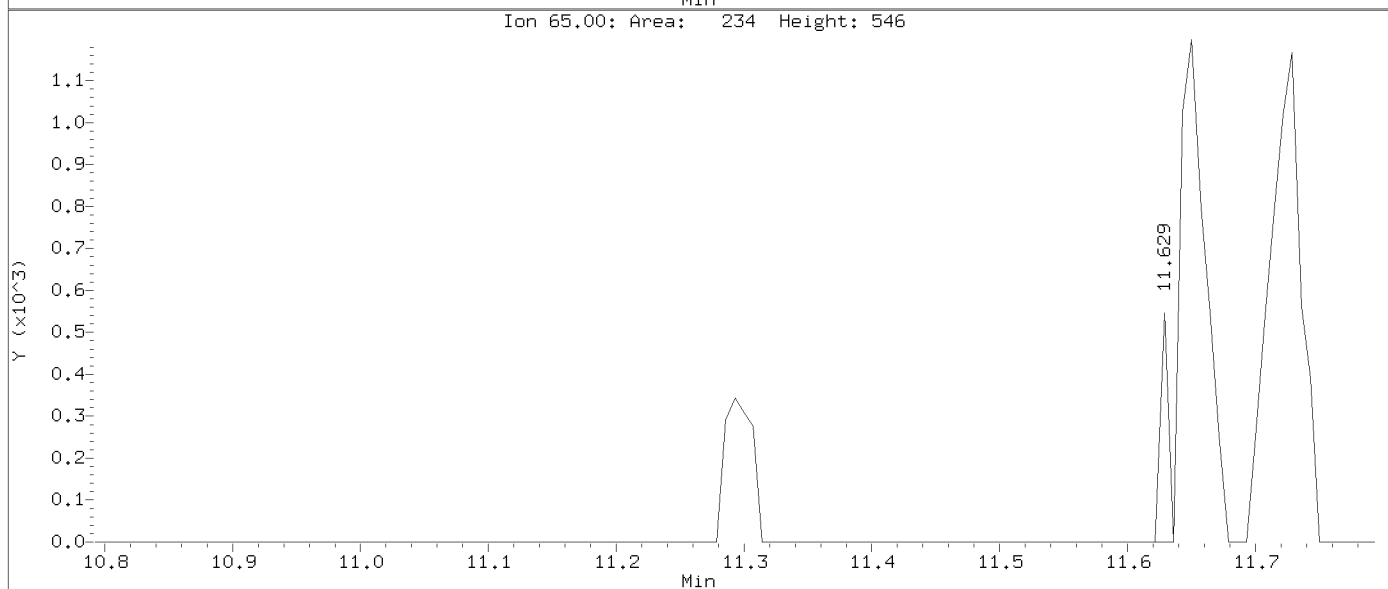
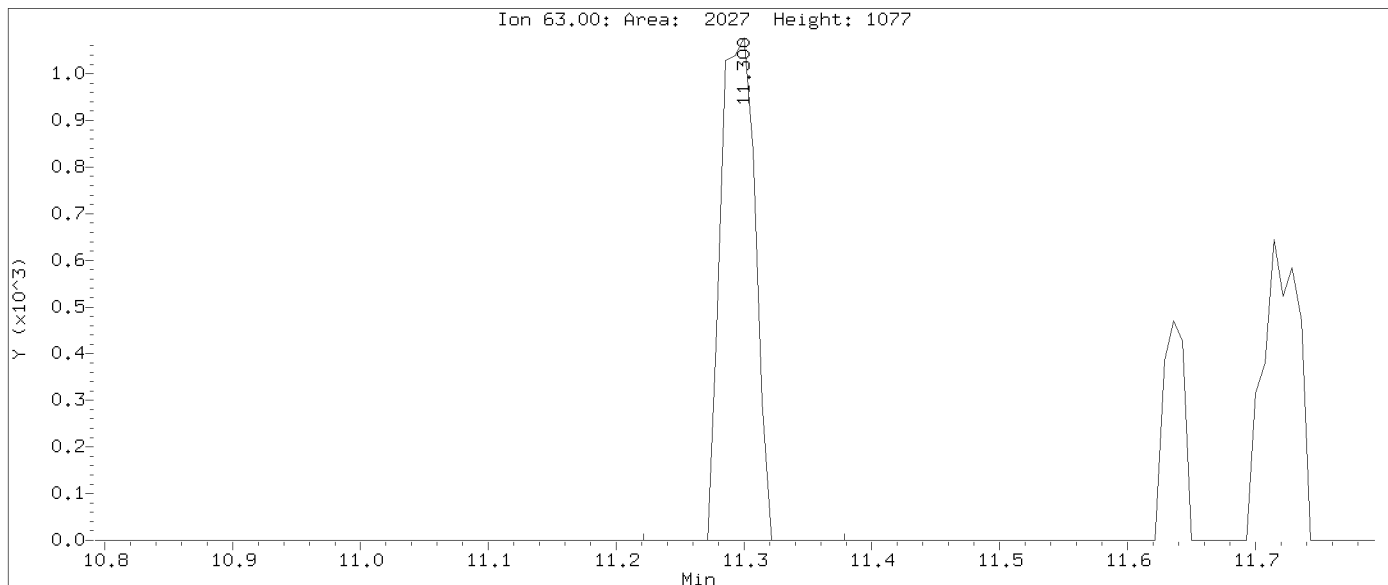
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Client Sample ID:

Compound: 2-Chloroethylvinylether  
CAS Number: 110-75-8

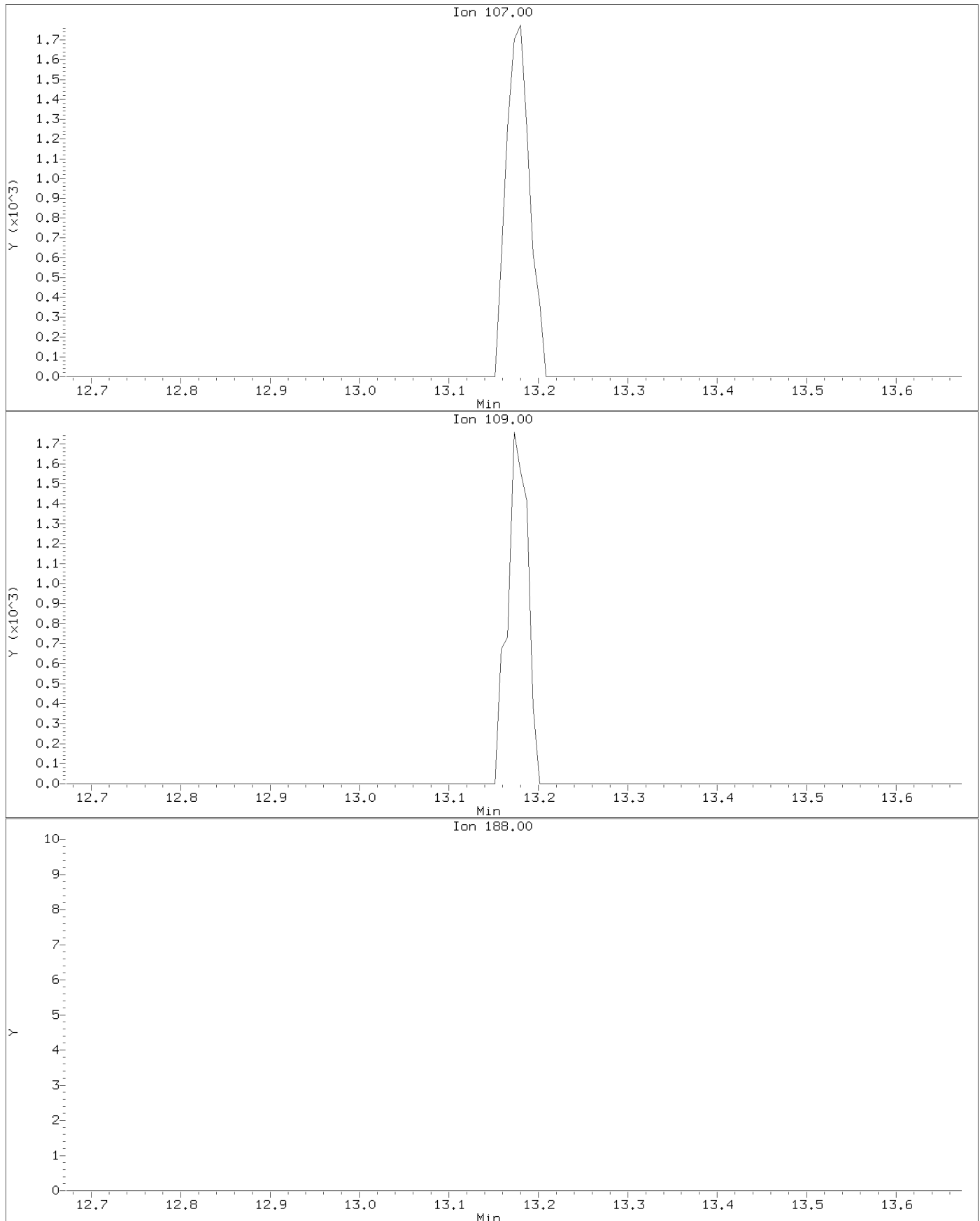
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Client Sample ID:

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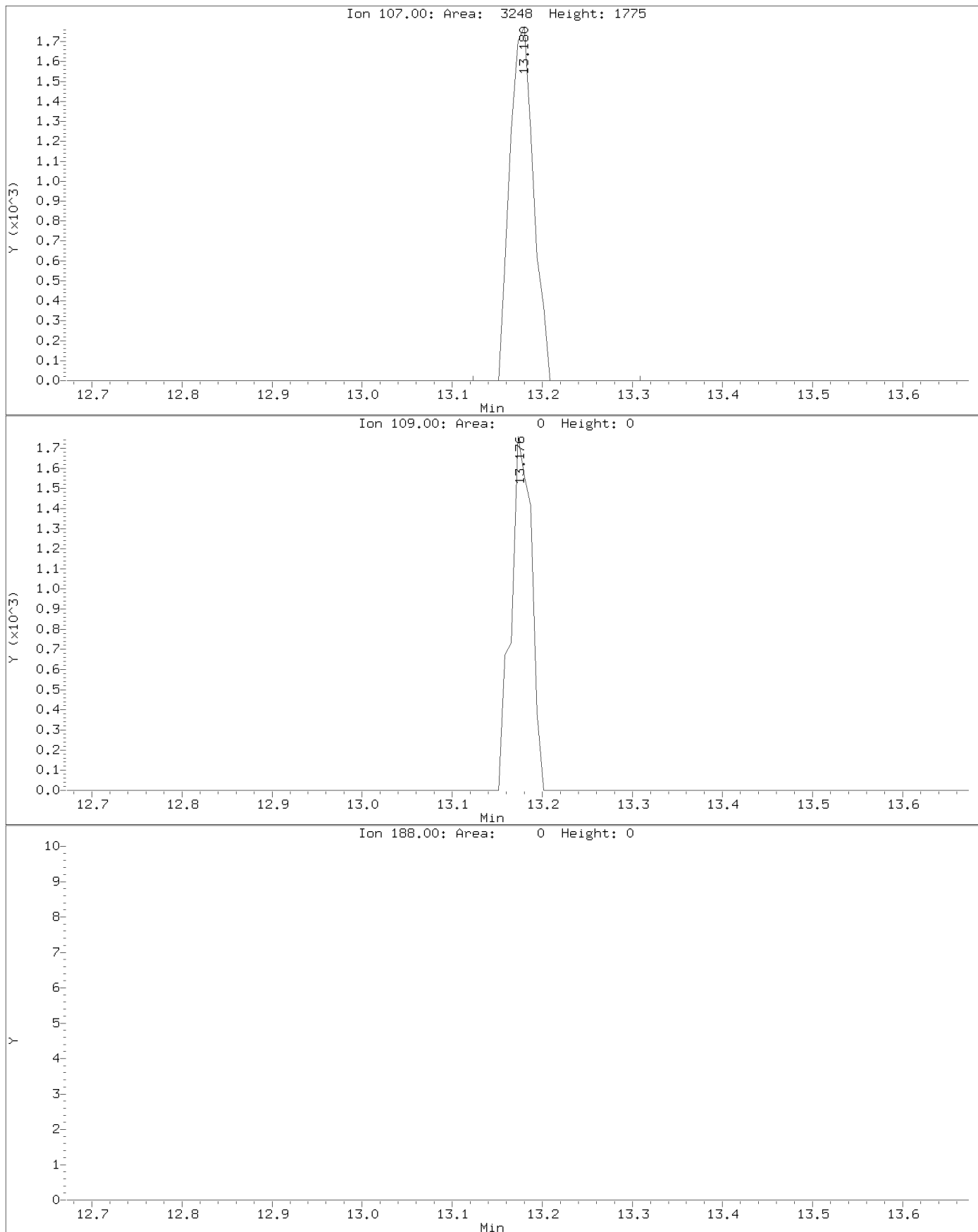
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Client Sample ID:

Compound: 1,2-Dibromoethane  
CAS Number: 106-93-4

## AFTER MANUAL INTEGRATION

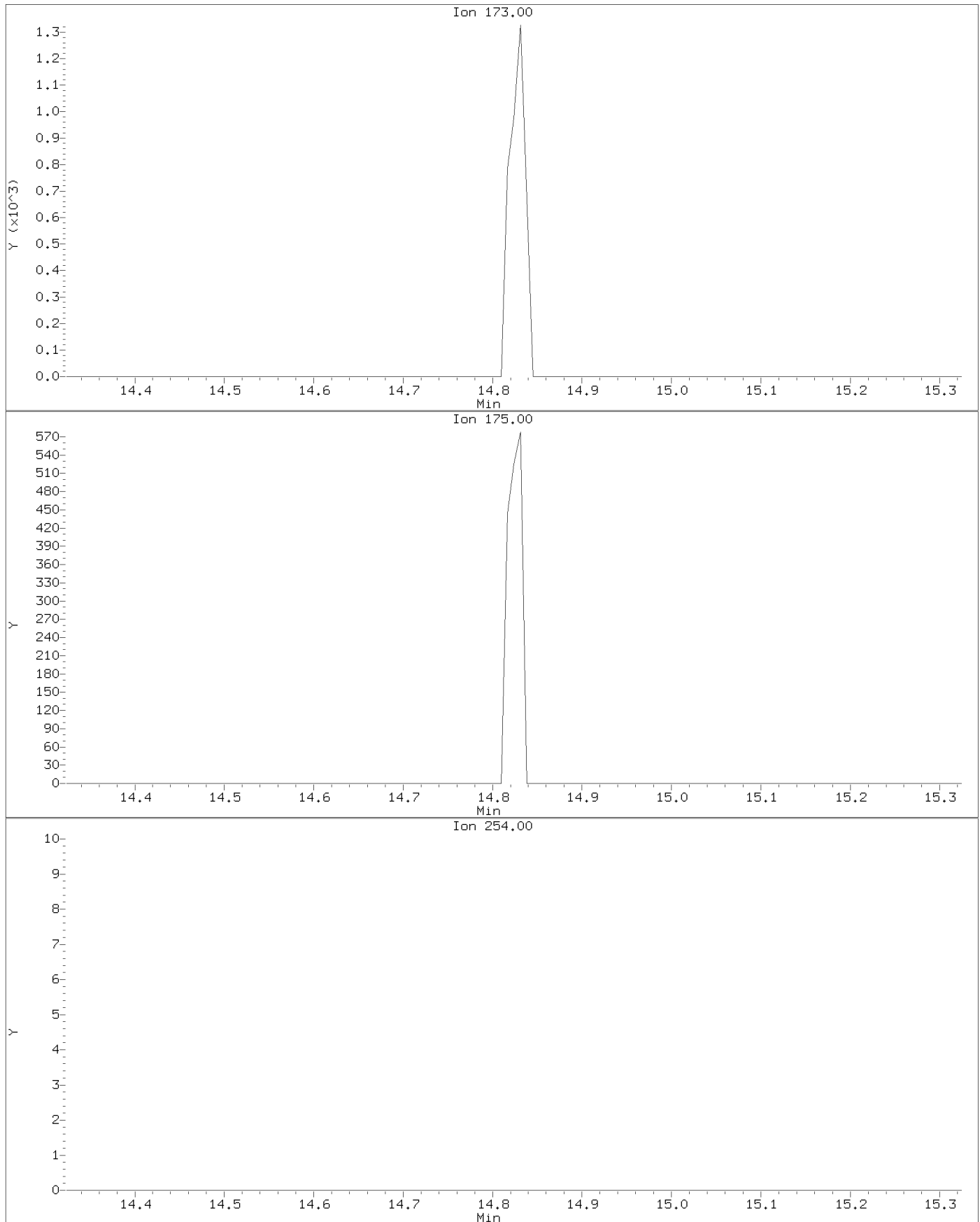




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Client Sample ID:

Compound: Bromoform  
CAS Number: 75-25-2

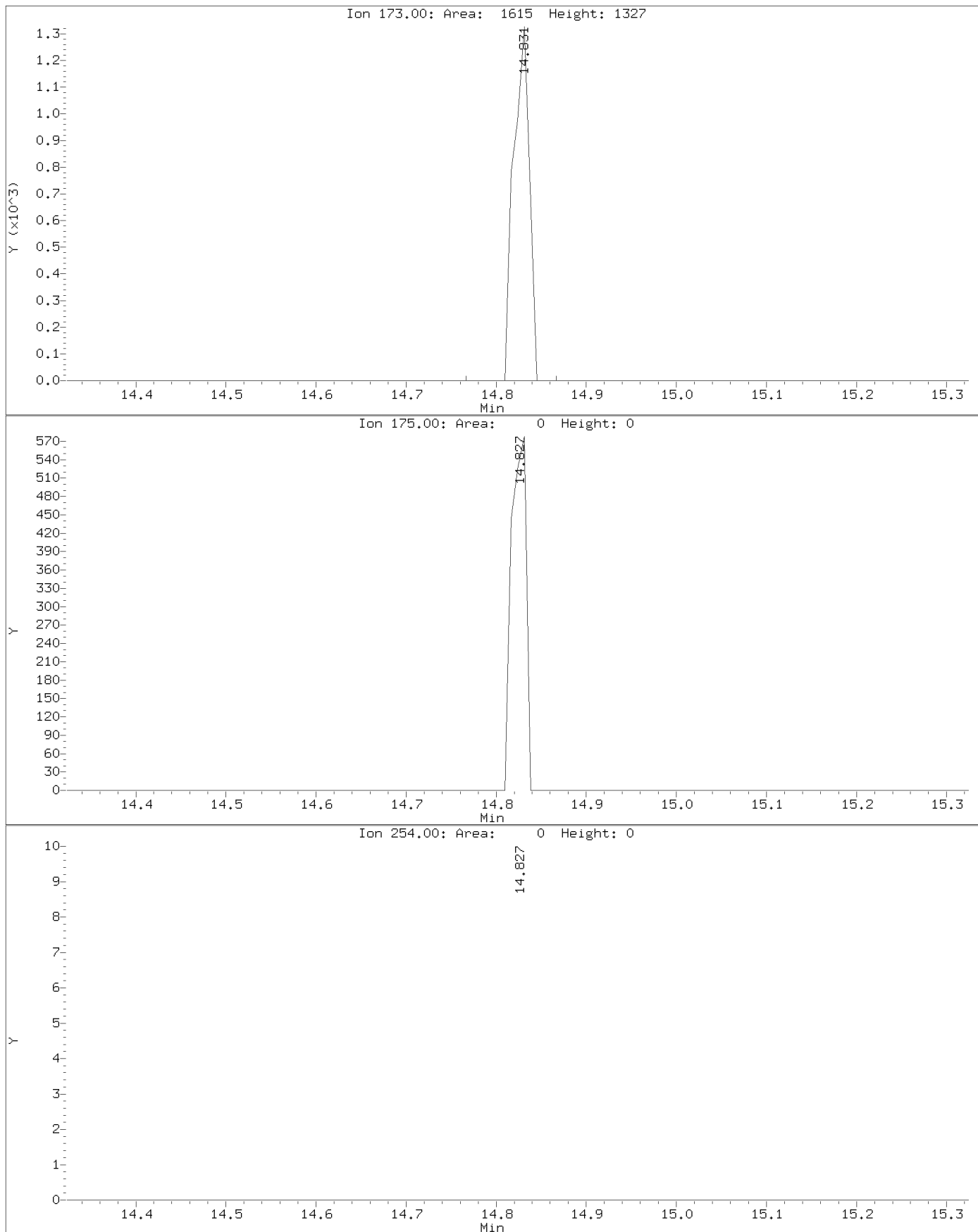
# BEFORE MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gcms-p.i\N120315.b\N3681.D  
Injection Date: 03-DEC-2015 12:22  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Bromoform  
CAS Number: 75-25-2

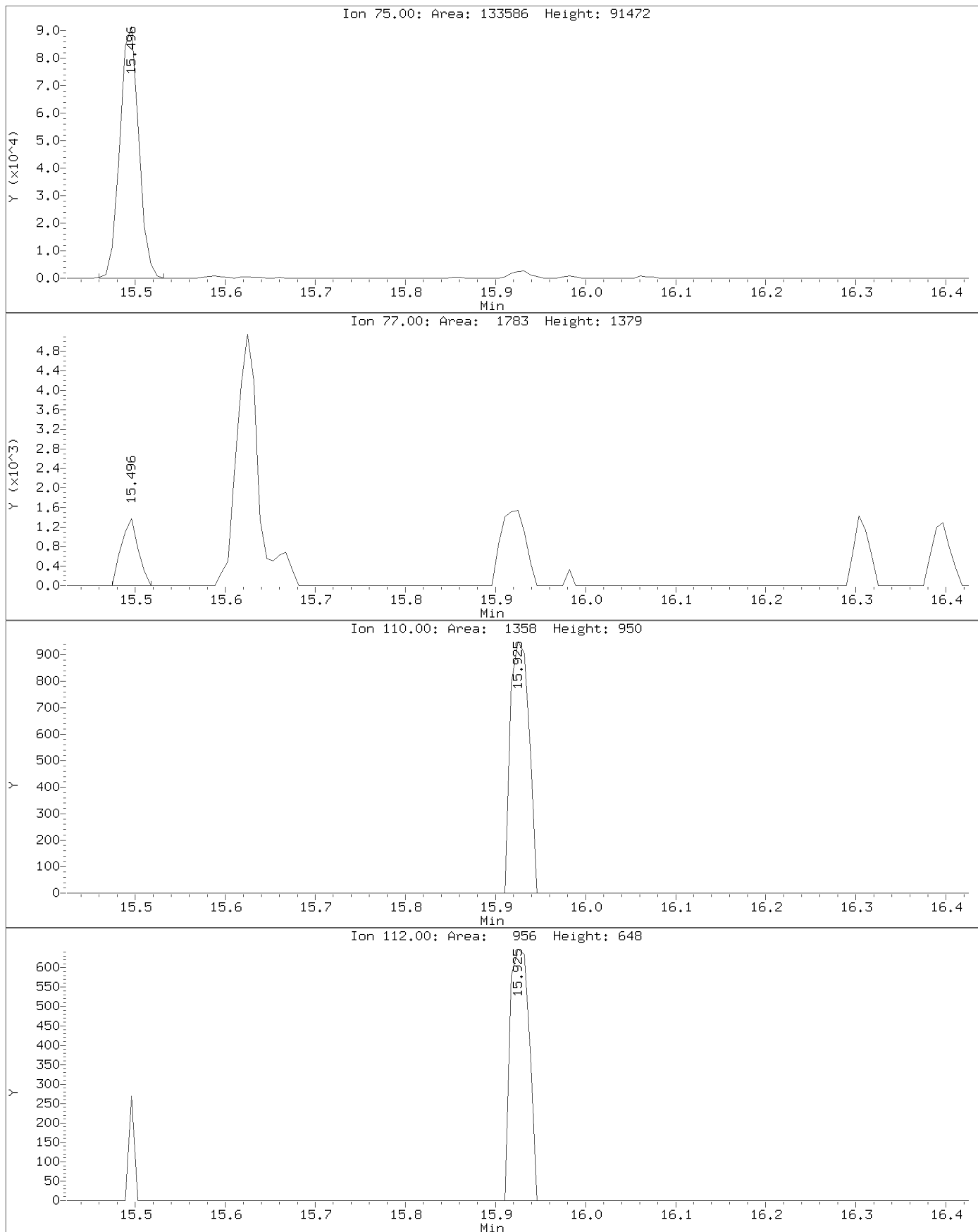
## AFTER MANUAL INTEGRATION



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Injection Date: 03-DEC-2015 12:22  
Instrument: gcms-p.i  
Client Sample ID:

Compound: 1,2,3-Trichloropropane  
CAS Number: 96-18-4

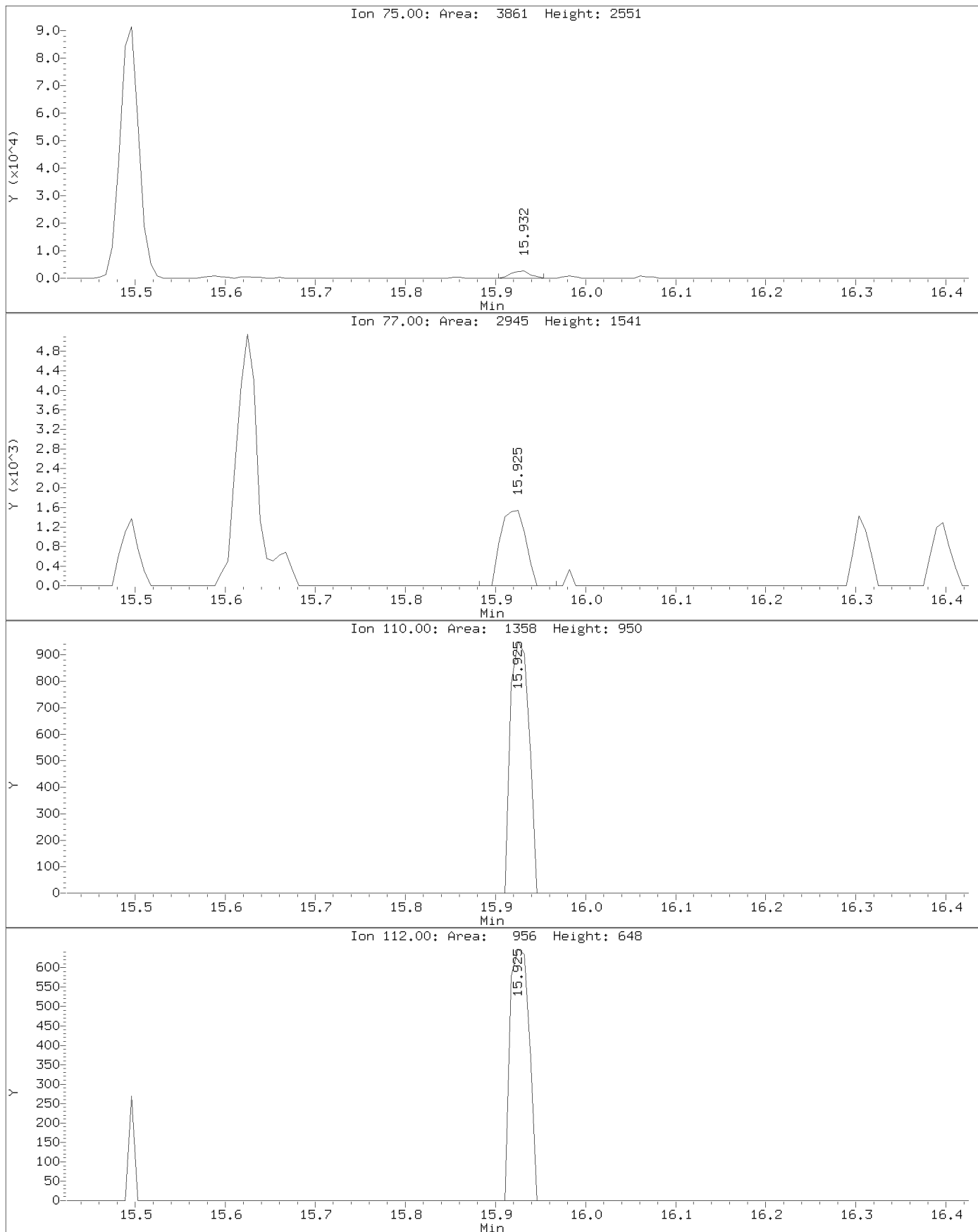
# BEFORE MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gcms-p.i\N120315.b\P3681.D  
Injection Date: 03-DEC-2015 12:22  
Instrument: gcms-p.i  
Client Sample ID:

Compound: 1,2,3-Trichloropropane  
CAS Number: 96-18-4

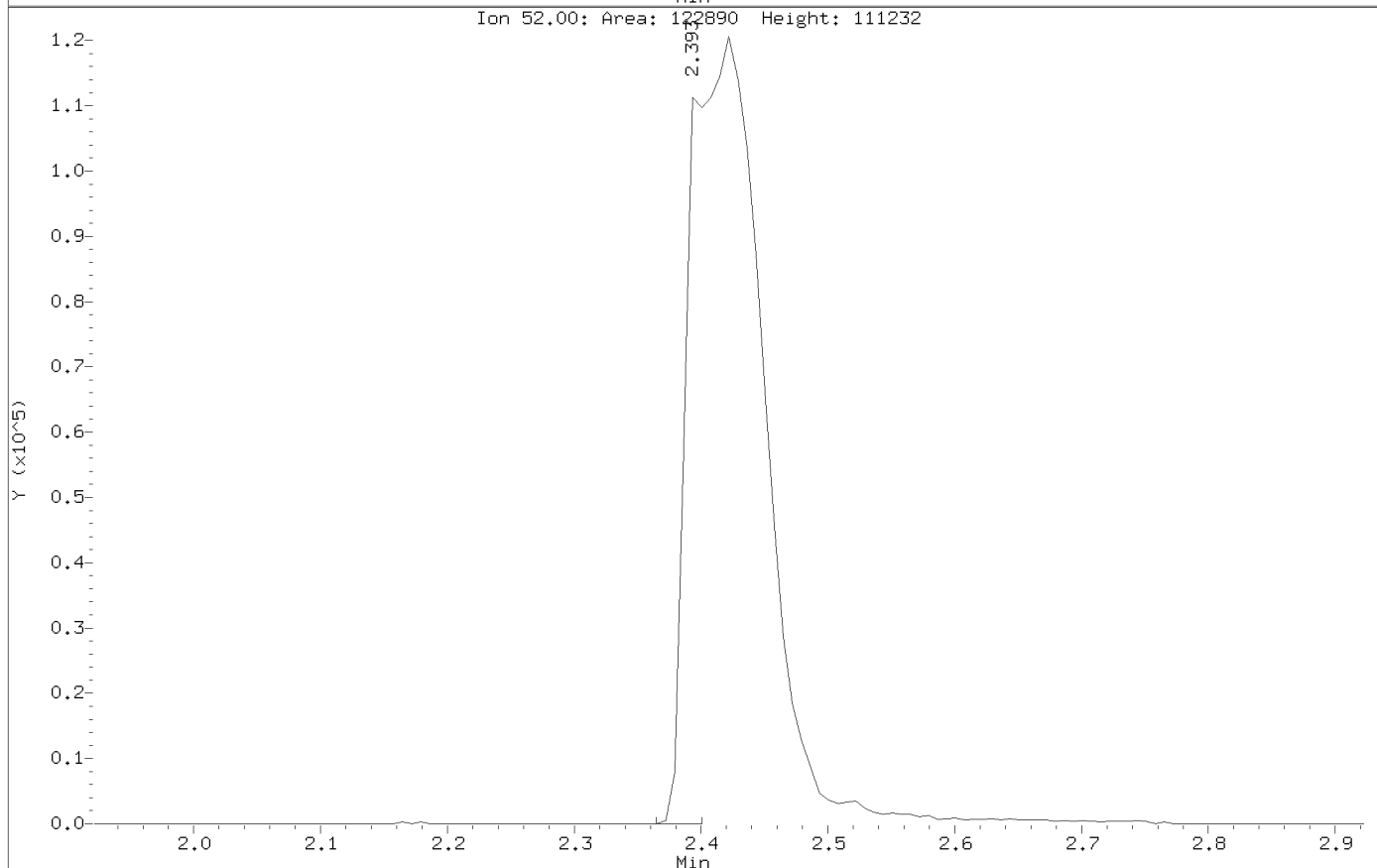
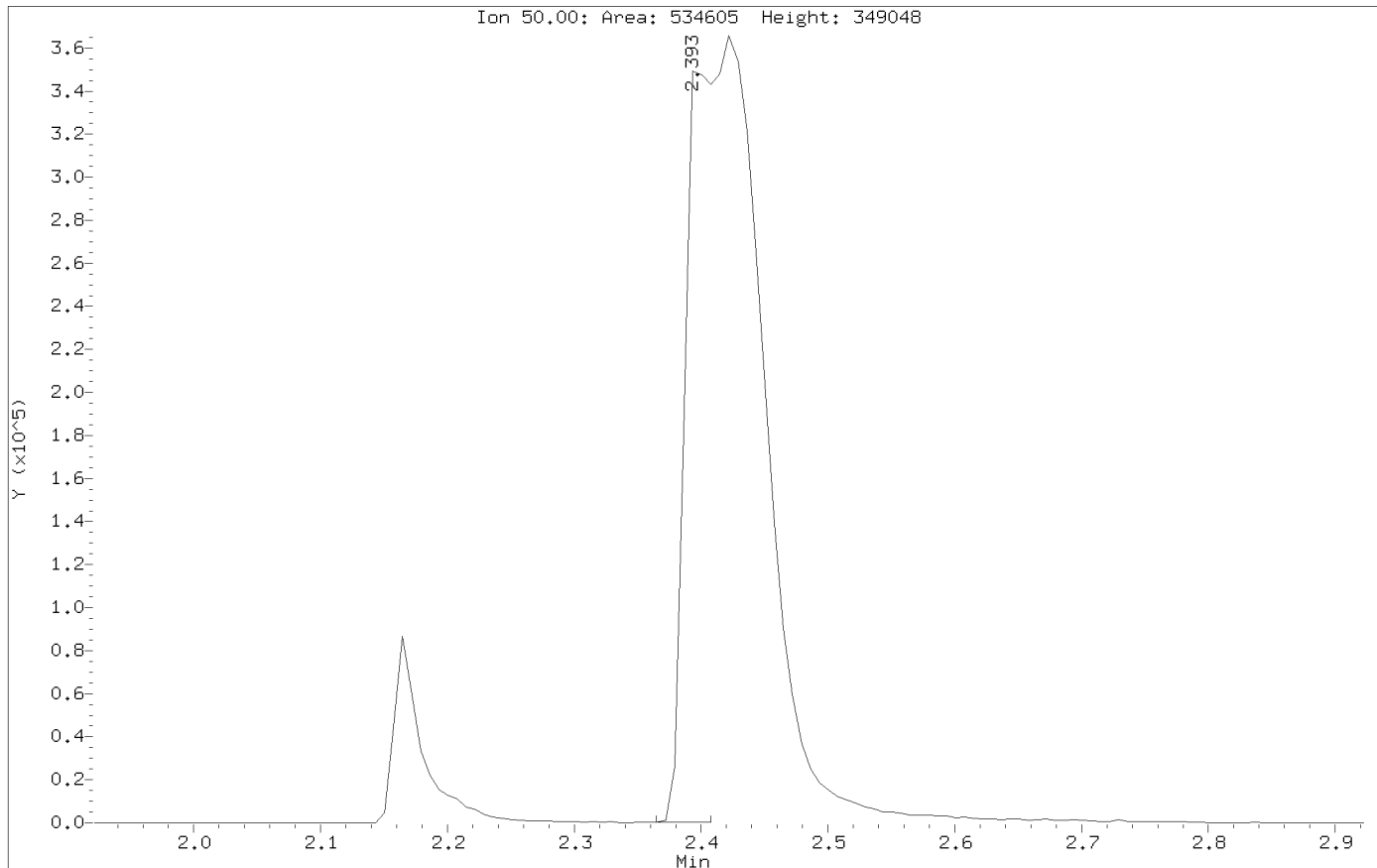
## AFTER MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gcms-p.i\P120315.b\P3682.D  
Injection Date: 03-DEC-2015 12:49  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Chloromethane  
CAS Number: 74-87-3

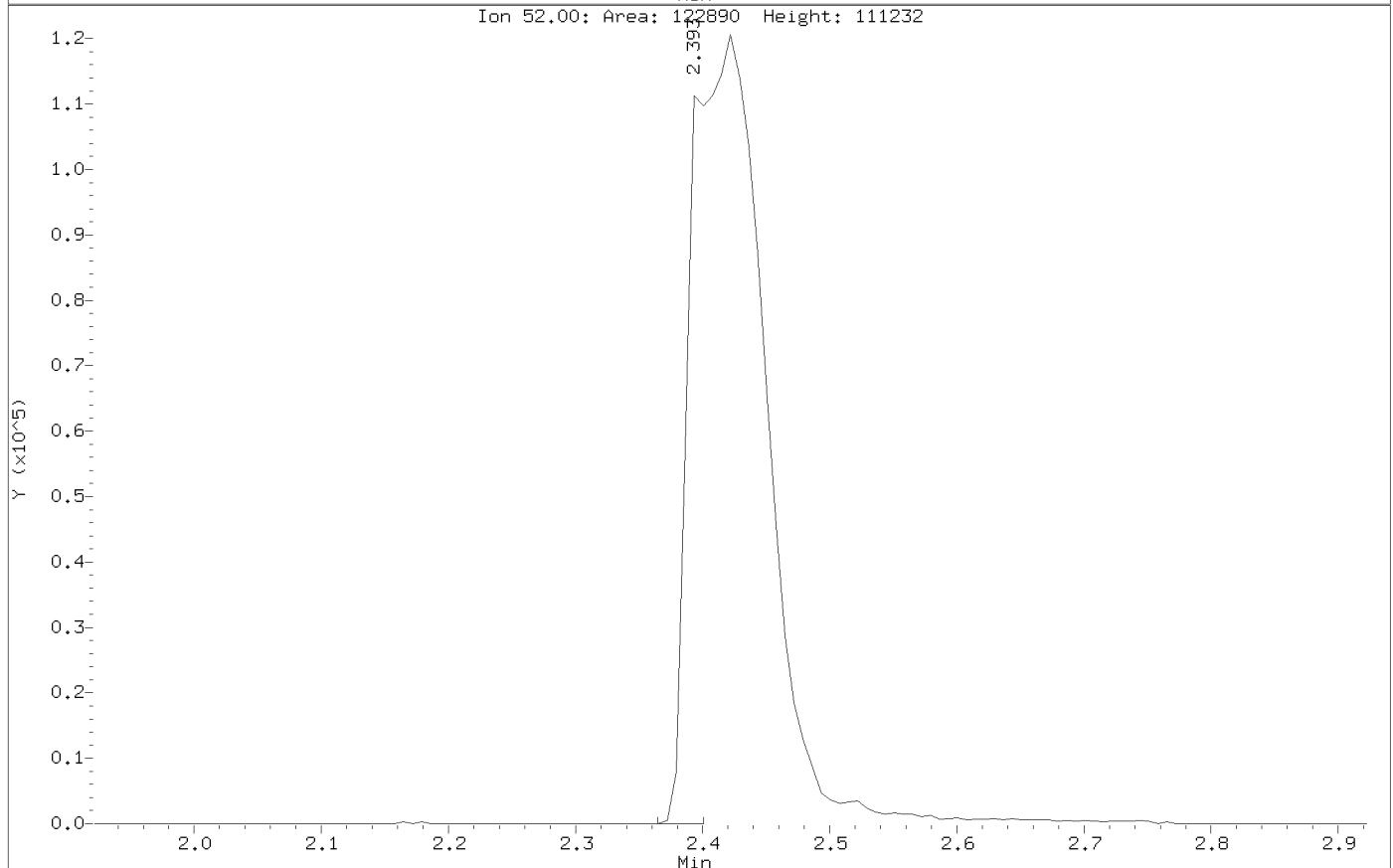
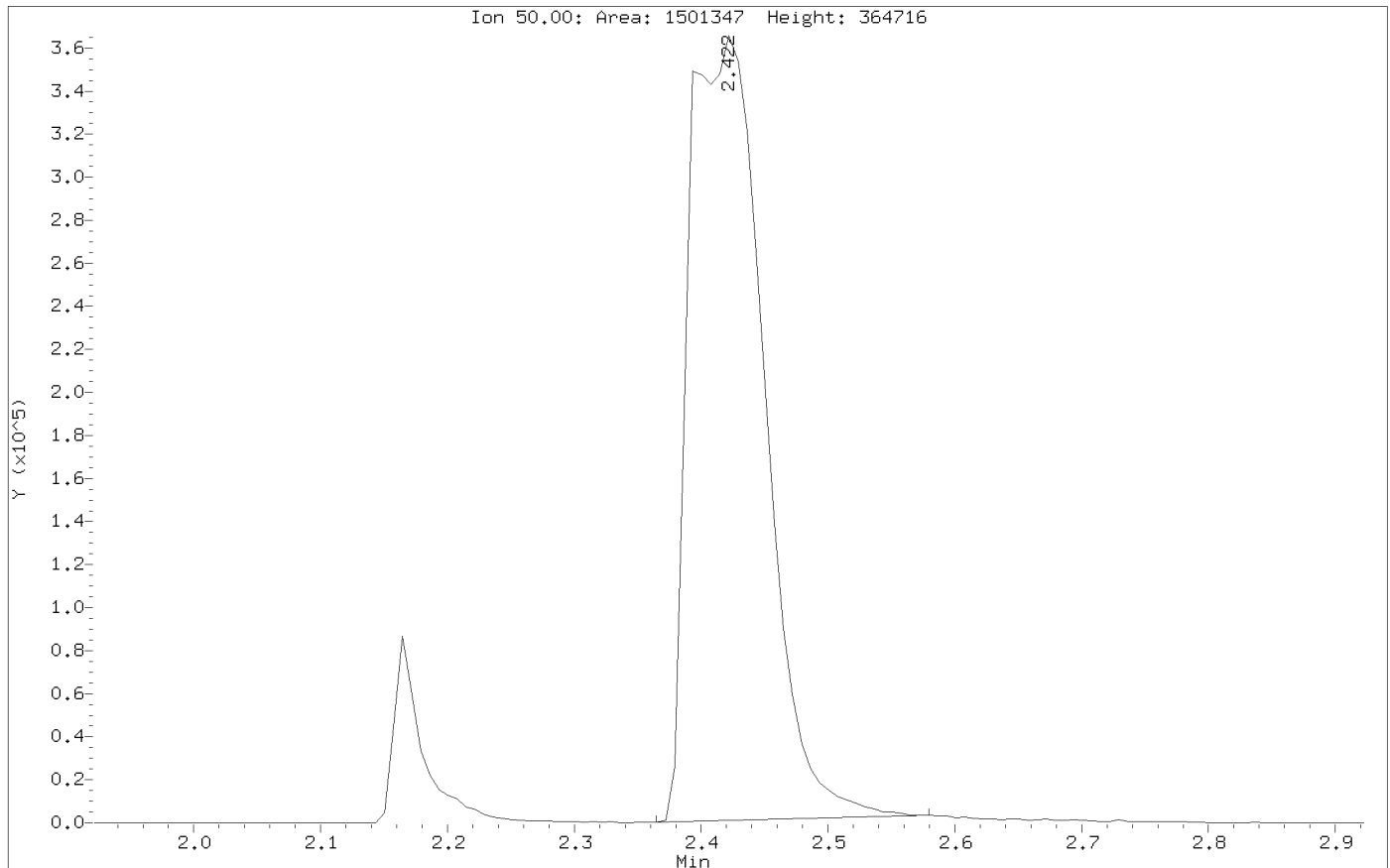
# BEFORE MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gcms-p.i\P120315.b\P3682.D  
Injection Date: 03-DEC-2015 12:49  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Chloromethane  
CAS Number: 74-87-3

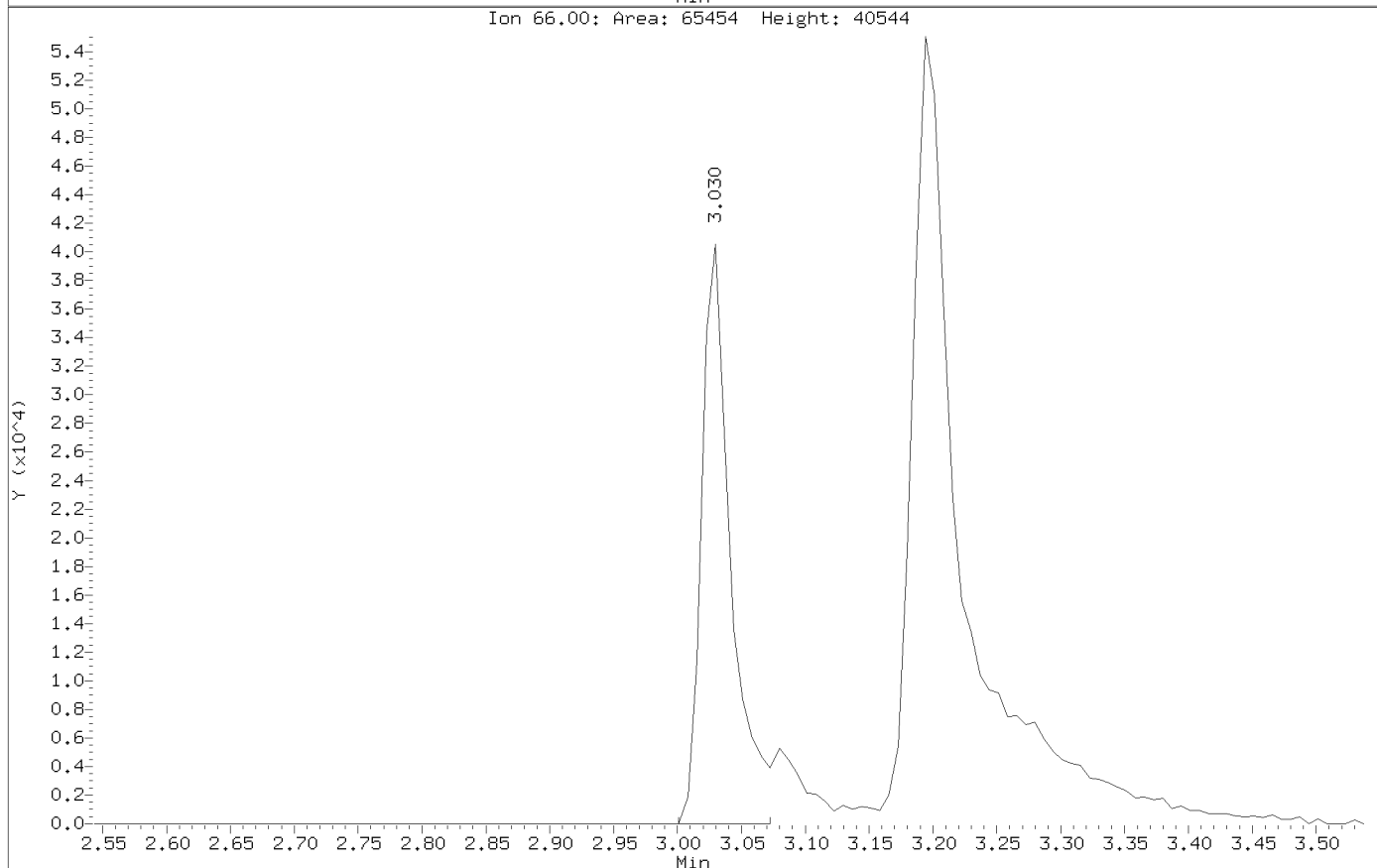
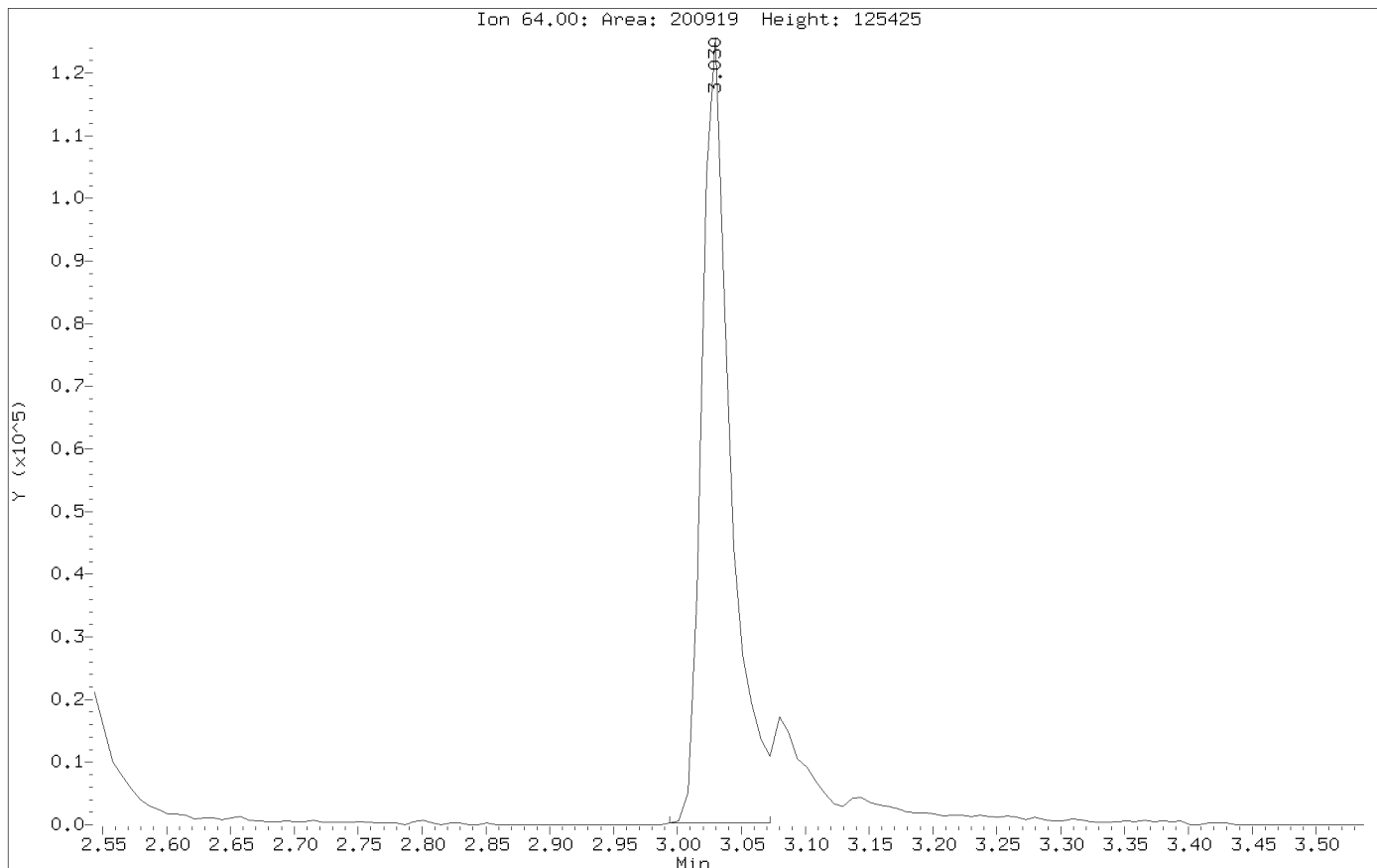
# AFTER MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gcms-p.i\P120315.b\P3682.D  
Injection Date: 03-DEC-2015 12:49  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Chloroethane  
CAS Number: 75-00-3

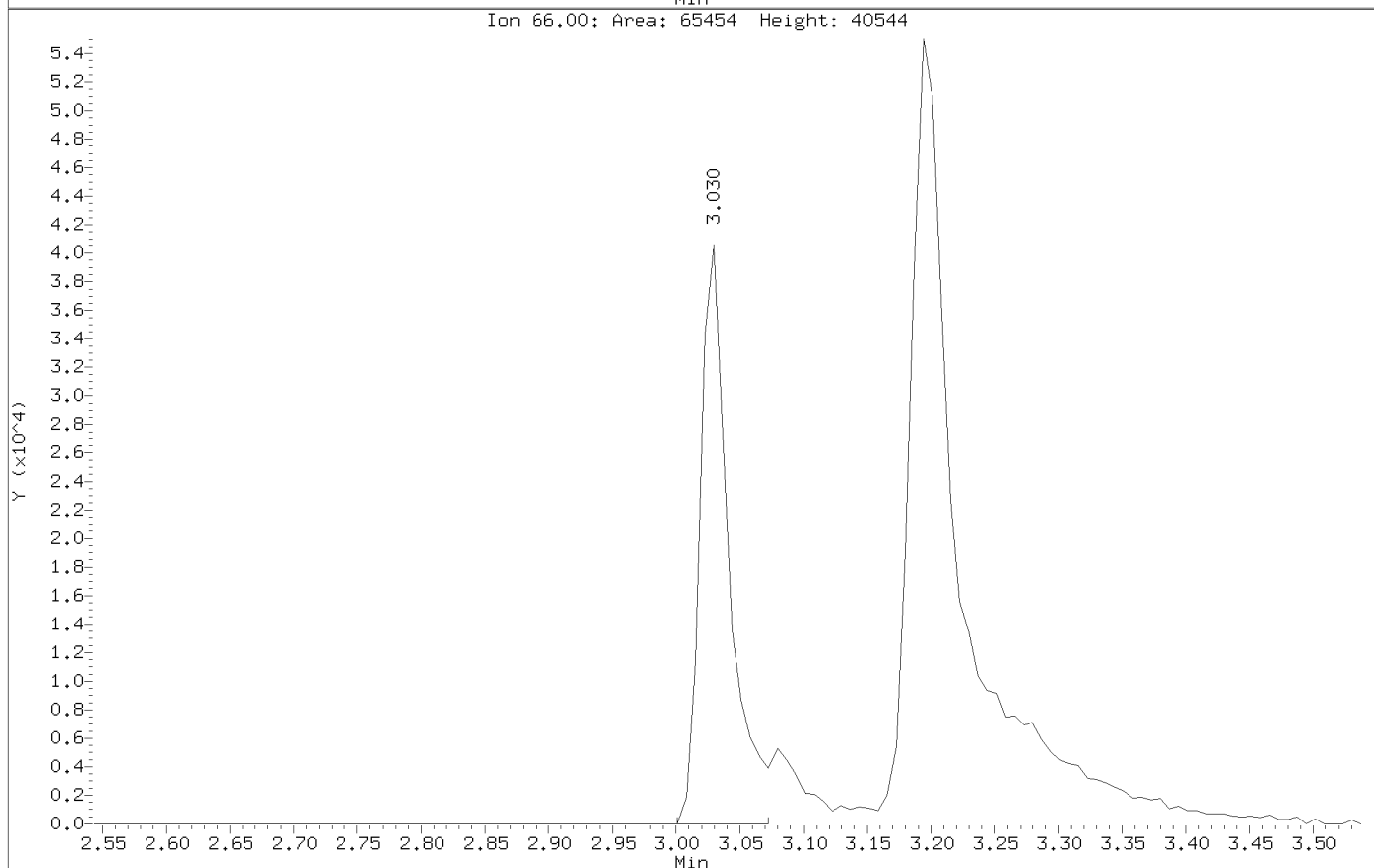
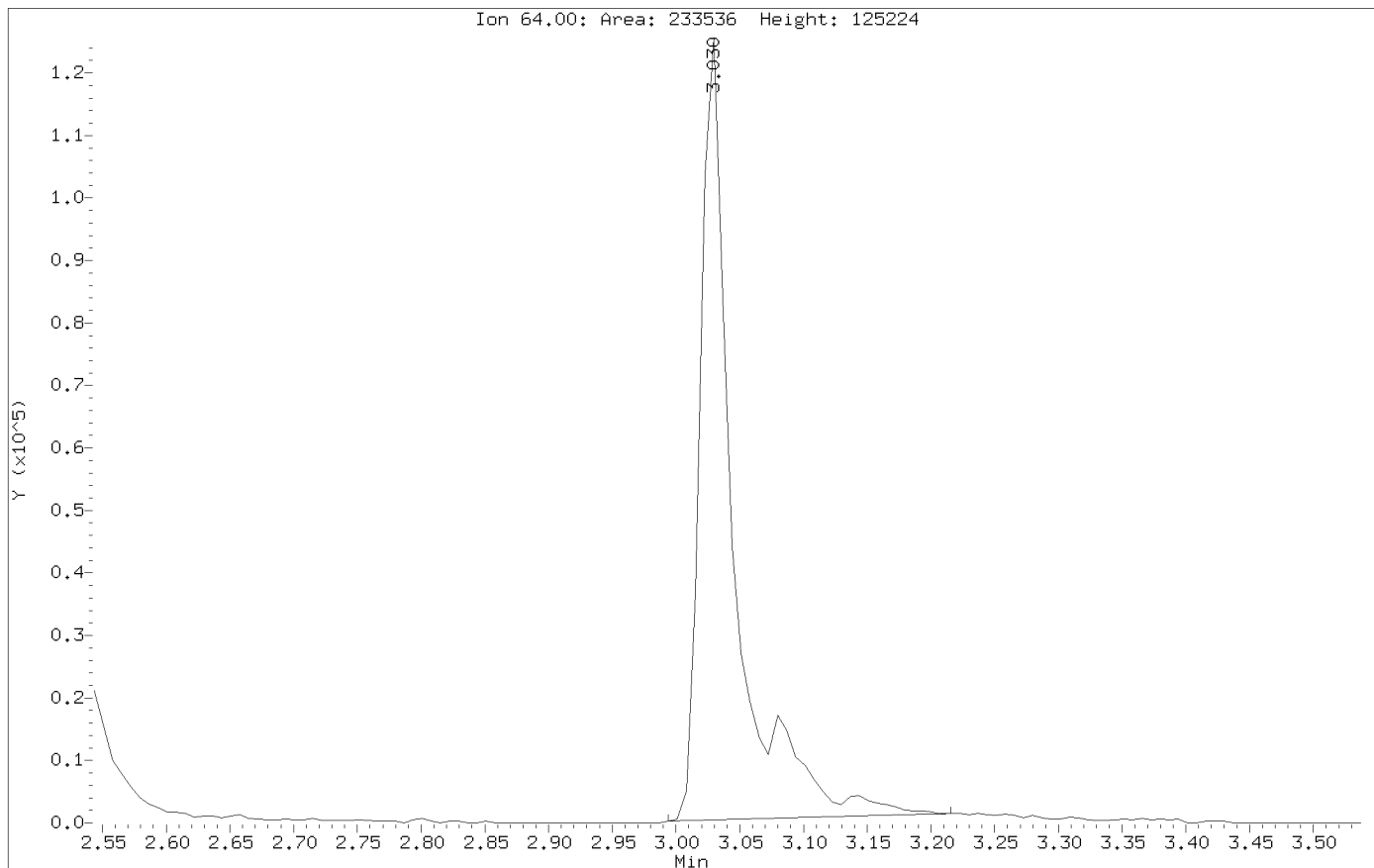
# BEFORE MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gcms-p.i\120315.b\P3682.D  
Injection Date: 03-DEC-2015 12:49  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Chloroethane  
CAS Number: 75-00-3

## AFTER MANUAL INTEGRATION

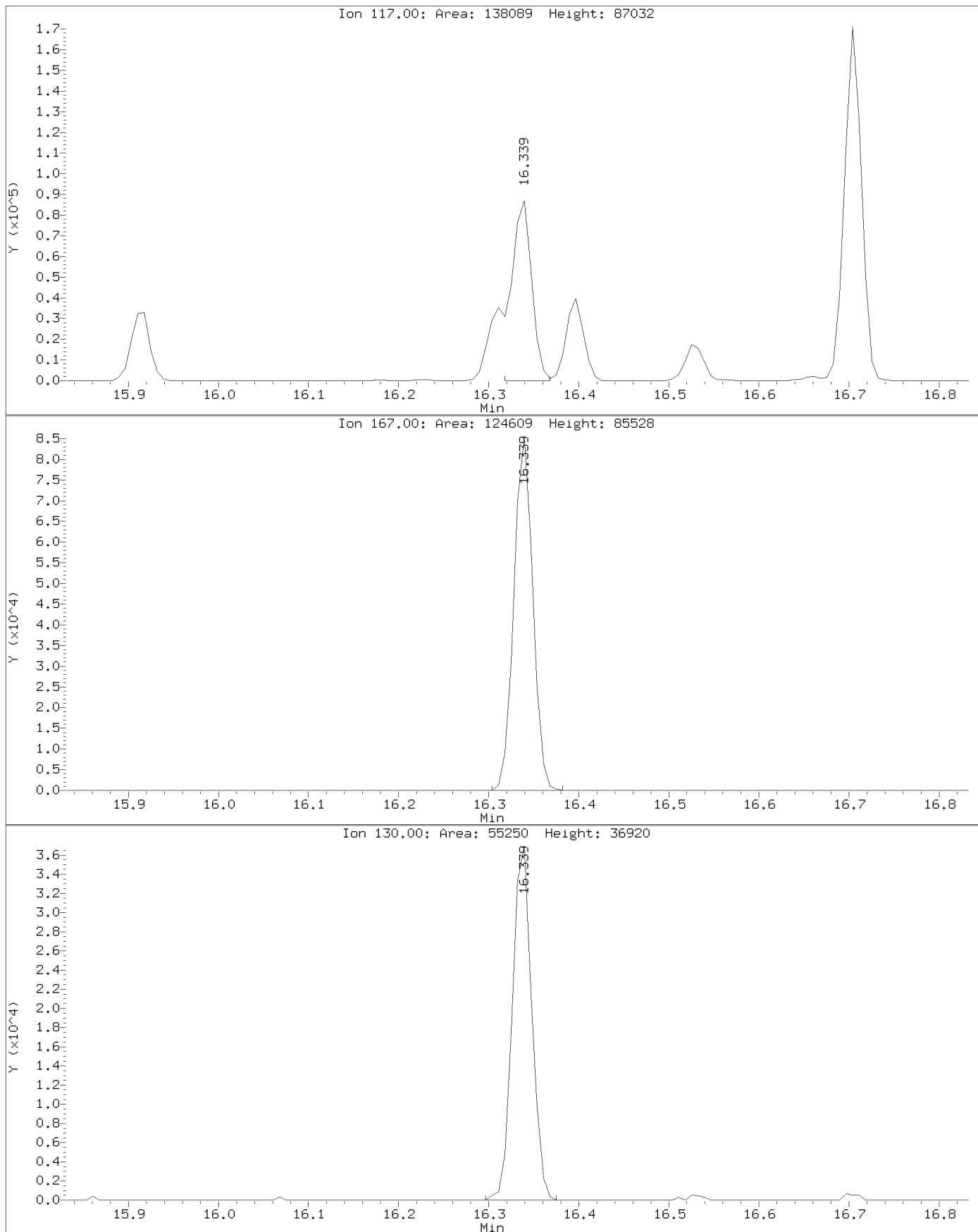




Data File: \\target\_server\gg\chem\gcms-p.i\N120315.b\N3683.D  
Injection Date: 03-DEC-2015 13:16  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Pentachloroethane  
CAS Number: 76-01-1

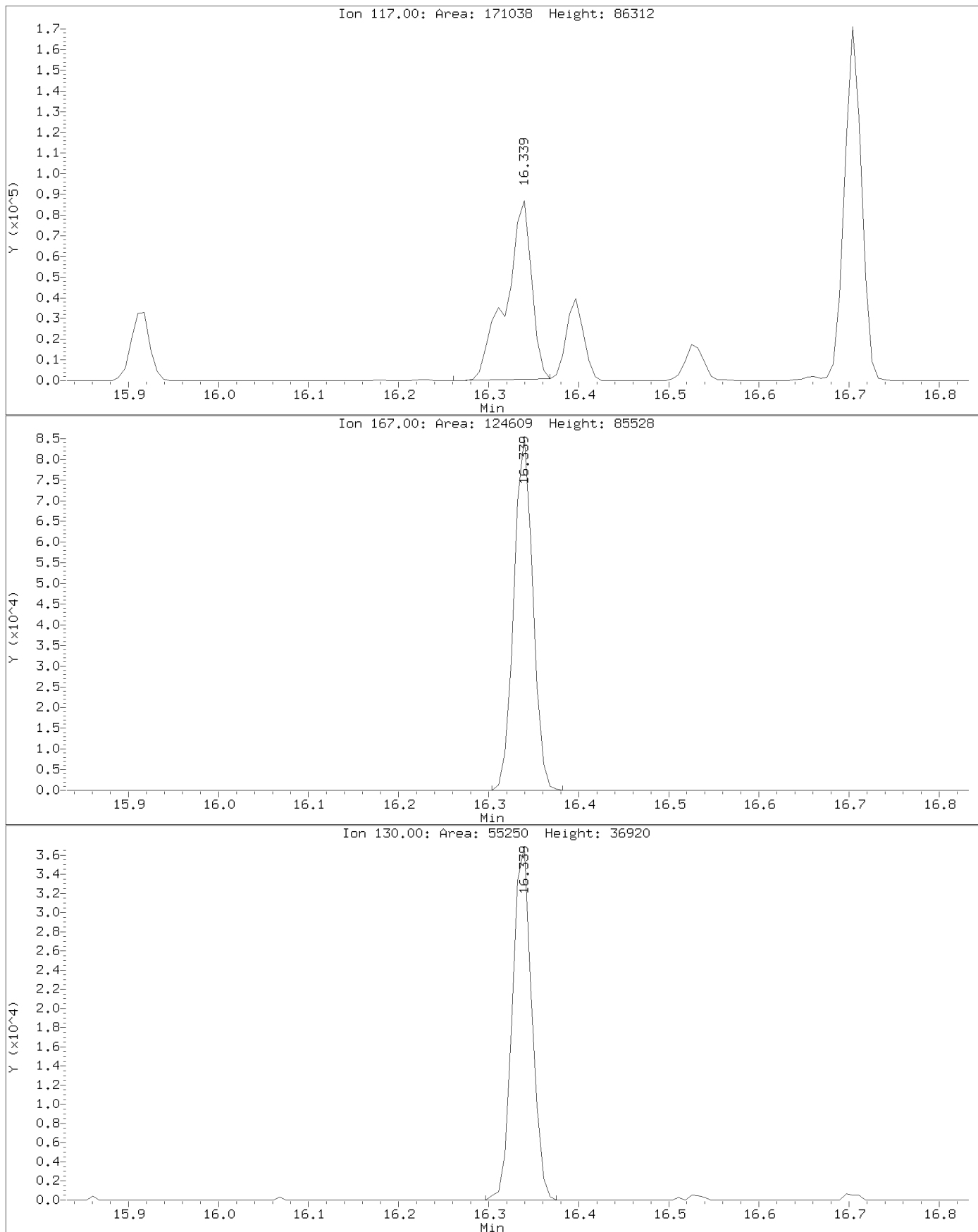
# BEFORE MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gcms-p.i\N120315.b\N3683.D  
Injection Date: 03-DEC-2015 13:16  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Pentachloroethane  
CAS Number: 76-01-1

# AFTER MANUAL INTEGRATION



## Form 6 Initial Calibration Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab File IDs :** P3837.D P3836.D P3835.D  
P3834.D P3839.D P3838.D

**SDG:** SI9749  
**Instrument ID:** GCMS-P  
**Column ID:**  
**Calibration Date(s):** 10-DEC-15 10:28  
10-DEC-15 15:51

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Crv	b	m1	m2	%RSD	Max %RSD	
	1.0000	5.0000	20.0000	50.0000	100.0000	200.0000	New						
Dichlorodifluoromethane	0.64052	0.58347	0.65368	0.73441	0.71094	0.64184	AVG		0.66081		8.21486	15.00000	O
Chloromethane	1.25256	1.10418	1.08741	1.14769	1.17411	1.08614	AVG		1.14201		5.64999	15.00000	O
Vinyl chloride	0.96680	0.93206	0.92137	1.01504	0.99127	0.90470	AVG		0.95521		4.50193	15.00000	O
Bromomethane	0.27251	0.30840	0.30659	0.32515	0.37983	0.35632	AVG		0.32480		11.81027	15.00000	O
Chloroethane	0.61782	0.55874	0.54319	0.55580	0.43853	+++++	AVG		0.54282		11.98315	15.00000	O
Trichlorofluoromethane	0.94486	0.83675	0.91910	0.96499	0.94774	0.97982	AVG		0.93221		5.47536	15.00000	O
Diethyl Ether	0.68713	0.57962	0.62854	0.65126	0.69244	0.64912	AVG		0.64802		6.38981	15.00000	O
1,1-Dichloroethene	0.51729	0.52805	0.54468	0.56671	0.59080	0.59360	AVG		0.55686		5.75959	15.00000	O
Carbon Disulfide	1.86550	1.78353	2.00873	2.09755	2.16034	2.06830	AVG		1.99733		7.25106	15.00000	O
Methylene Chloride	0.86733	0.71118	0.69458	0.68939	0.71766	0.71734	AVG		0.73291		9.12808	15.00000	O
Acetone	0.34465	0.31111	0.30388	0.28308	0.27411	0.28345	AVG		0.30005		8.64285	15.00000	O
trans-1,2-Dichloroethene	0.62011	0.62640	0.59448	0.59779	0.60704	0.59701	AVG		0.60714		2.19685	15.00000	O
Methyl tert-butyl ether	1.59559	1.62850	1.73923	1.78353	1.95975	1.81939	AVG		1.75433		7.58544	15.00000	O
Di-isopropyl ether	2.30907	2.06226	2.45063	2.44556	2.67177	2.59239	AVG		2.42195		8.95041	15.00000	O
1,1-Dichloroethane	1.06078	1.15797	1.15395	1.12860	1.17182	1.13712	AVG		1.13504		3.47907	15.00000	O
Ethyl tertiary-butyl ether	1.45149	1.38102	1.61576	1.60285	1.96888	1.84363	AVG		1.64394		13.71315	15.00000	O
cis-1,2-Dichloroethene	0.68271	0.69987	0.70158	0.71181	0.73172	0.71461	AVG		0.70705		2.33433	15.00000	O
2,2-Dichloropropane	0.51516	0.59021	0.64519	0.69645	0.68460	0.75730	AVG		0.64815		13.20535	15.00000	O
Bromochloromethane	0.25529	0.28533	0.27768	0.28023	0.25699	0.25049	AVG		0.26767		5.62199	15.00000	O
Chloroform	0.99939	0.98889	1.05020	1.03936	1.05269	1.03746	AVG		1.02800		2.63505	15.00000	O
Carbon Tetrachloride	0.27472	0.26230	0.33819	0.34331	0.36823	0.36342	AVG		0.32503		13.97341	15.00000	O
Tetrahydrofuran	0.21685	0.25397	0.25049	0.23931	0.25457	0.24332	AVG		0.24308		5.84050	15.00000	O
1,1,1-Trichloroethane	0.66946	0.79102	0.84338	0.83891	0.87066	0.85648	AVG		0.81165		9.20077	15.00000	O
1,1-Dichloropropene	0.42855	0.43857	0.49267	0.47210	0.48600	0.48170	AVG		0.46660		5.70868	15.00000	O
2-Butanone	0.34980	0.38931	0.39455	0.37953	0.39106	0.38575	AVG		0.38166		4.30451	15.00000	O
Benzene	1.44168	1.40155	1.49487	1.48582	1.53730	1.49604	AVG		1.47621		3.22496	15.00000	O
Tertiary-amyl methyl ether	7757	37951	201096	528039	1327387	2496359	LNR	0.04970	1.71158		0.99810	0.99000	O
1,2-Dichloroethane	0.52968	0.48955	0.50264	0.48500	0.48396	0.48075	AVG		0.49526		3.73969	15.00000	O
Trichloroethene	0.31575	0.32989	0.35123	0.34675	0.35405	0.35054	AVG		0.34137		4.46007	15.00000	O
Dibromomethane	0.18124	0.20064	0.21573	0.21139	0.21743	0.22138	AVG		0.20797		7.16176	15.00000	O
1,2-Dichloropropane	0.37185	0.34946	0.37379	0.37636	0.38971	0.39323	AVG		0.37573		4.14198	15.00000	O
Bromodichloromethane	0.37159	0.42037	0.45682	0.46061	0.48436	0.48594	AVG		0.44662		9.80532	15.00000	O
cis-1,3-dichloropropene	4567	27478	126811	349907	765508	1558467	LNR	0.05172	0.61331		0.99933	0.99000	O
1,4-Dioxane	0.00869	0.00690	0.00565	0.00344	0.00551	0.00299	AVG		0.00553		38.52892	15.00000	W
Toluene	0.83913	0.88452	0.96150	0.95623	0.98286	0.98507	AVG		0.93488		6.36230	15.00000	O
4-methyl-2-pentanone	0.33671	0.39858	0.45217	0.44417	0.46172	0.41642	AVG		0.41829		11.08570	15.00000	O
Tetrachloroethene	0.34734	0.31587	0.30201	0.28109	0.32279	0.30015	AVG		0.31154		7.28416	15.00000	O

## Form 6 Initial Calibration Summary

**Lab Name :** Katahdin Analytical Services **SDG:** SI9749  
**Project :** New Bedford Harbor Superfund Site **Instrument ID:** GCMS-P  
**Lab File IDs :** P3837.D P3836.D P3835.D **Column ID:**  
**Calibration Date(s):** 10-DEC-15 10:28  
10-DEC-15 15:51

trans-1,3-Dichloropropene	3398	20276	103533	283761	638953	1293715	LNR	0.05902	0.51043		0.99924	0.99000	O
1,1,2-Trichloroethane	0.28612	0.25955	0.27637	0.28059	0.29054	0.30011	AVG		0.28222		4.89754	15.00000	O
Dibromochloromethane	0.24959	0.29932	0.32819	0.32912	0.34588	0.34749	AVG		0.31660		11.72684	15.00000	O
1,3-Dichloropropane	0.63302	0.64388	0.67681	0.65387	0.66387	0.63929	AVG		0.65179		2.51867	15.00000	O
1,2-Dibromoethane	0.31515	0.29230	0.30550	0.32187	0.33862	0.34572	AVG		0.31986		6.27177	15.00000	O
2-Hexanone	0.24940	0.30460	0.35515	0.33435	0.34134	0.31360	AVG		0.31640		11.89414	15.00000	O
Chlorobenzene	1.16125	0.99480	1.08034	1.05072	1.07430	1.03675	AVG		1.06636		5.22204	15.00000	O
Ethylbenzene	0.56366	0.59187	0.59216	0.58196	0.59269	0.57956	AVG		0.58365		1.93958	15.00000	O
1,1,1,2-Tetrachloroethane	2086	15337	69515	191744	424439	861724	LNR	0.02503	0.33706		0.99988	0.99000	O
m+p-Xylenes	0.64033	0.70114	0.75867	0.74444	0.74456	0.66857	AVG		0.70962		6.72811	15.00000	O
o-Xylene	0.64792	0.65155	0.70932	0.68964	0.72674	0.71193	AVG		0.68952		4.78879	15.00000	O
Styrene	0.91175	1.09770	1.22703	1.22729	1.27592	1.20704	AVG		1.15779		11.59740	15.00000	O
Bromoform	1802	9594	46357	131405	314551	638391	LNR	0.05182	0.25120		0.99916	0.99000	O
Isopropylbenzene	2.92954	3.00287	3.20729	3.21006	3.26485	3.08337	AVG		3.11633		4.25626	15.00000	O
Bromobenzene	0.87056	0.74041	0.77905	0.78504	0.82855	0.86754	AVG		0.81186		6.45370	15.00000	O
N-Propylbenzene	3.69089	3.79099	4.01585	3.96715	3.93101	3.52461	AVG		3.82008		4.92667	15.00000	O
1,1,2,2-Tetrachloroethane	0.82548	0.83568	0.93944	0.94202	0.96990	0.98044	AVG		0.91549		7.39680	15.00000	O
1,3,5-Trimethylbenzene	2.22254	2.67149	2.84011	2.83498	2.84680	2.67551	AVG		2.68191		8.93055	15.00000	O
2-Chlorotoluene	2.24822	2.38624	2.33262	2.32024	2.36664	2.29559	AVG		2.32492		2.13544	15.00000	O
1,2,3-Trichloropropane	0.80049	0.69768	0.76342	0.72662	0.75134	0.74988	AVG		0.74824		4.62839	15.00000	O
4-Chlorotoluene	2.43992	2.53060	2.55148	2.49576	2.48774	2.39881	AVG		2.48405		2.28291	15.00000	O
tert-Butylbenzene	1.97895	2.37396	2.58320	2.61900	2.67118	2.68179	AVG		2.48468		10.93954	15.00000	O
1,2,4-Trimethylbenzene	2.35219	2.69383	2.83138	2.74968	2.80032	2.61934	AVG		2.67446		6.54908	15.00000	O
P-Isopropyltoluene	2.35796	2.61908	2.91898	2.94108	2.97047	2.74307	AVG		2.75844		8.64188	15.00000	O
1,3-Dichlorobenzene	1.49753	1.50864	1.52849	1.55690	1.59738	1.61572	AVG		1.55078		3.09699	15.00000	O
1,4-Dichlorobenzene	1.72400	1.60956	1.59308	1.61247	1.66661	1.65709	AVG		1.64380		2.96215	15.00000	O
N-Butylbenzene	2.34818	2.64835	2.81831	2.82711	2.82767	2.59690	AVG		2.67775		7.09673	15.00000	O
sec-Butylbenzene	2.99105	3.24342	3.48366	3.44593	3.44387	3.12953	AVG		3.28958		6.12197	15.00000	O
1,2-Dichlorobenzene	1.32559	1.43789	1.46290	1.48061	1.53414	1.54432	AVG		1.46424		5.41960	15.00000	O
1,2-Dibromo-3-Chloropropane	0.16059	0.13124	0.15392	0.16341	0.15675	0.15506	AVG		0.15349		7.46834	15.00000	O
Hexachlorobutadiene	0.43056	0.32744	0.32564	0.32350	0.33222	0.32600	AVG		0.34423		12.31645	15.00000	O
1,2,4-Trichlorobenzene	0.77742	0.85493	0.86165	0.88942	0.92942	0.95892	AVG		0.87863		7.24048	15.00000	O
Naphthalene	6063	44438	237079	637579	1420303	2748211	LNR	0.03477	2.07309		0.99980	0.99000	O
1,2,3-Trichlorobenzene	0.64480	0.66276	0.70598	0.70861	0.73066	0.76330	AVG		0.70268		6.18618	15.00000	O
Dibromofluoromethane	0.50053	0.49665	0.46990	0.48508	0.47612	0.47439	AVG		0.48378		2.59451	15.00000	
1,2-Dichloroethane-D4	0.67162	0.68429	0.64092	0.63932	0.62758	0.61617	AVG		0.64665		4.04393	15.00000	
Toluene-D8	1.18617	1.18245	1.19208	1.17667	1.19349	1.19485	AVG		1.18762		0.60173	15.00000	
P-Bromofluorobenzene	0.49362	0.48986	0.50369	0.50669	0.52051	0.51444	AVG		0.50480		2.33213	15.00000	



Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa02236  
 Sample Matrix: LIQUID Fraction: VOA  
 Lab Smp Id: WG176143-7  
 Level: LOW Operator: AAB  
 Data Type: MS DATA SampleType: LCS  
 SpikeList File: IND\_CHECK4.1.spk Quant Type: ISTD  
 Sublist File: all.sub  
 Method File: \\target\_server\gg\chem\gcms-p.i\P121015.b\P826A21.m  
 Misc Info: WG176143,WG176143-4,TI0116-1

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
1 Dichlorodifluorome	50.0	46.4	92.80	80-120
2 Chloromethane	50.0	49.2	98.48	80-120
3 Vinyl chloride	50.0	48.4	96.79	80-120
4 Bromomethane	50.0	50.7	101.32	80-120
5 Chloroethane	50.0	50.8	101.56	80-120
6 Trichlorofluoromet	50.0	46.4	92.86	80-120
7 Diethyl Ether	50.0	49.3	98.62	80-120
8 Tertiary-butyl alc	250	312	124.61*	80-120
9 1,1-Dichloroethene	50.0	45.2	90.42	80-120
10 Carbon Disulfide	50.0	45.0	90.08	80-120
11 Freon-113	50.0	51.2	102.48	80-120
12 Iodomethane	50.0	38.2	76.38*	80-120
13 Acrolein	250	230	91.92	80-120
14 Methylene Chloride	50.0	43.4	86.87	80-120
15 Acetone	50.0	55.2	110.41	80-120
16 Isobutyl Alcohol	1000	1180	117.81	80-120
17 trans-1,2-Dichloro	50.0	47.2	94.33	80-120
18 Allyl Chloride	50.0	51.6	103.30	80-120
19 Methyl tert-butyl	100	107	106.86	80-120
20 Acetonitrile	500	485	96.93	80-120
21 Di-isopropyl ether	50.0	53.0	106.04	80-120
22 Chloroprene	50.0	53.5	107.07	80-120
23 Propionitrile	500	506	101.30	80-120
24 Methacrylonitrile	500	527	105.45	80-120
25 1,1-Dichloroethane	50.0	49.4	98.78	80-120
26 Acrylonitrile	250	251	100.44	80-120
27 Ethyl tertiary-but	50.0	58.4	116.86	80-120
28 Vinyl Acetate	50.0	40.6	81.13	80-120
29 cis-1,2-Dichloroet	50.0	45.4	90.81	80-120
M 30 1,2-Dichloroethyle	100	92.6	92.57	80-120
31 Methyl Methacrylat	50.0	54.6	109.12	80-120
32 2,2-Dichloropropan	50.0	49.5	99.06	80-120
33 Bromochloromethane	50.0	50.4	100.85	80-120
34 Chloroform	50.0	47.5	94.97	80-120
35 Carbon Tetrachlori	50.0	49.3	98.59	80-120
36 Tetrahydrofuran	50.0	46.5	93.01	80-120
38 1,1,1-Trichloroeth	50.0	48.1	96.24	80-120
39 1,1-Dichloropropen	50.0	49.5	98.97	80-120
40 2-Butanone	50.0	53.0	106.04	80-120
41 Benzene	50.0	49.5	99.05	80-120

SPIKE	COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
	43 Cyclohexane	50.0	44.8	89.71	80-120
	44 Ethyl Methacrylate	50.0	48.9	97.82	80-120
	46 Tertiary-amyl meth	50.0	51.4	102.79	80-120
	47 1,2-Dichloroethane	50.0	46.3	92.64	80-120
	48 Trichloroethene	50.0	50.0	99.91	80-120
	50 Dibromomethane	50.0	49.0	97.95	80-120
	51 1,2-Dichloropropan	50.0	47.3	94.53	80-120
	52 Bromodichlorometha	50.0	50.8	101.56	80-120
	53 cis-1,3-dichloropr	50.0	45.0	89.93	80-120
	54 1,4-Dioxane	1000	960	96.04	80-120
	56 2-Chloroethylvinyl	50.0	50.5	100.99	80-120
	57 Toluene	50.0	49.8	99.65	80-120
	58 4-methyl-2-pentano	50.0	53.1	106.12	80-120
	59 Tetrachloroethene	50.0	75.4	150.80*	80-120
	60 trans-1,3-Dichloro	50.0	47.1	94.26	80-120
	61 1,1,2-Trichloroeth	50.0	46.3	92.69	80-120
	62 Dibromochlorometha	50.0	51.6	103.29	80-120
	63 1,3-Dichloropropan	50.0	48.8	97.56	80-120
	64 1,2-Dibromoethane	50.0	49.1	98.17	80-120
	65 2-Hexanone	50.0	57.7	115.32	80-120
	67 Chlorobenzene	50.0	47.3	94.67	80-120
	152 1-Chlorohexane	50.0	49.0	98.01	80-120
	68 Ethylbenzene	50.0	48.4	96.84	80-120
	69 1,1,1,2-Tetrachlor	50.0	48.5	96.92	80-120
M	70 Xylenes (total)	150	154	102.67	80-120
	71 m+p-Xylenes	100	102	102.54	80-120
	72 o-Xylene	50.0	51.5	102.94	80-120
	73 Styrene	50.0	53.2	106.32	80-120
	74 Bromoform	50.0	45.9	91.82	80-120
	75 Isopropylbenzene	50.0	51.0	101.99	80-120
	77 cis-1,4-Dichloro-2	50.0	46.4	92.72	80-120
	78 trans-1,4-Dichloro	50.0	48.2	96.52	80-120
	79 Bromobenzene	50.0	46.8	93.54	80-120
	80 N-Propylbenzene	50.0	52.4	104.80	80-120
	81 1,1,2,2-Tetrachlor	50.0	45.5	91.06	80-120
	82 1,3,5-Trimethylben	50.0	49.6	99.23	80-120
	83 2-Chlorotoluene	50.0	50.2	100.38	80-120
	84 1,2,3-Trichloropro	50.0	48.6	97.21	80-120
	85 4-Chlorotoluene	50.0	49.7	99.47	80-120
	86 tert-Butylbenzene	50.0	45.5	91.07	80-120
	87 Pentachloroethane	50.0	8.0	15.94*	80-120
	88 1,2,4-Trimethylben	50.0	52.2	104.30	80-120
	89 P-Isopropyltoluene	50.0	51.7	103.42	80-120
	90 1,3-Dichlorobenzen	50.0	47.1	94.22	80-120
	92 1,4-Dichlorobenzen	50.0	46.4	92.77	80-120
	93 N-Butylbenzene	50.0	50.6	101.18	80-120
	94 sec-Butylbenzene	50.0	52.0	103.92	80-120
	95 1,2-Dichlorobenzen	50.0	48.9	97.78	80-120
	96 1,2-Dibromo-3-Chlo	50.0	47.5	94.95	80-120
	97 1,3,5-Trichloroben	50.0	49.0	98.03	80-120
	98 Hexachlorobutadien	50.0	43.9	87.78	80-120
	99 1,2,4-Trichloroben	50.0	49.3	98.55	80-120
	100 1,2,3-Trimethylben	50.0	52.7	105.38	80-120
	101 Naphthalene	50.0	52.1	104.27	80-120

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
102 1,2,3-Trichloroben	50.0	51.0	102.08	80-120
103 Methyl Acetate	50.0	47.4	94.89	80-120
104 Methylcyclohexane	50.0	52.5	104.94	80-120
M 153 Total Alkylbenzene	350	354	101.13	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/l	AMOUNT RECOVERED ug/l	% RECOVERED	LIMITS
\$ 37 Dibromofluorometha	50.0	49.8	99.69	68-128
\$ 45 1,2-Dichloroethane	50.0	49.2	98.31	67-135
\$ 55 Toluene-D8	50.0	50.3	100.59	65-128
\$ 76 P-Bromofluorobenze	50.0	49.6	99.11	56-133



Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121015.b\P3840.D  
 Lab Smp Id: WG176143-7  
 Inj Date : 10-DEC-2015 16:18 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG176143-7,BETHPAGE-3  
 Misc Info : WG176143,WG176143-4,TI0116-1  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121015.b\P826A21.m  
 Meth Date : 14-Jan-2016 11:32 abullentin Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:48 Cal File: P3837.D  
 Als bottle: 3 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

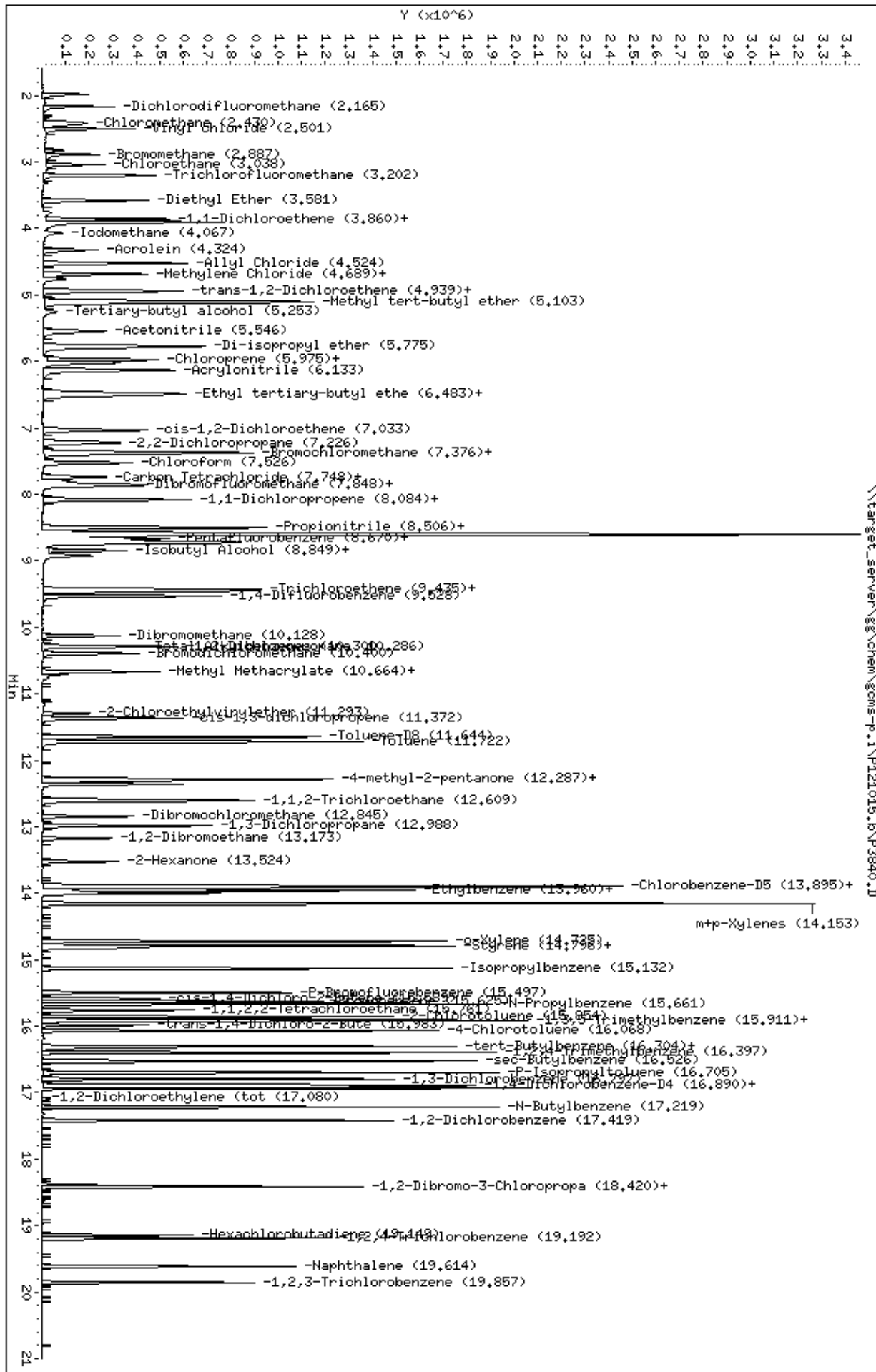
Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
1 Dichlorodifluoromethane	85	2.165	2.168 (0.250)		227941	46.4003	46.4	
2 Chloromethane	50	2.415	2.418 (0.279)		418047	49.2411	49.2	
3 Vinyl chloride	62	2.501	2.497 (0.289)		343657	48.3951	48.4	
4 Bromomethane	94	2.887	2.883 (0.333)		122327	50.6618	50.7	
5 Chloroethane	64	3.037	3.040 (0.350)		204916	50.7805	50.8	
6 Trichlorofluoromethane	101	3.201	3.205 (0.369)		321772	46.4310	46.4	
7 Diethyl Ether	59	3.580	3.583 (0.413)		237546	49.3100	49.3	
8 Tertiary-butyl alcohol	59	5.253	5.257 (0.606)		89587	311.537	312(R)	
9 1,1-Dichloroethene	96	3.859	3.855 (0.445)		187166	45.2125	45.2	
10 Carbon Disulfide	76	3.909	3.912 (0.451)		668750	45.0390	45.0	
11 Freon-113	151	3.902	3.898 (0.450)		134050	51.2404	51.2	
12 Iodomethane	142	4.066	4.062 (0.469)		128746	38.1922	38.2(R)	
13 Acrolein	56	4.324	4.327 (0.499)		220254	229.805	230	
14 Methylene Chloride	84	4.688	4.684 (0.541)		236660	43.4357	43.4	
15 Acetone	43	4.767	4.756 (0.550)		123140	55.2059	55.2	
16 Isobutyl Alcohol	43	8.920	8.916 (1.029)		164207	1178.14	1180	
17 trans-1,2-Dichloroethene	96	4.938	4.934 (0.570)		212885	47.1664	47.2	
18 Allyl Chloride	41	4.524	4.520 (0.522)		436360	51.6523	51.6	
19 Methyl tert-butyl ether	73	5.103	5.099 (0.589)		1393682	106.863	107	
20 Acetonitrile	39	5.546	5.542 (0.640)		83702	484.670	485	
21 Di-isopropyl ether	45	5.775	5.771 (0.666)		954611	53.0195	53.0	
22 Chloroprene	53	5.975	5.971 (0.689)		409924	53.5347	53.5	
23 Propionitrile	54	8.570	8.566 (0.988)		444866	506.491	506	
24 Methacrylonitrile	41	8.598	8.601 (0.992)		2000876	527.242	527	

Compounds	QUANT SIG				CONCENTRATIONS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	
25 1,1-Dichloroethane	63	6.025	6.021	(0.695)	416761	49.3912	49.4
26 Acrylonitrile	52	6.132	6.128	(0.707)	491370	251.091	251
27 Ethyl tertiary-butyl ether	59	6.482	6.478	(0.748)	714079	58.4299	58.4
28 Vinyl Acetate	43	6.511	6.515	(0.683)	481872	40.5670	40.6
29 cis-1,2-Dichloroethene	96	7.033	7.029	(0.811)	238650	45.4031	45.4
M 30 1,2-Dichloroethylene (total)	96				451535	92.5695	92.6
31 Methyl Methacrylate	41	10.664	10.660	(1.119)	266080	54.5578	54.6
32 2,2-Dichloropropane	77	7.226	7.222	(0.833)	238655	49.5298	49.5
33 Bromochloromethane	128	7.383	7.386	(0.852)	100341	50.4261	50.4
34 Chloroform	83	7.526	7.522	(0.868)	362904	47.4868	47.5
35 Carbon Tetrachloride	117	7.748	7.744	(0.813)	205019	49.2948	49.3
36 Tetrahydrofuran	42	7.798	7.786	(0.899)	84035	46.5026	46.5
\$ 37 Dibromofluoromethane	113	7.848	7.844	(0.905)	179262	49.8442	49.8
38 1,1,1-Trichloroethane	97	7.869	7.865	(0.908)	290351	48.1202	48.1
39 1,1-Dichloropropene	75	8.084	8.080	(0.848)	295438	49.4826	49.5
40 2-Butanone	43	8.069	8.065	(0.931)	150433	53.0194	53.0
41 Benzene	78	8.505	8.501	(0.893)	935538	49.5269	49.5
* 42 Pentafluorobenzene	168	8.670	8.666	(1.000)	371703	50.0000	
43 Cyclohexane	56	7.376	7.372	(0.851)	377929	44.8559	44.8
44 Ethyl Methacrylate	69	10.664	10.668	(1.119)	186297	48.9100	48.9
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.007)	236293	49.1537	49.2
46 Tertiary-amyl methyl ether	73	8.713	8.715	(1.005)	622327	51.3946	51.4
47 1,2-Dichloroethane	62	8.848	8.844	(0.929)	293545	46.3197	46.3
48 Trichloroethene	95	9.463	9.459	(0.993)	218217	49.9567	50.0
* 49 1,4-Difluorobenzene	114	9.527	9.523	(1.000)	639797	50.0000	
50 Dibromomethane	93	10.128	10.124	(1.063)	130325	48.9732	49.0
51 1,2-Dichloropropane	63	10.285	10.288	(1.080)	227242	47.2649	47.3
52 Bromodichloromethane	83	10.399	10.395	(1.092)	290195	50.7790	50.8
53 cis-1,3-dichloropropene	75	11.372	11.368	(1.194)	332584	44.9649	45.0
54 1,4-Dioxane	88	10.714	10.710	(1.125)	67952	960.373	960
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	764285	50.2930	50.3
56 2-Chloroethylvinylether	63	11.293	11.296	(1.185)	84596	50.4932	50.5
57 Toluene	92	11.722	11.718	(1.230)	596036	49.8245	49.8
58 4-methyl-2-pentanone	43	12.308	12.311	(1.292)	284010	53.0615	53.1
59 Tetrachloroethene	164	12.287	12.290	(0.885)	280461	75.3995	75.4 (R)
60 trans-1,3-Dichloropropene	75	12.358	12.355	(1.297)	288555	47.1309	47.1
61 1,1,2-Trichloroethane	83	12.594	12.590	(1.322)	167366	46.3462	46.3
62 Dibromochloromethane	129	12.844	12.847	(0.925)	195220	51.6447	51.6
63 1,3-Dichloropropane	76	12.987	12.983	(0.935)	379594	48.7779	48.8
64 1,2-Dibromoethane	107	13.173	13.176	(1.383)	200902	49.0852	49.1
65 2-Hexanone	43	13.523	13.519	(0.974)	217826	57.6604	57.7
* 66 Chlorobenzene-D5	117	13.888	13.891	(1.000)	596979	50.0000	
67 Chlorobenzene	112	13.909	13.912	(1.002)	602649	47.3338	47.3
152 1-Chlorohexane	91	13.895	13.891	(1.000)	329648	49.0044	49.0
68 Ethylbenzene	106	13.959	13.955	(1.005)	337407	48.4186	48.4
69 1,1,1,2-Tetrachloroethane	131	14.002	14.006	(1.008)	189992	48.4619	48.5
M 70 Xylenes (total)	106				1292512	154.011	154
71 m+p-Xylenes	106	14.152	14.155	(1.019)	868793	102.542	102
72 o-Xylene	106	14.724	14.720	(1.060)	423719	51.4689	51.5
73 Styrene	104	14.796	14.791	(1.065)	734842	53.1589	53.2
74 Bromoform	173	14.824	14.828	(1.067)	129922	45.9091	45.9
75 Isopropylbenzene	105	15.131	15.135	(0.896)	1054223	50.9971	51.0
\$ 76 P-Bromofluorobenzene	95	15.496	15.492	(1.626)	320105	49.5564	49.6
77 cis-1,4-Dichloro-2-Butene	53	15.589	15.585	(0.923)	105440	46.3624	46.4

Compounds	QUANT SIG				CONCENTRATIONS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	FINAL ( ug/l)	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.979	(0.946)	85091	48.2583	48.2	
79 Bromobenzene	156	15.625	15.621	(0.925)	251870	46.7684	46.8	
80 N-Propylbenzene	91	15.660	15.664	(0.927)	1327870	52.4009	52.4	
81 1,1,2,2-Tetrachloroethane	83	15.760	15.756	(0.933)	276495	45.5290	45.5	
82 1,3,5-Trimethylbenzene	105	15.911	15.907	(0.942)	882635	49.6128	49.6	
83 2-Chlorotoluene	91	15.861	15.857	(0.939)	774048	50.1897	50.2	
84 1,2,3-Trichloropropane	75	15.925	15.928	(0.943)	241250	48.6052	48.6	
85 4-Chlorotoluene	91	16.068	16.064	(0.951)	819531	49.7349	49.7	
86 tert-Butylbenzene	119	16.304	16.307	(0.965)	750497	45.5338	45.5	
87 Pentachloroethane	117	16.332	16.335	(0.967)	17233	7.96759	8.0(R)	
88 1,2,4-Trimethylbenzene	105	16.397	16.393	(0.971)	925203	52.1503	52.2	
89 P-Isopropyltoluene	119	16.704	16.700	(0.989)	946188	51.7094	51.7	
90 1,3-Dichlorobenzene	146	16.797	16.793	(0.994)	484631	47.1106	47.1	
* 91 1,4-Dichlorobenzene-D4	152	16.890	16.886	(1.000)	331676	50.0000		
92 1,4-Dichlorobenzene	146	16.904	16.907	(1.001)	505787	46.3846	46.4	
93 N-Butylbenzene	91	17.219	17.215	(1.019)	898590	50.5879	50.6	
94 sec-Butylbenzene	105	16.525	16.528	(0.978)	1133891	51.9622	52.0	
95 1,2-Dichlorobenzene	146	17.419	17.422	(1.031)	474853	48.8881	48.9	
96 1,2-Dibromo-3-Chloropropane	75	18.384	18.387	(1.088)	48337	47.4731	47.5	
97 1,3,5-Trichlorobenzene	180	18.420	18.416	(1.091)	342468	49.0125	49.0	
98 Hexachlorobutadiene	225	19.149	19.145	(1.134)	100220	43.8901	43.9	
99 1,2,4-Trichlorobenzene	180	19.192	19.195	(1.136)	287200	49.2760	49.3	
100 1,2,3-Trimethylbenzene	105	16.933	16.929	(1.003)	990572	52.6915	52.7	
101 Naphthalene	128	19.613	19.610	(1.161)	693075	52.1369	52.1	
102 1,2,3-Trichlorobenzene	180	19.856	19.859	(1.176)	237914	51.0406	51.0	
103 Methyl Acetate	43	4.953	4.949	(0.571)	251508	47.4452	47.4	
104 Methylcyclohexane	83	9.435	9.430	(1.088)	386821	52.4725	52.5	
M 153 Total Alkylbenzenes	100				6864874	353.957	354	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.



Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121015.b\P3834.D  
 Lab Smp Id: WG176143-4  
 Inj Date : 10-DEC-2015 10:28 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG176143-4  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121015.b\P826A21.m  
 Meth Date : 14-Jan-2016 11:32 abullentin Quant Type: ISTD  
 Cal Date : 10-DEC-2015 10:28 Cal File: P3834.D  
 Als bottle: 1 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG		AMOUNTS		REVIEW CODE			
	MASS	RT	EXP RT	REL RT		RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)
1 Dichlorodifluoromethane	85	2.168	2.168	(0.250)	267854	50.0000	50.0	
2 Chloromethane	50	2.418	2.418	(0.279)	418586	50.0000	50.0	
3 Vinyl chloride	62	2.497	2.497	(0.288)	370207	50.0000	50.0	
4 Bromomethane	94	2.883	2.883	(0.333)	118591	50.0000	50.0	
5 Chloroethane	64	3.040	3.040	(0.351)	202713	50.0000	50.0	
6 Trichlorofluoromethane	101	3.205	3.205	(0.370)	351954	50.0000	50.0	
7 Diethyl Ether	59	3.583	3.583	(0.414)	237529	50.0000	50.0	
8 Tertiary-butyl alcohol	59	5.256	5.257	(0.607)	60826	250.000	250	
9 1,1-Dichloroethene	96	3.855	3.855	(0.445)	206692	50.0000	50.0	
10 Carbon Disulfide	76	3.912	3.912	(0.451)	765023	50.0000	50.0	
11 Freon-113	151	3.898	3.898	(0.450)	135393	50.0000	50.0	
12 Iodomethane	142	4.062	4.062	(0.469)	137607	50.0000	50.0	
13 Acrolein	56	4.327	4.327	(0.499)	236073	250.000	250	
14 Methylene Chloride	84	4.684	4.684	(0.541)	251437	50.0000	50.0	
15 Acetone	43	4.756	4.756	(0.549)	516228	250.000	250	
16 Isobutyl Alcohol	43	8.916	8.916	(1.029)	123644	1000.00	1000	
17 trans-1,2-Dichloroethene	96	4.934	4.934	(0.569)	218026	50.0000	50.0	
18 Allyl Chloride	41	4.520	4.520	(0.522)	425989	50.0000	50.0	
19 Methyl tert-butyl ether	73	5.099	5.099	(0.588)	1300988	100.000	100	
20 Acetonitrile	39	5.542	5.542	(0.640)	77265	500.000	500	
21 Di-isopropyl ether	45	5.771	5.771	(0.666)	891951	50.0000	50.0	
22 Chloroprene	53	5.971	5.971	(0.689)	395527	50.0000	50.0	
23 Propionitrile	54	8.566	8.566	(0.988)	420203	500.000	500	

Compounds	QUANT SIG					AMOUNTS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.601	8.601	(0.993)	1911034	500.000	500	
25 1,1-Dichloroethane	63	6.021	6.021	(0.695)	411625	50.0000	50.0	
26 Acrylonitrile	52	6.128	6.128	(0.707)	475082	250.000	250	
27 Ethyl tertiary-butyl ether	59	6.478	6.478	(0.748)	584593	50.0000	50.0	
28 Vinyl Acetate	43	6.514	6.515	(0.684)	556596	50.0000	50.0	
29 cis-1,2-Dichloroethene	96	7.029	7.029	(0.811)	259613	50.0000	50.0	
M 30 1,2-Dichloroethylene (total)	96				477639	50.0000	100	
31 Methyl Methacrylate	41	10.660	10.660	(1.119)	246065	50.0000	50.0	
32 2,2-Dichloropropane	77	7.222	7.222	(0.833)	254012	50.0000	50.0	
33 Bromochloromethane	128	7.386	7.386	(0.852)	102206	50.0000	50.0	
34 Chloroform	83	7.522	7.522	(0.868)	379078	50.0000	50.0	
35 Carbon Tetrachloride	117	7.744	7.744	(0.813)	217274	50.0000	50.0	
36 Tetrahydrofuran	42	7.786	7.786	(0.899)	436413	250.000	250	
\$ 37 Dibromofluoromethane	113	7.844	7.844	(0.905)	176921	50.0000	50.0	
38 1,1,1-Trichloroethane	97	7.865	7.865	(0.908)	305969	50.0000	50.0	
39 1,1-Dichloropropene	75	8.080	8.080	(0.848)	298781	50.0000	50.0	
40 2-Butanone	43	8.065	8.065	(0.931)	692113	250.000	250	
41 Benzene	78	8.501	8.501	(0.893)	940338	50.0000	50.0	
* 42 Pentafluorobenzene	168	8.666	8.666	(1.000)	364722	50.0000		
43 Cyclohexane	56	7.372	7.372	(0.851)	433239	50.0000	50.0	
44 Ethyl Methacrylate	69	10.667	10.668	(1.120)	173449	50.0000	50.0	
\$ 45 1,2-Dichloroethane-D4	65	8.737	8.737	(1.008)	233175	50.0000	50.0	
46 Tertiary-amyl methyl ether	73	8.716	8.715	(1.006)	528039	50.0000	50.0	
47 1,2-Dichloroethane	62	8.844	8.844	(0.929)	306943	50.0000	50.0	
48 Trichloroethene	95	9.459	9.459	(0.993)	219448	50.0000	50.0	
* 49 1,4-Difluorobenzene	114	9.523	9.523	(1.000)	632873	50.0000		
50 Dibromomethane	93	10.124	10.124	(1.063)	133786	50.0000	50.0	
51 1,2-Dichloropropane	63	10.288	10.288	(1.080)	238187	50.0000	50.0	
52 Bromodichloromethane	83	10.395	10.395	(1.092)	291507	50.0000	50.0	
53 cis-1,3-dichloropropene	75	11.368	11.368	(1.194)	349907	50.0000	50.0	
54 1,4-Dioxane	88	10.710	10.710	(1.125)	43582	1000.00	1000(M)	M9
\$ 55 Toluene-D8	98	11.646	11.646	(1.223)	744682	50.0000	50.0	
56 2-Chloroethylvinylether	63	11.296	11.296	(1.186)	87704	50.0000	50.0	
57 Toluene	92	11.718	11.718	(1.230)	605173	50.0000	50.0	
58 4-methyl-2-pentanone	43	12.311	12.311	(1.293)	1405529	250.000	250	
59 Tetrachloroethene	164	12.290	12.290	(0.885)	168730	50.0000	50.0	
60 trans-1,3-Dichloropropene	75	12.354	12.355	(1.297)	283761	50.0000	50.0	
61 1,1,2-Trichloroethane	83	12.590	12.590	(1.322)	177579	50.0000	50.0	
62 Dibromochloromethane	129	12.847	12.847	(0.925)	197561	50.0000	50.0	
63 1,3-Dichloropropane	76	12.983	12.983	(0.935)	392497	50.0000	50.0	
64 1,2-Dibromoethane	107	13.176	13.176	(1.384)	203701	50.0000	50.0	
65 2-Hexanone	43	13.519	13.519	(0.973)	1003486	250.000	250	
* 66 Chlorobenzene-D5	117	13.891	13.891	(1.000)	600269	50.0000		
67 Chlorobenzene	112	13.912	13.912	(1.002)	630714	50.0000	50.0	
152 1-Chlorohexane	91	13.891	13.891	(1.000)	338223	50.0000	50.0	
68 Ethylbenzene	106	13.955	13.955	(1.005)	349334	50.0000	50.0	
69 1,1,1,2-Tetrachloroethane	131	14.005	14.006	(1.008)	191744	50.0000	50.0	
M 70 Xylenes (total)	106				1307696	150.000	150	
71 m+p-Xylenes	106	14.155	14.155	(1.019)	893729	100.000	100	
72 o-Xylene	106	14.720	14.720	(1.060)	413967	50.0000	50.0	
73 Styrene	104	14.791	14.791	(1.065)	736702	50.0000	50.0	
74 Bromoform	173	14.827	14.828	(1.067)	131405	50.0000	50.0	
75 Isopropylbenzene	105	15.135	15.135	(0.896)	1064779	50.0000	50.0	
\$ 76 P-Bromofluorobenzene	95	15.492	15.492	(1.627)	320668	50.0000	50.0	

*AAB*

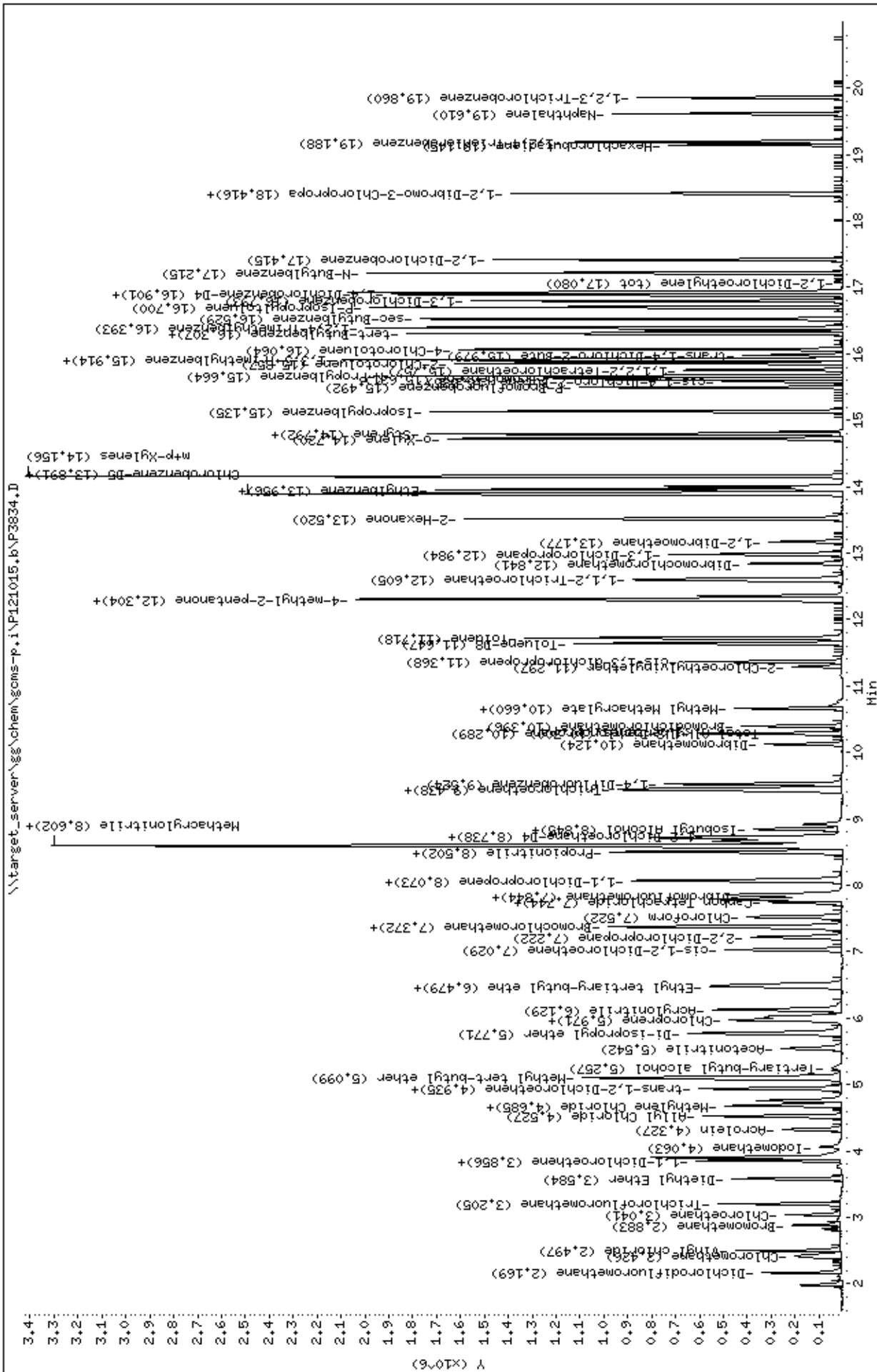
10:21 am, Jan 20, 2016

Compounds	QUANT SIG			AMOUNTS				REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.585	15.585	(0.923)	105920	50.0000	50.0	
78 trans-1,4-Dichloro-2-Butene	53	15.978	15.979	(0.946)	85090	50.0000	50.0	
79 Bromobenzene	156	15.621	15.621	(0.925)	260398	50.0000	50.0	
80 N-Propylbenzene	91	15.664	15.664	(0.928)	1315908	50.0000	50.0	
81 1,1,2,2-Tetrachloroethane	83	15.756	15.756	(0.933)	312468	50.0000	50.0	
82 1,3,5-Trimethylbenzene	105	15.907	15.907	(0.942)	940367	50.0000	50.0	
83 2-Chlorotoluene	91	15.857	15.857	(0.939)	769626	50.0000	50.0	
84 1,2,3-Trichloropropane	75	15.928	15.928	(0.943)	241020	50.0000	50.0	
85 4-Chlorotoluene	91	16.064	16.064	(0.951)	827845	50.0000	50.0	
86 tert-Butylbenzene	119	16.307	16.307	(0.966)	868726	50.0000	50.0	
87 Pentachloroethane	117	16.335	16.335	(0.967)	169306	50.0000	50.0	
88 1,2,4-Trimethylbenzene	105	16.393	16.393	(0.971)	912070	50.0000	50.0	
89 P-Isopropyltoluene	119	16.700	16.700	(0.989)	975558	50.0000	50.0	
90 1,3-Dichlorobenzene	146	16.793	16.793	(0.994)	516424	50.0000	50.0	
* 91 1,4-Dichlorobenzene-D4	152	16.886	16.886	(1.000)	331701	50.0000		
92 1,4-Dichlorobenzene	146	16.907	16.907	(1.001)	534858	50.0000	50.0	
93 N-Butylbenzene	91	17.215	17.215	(1.019)	937755	50.0000	50.0	
94 sec-Butylbenzene	105	16.528	16.528	(0.979)	1143020	50.0000	50.0	
95 1,2-Dichlorobenzene	146	17.422	17.422	(1.032)	491119	50.0000	50.0	
96 1,2-Dibromo-3-Chloropropane	75	18.387	18.387	(1.089)	54202	50.0000	50.0	
97 1,3,5-Trichlorobenzene	180	18.416	18.416	(1.091)	332294	50.0000	50.0	
98 Hexachlorobutadiene	225	19.145	19.145	(1.134)	107305	50.0000	50.0	
99 1,2,4-Trichlorobenzene	180	19.195	19.195	(1.137)	295022	50.0000	50.0	
100 1,2,3-Trimethylbenzene	105	16.929	16.929	(1.003)	957646	50.0000	50.0	
101 Naphthalene	128	19.609	19.610	(1.161)	637579	50.0000	50.0	
102 1,2,3-Trichlorobenzene	180	19.859	19.859	(1.176)	235047	50.0000	50.0	
103 Methyl Acetate	43	4.949	4.949	(0.571)	247892	50.0000	50.0	
104 Methylcyclohexane	83	9.430	9.430	(1.088)	387561	50.0000	50.0	
M 153 Total Alkylbenzenes	100				7093404	50.0000	350	

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\_server\gg\chem\goms-p.i\P121015.b\3834.D  
 Date: 10-DEC-2015 10:28  
 Client ID:  
 Sample Info: MG176143-4  
 Purge Volume: 5.0  
 Column phase: RTX-VMS  
 Instrument: goms-p.i  
 Operator: AAB  
 Column diameter: 0.18





Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121015.b\P3835.D  
 Lab Smp Id: WG176143-3  
 Inj Date : 10-DEC-2015 10:55 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG176143-3  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121015.b\P826A21.m  
 Meth Date : 11-Dec-2015 06:01 abullentin Quant Type: ISTD  
 Cal Date : 10-DEC-2015 10:55 Cal File: P3835.D  
 Als bottle: 2 Calibration Sample, Level: 3  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS		REVIEW CODE
						CAL-AMT ( ug/l)	ON-COL ( ug/l)	
1 Dichlorodifluoromethane	85	2.167	2.168 (0.250)		93839	20.0000	19.8	
2 Chloromethane	50	2.424	2.418 (0.280)		156104	20.0000	19.0	
3 Vinyl chloride	62	2.496	2.497 (0.288)		132268	20.0000	19.3	
4 Bromomethane	94	2.889	2.883 (0.333)		44012	20.0000	18.9	
5 Chloroethane	64	3.039	3.040 (0.351)		77978	20.0000	20.0	
6 Trichlorofluoromethane	101	3.204	3.205 (0.370)		131942	20.0000	19.7	
7 Diethyl Ether	59	3.582	3.583 (0.413)		90230	20.0000	19.4	
8 Tertiary-butyl alcohol	59	5.262	5.257 (0.607)		29879	100.000	108	
9 1,1-Dichloroethene	96	3.854	3.855 (0.445)		78191	20.0000	19.6	
10 Carbon Disulfide	76	3.911	3.912 (0.451)		288363	20.0000	20.1	
11 Freon-113	151	3.904	3.898 (0.451)		51970	20.0000	20.6	
12 Iodomethane	142	4.061	4.062 (0.469)		39990	20.0000	19.7	
13 Acrolein	56	4.326	4.327 (0.499)		91038	100.000	98.4	
14 Methylene Chloride	84	4.690	4.684 (0.541)		99711	20.0000	19.0	
15 Acetone	43	4.762	4.756 (0.550)		218120	100.000	101	
16 Isobutyl Alcohol	43	8.922	8.916 (1.030)		50711	400.000	377	
17 trans-1,2-Dichloroethene	96	4.933	4.934 (0.569)		85341	20.0000	19.6	
18 Allyl Chloride	41	4.526	4.520 (0.522)		168573	20.0000	20.7	
19 Methyl tert-butyl ether	73	5.105	5.099 (0.589)		499351	40.0000	39.6	
20 Acetonitrile	39	5.548	5.542 (0.640)		32076	200.000	177	
21 Di-isopropyl ether	45	5.777	5.771 (0.667)		351801	20.0000	20.2	
22 Chloroprene	53	5.977	5.971 (0.690)		154825	20.0000	20.9	
23 Propionitrile	54	8.565	8.566 (0.988)		167738	200.000	198	

Compounds	QUANT SIG				AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.600	8.601	(0.993)	769471	200.000	210	
25 1,1-Dichloroethane	63	6.020	6.021	(0.695)	165656	20.0000	20.3	
26 Acrylonitrile	52	6.127	6.128	(0.707)	190790	100.000	101	
27 Ethyl tertiary-butyl ether	59	6.477	6.478	(0.748)	231951	20.0000	19.6	
28 Vinyl Acetate	43	6.513	6.514	(0.683)	207858	20.0000	19.5	
29 cis-1,2-Dichloroethene	96	7.035	7.029	(0.812)	100715	20.0000	19.8	
M 30 1,2-Dichloroethylene (total)	96				186056	20.0000	39.4	
31 Methyl Methacrylate	41	10.666	10.660	(1.119)	95662	20.0000	20.4	
32 2,2-Dichloropropane	77	7.221	7.222	(0.833)	92621	20.0000	19.9	
33 Bromochloromethane	128	7.378	7.386	(0.852)	39863	20.0000	20.7	
34 Chloroform	83	7.528	7.522	(0.869)	150762	20.0000	20.4	
35 Carbon Tetrachloride	117	7.743	7.744	(0.812)	83187	20.0000	20.8	
36 Tetrahydrofuran	42	7.793	7.786	(0.899)	179797	100.000	103	
\$ 37 Dibromofluoromethane	113	7.843	7.844	(0.905)	168642	50.0000	48.6	
38 1,1,1-Trichloroethane	97	7.871	7.865	(0.908)	121072	20.0000	20.8	
39 1,1-Dichloropropene	75	8.086	8.080	(0.848)	121185	20.0000	21.1	
40 2-Butanone	43	8.064	8.065	(0.931)	283196	100.000	103	
41 Benzene	78	8.500	8.501	(0.892)	367704	20.0000	20.2	
* 42 Pentafluorobenzene	168	8.665	8.666	(1.000)	358888	50.0000		
43 Cyclohexane	56	7.371	7.372	(0.851)	170246	20.0000	20.9	
44 Ethyl Methacrylate	69	10.666	10.668	(1.119)	64191	20.0000	20.7	
\$ 45 1,2-Dichloroethane-D4	65	8.729	8.737	(1.007)	230019	50.0000	49.6	
46 Tertiary-amyl methyl ether	73	8.715	8.715	(1.006)	201096	20.0000	19.5	
47 1,2-Dichloroethane	62	8.843	8.844	(0.928)	123637	20.0000	20.3	
48 Trichloroethene	95	9.458	9.459	(0.992)	86394	20.0000	20.6	
* 49 1,4-Difluorobenzene	114	9.530	9.523	(1.000)	614944	50.0000		
50 Dibromomethane	93	10.123	10.124	(1.062)	53064	20.0000	20.7	
51 1,2-Dichloropropane	63	10.287	10.288	(1.080)	91943	20.0000	19.8	
52 Bromodichloromethane	83	10.394	10.395	(1.091)	112367	20.0000	20.4	
53 cis-1,3-dichloropropene	75	11.367	11.368	(1.193)	126811	20.0000	19.9	
54 1,4-Dioxane	88	10.716	10.710	(1.125)	27788	400.000	425 (M)	M9
\$ 55 Toluene-D8	98	11.645	11.646	(1.222)	733062	50.0000	50.2	
56 2-Chloroethylvinylether	63	11.295	11.296	(1.185)	35762	20.0000	22.2	
57 Toluene	92	11.717	11.718	(1.230)	236507	20.0000	20.6	
58 4-methyl-2-pentanone	43	12.310	12.311	(1.292)	556114	100.000	108	
59 Tetrachloroethene	164	12.289	12.290	(0.885)	68677	20.0000	19.4	
60 trans-1,3-Dichloropropene	75	12.353	12.355	(1.296)	103533	20.0000	20.3	
61 1,1,2-Trichloroethane	83	12.589	12.590	(1.321)	67982	20.0000	19.6	
62 Dibromochloromethane	129	12.846	12.847	(0.925)	74631	20.0000	20.7	
63 1,3-Dichloropropane	76	12.982	12.983	(0.935)	153906	20.0000	20.8	
64 1,2-Dibromoethane	107	13.175	13.176	(1.383)	75147	20.0000	19.0	
65 2-Hexanone	43	13.518	13.519	(0.973)	403804	100.000	112	
* 66 Chlorobenzene-D5	117	13.890	13.891	(1.000)	568499	50.0000		
67 Chlorobenzene	112	13.911	13.912	(1.002)	245669	20.0000	20.3	
152 1-Chlorohexane	91	13.890	13.891	(1.000)	134167	20.0000	20.9	
68 Ethylbenzene	106	13.954	13.955	(1.005)	134656	20.0000	20.3	
69 1,1,1,2-Tetrachloroethane	131	14.004	14.006	(1.008)	69515	20.0000	20.7	
M 70 Xylenes (total)	106				506339	60.0000	63.3	
71 m+p-Xylenes	106	14.154	14.155	(1.019)	345041	40.0000	42.8	
72 o-Xylene	106	14.719	14.720	(1.060)	161298	20.0000	20.6	
73 Styrene	104	14.791	14.791	(1.065)	279026	20.0000	21.2	
74 Bromoform	173	14.826	14.827	(1.067)	46357	20.0000	18.6	
75 Isopropylbenzene	105	15.134	15.135	(0.896)	412092	20.0000	20.6	
\$ 76 P-Bromofluorobenzene	95	15.491	15.492	(1.626)	309742	50.0000	49.9	

*AAB*

10:21 am, Jan 20, 2016

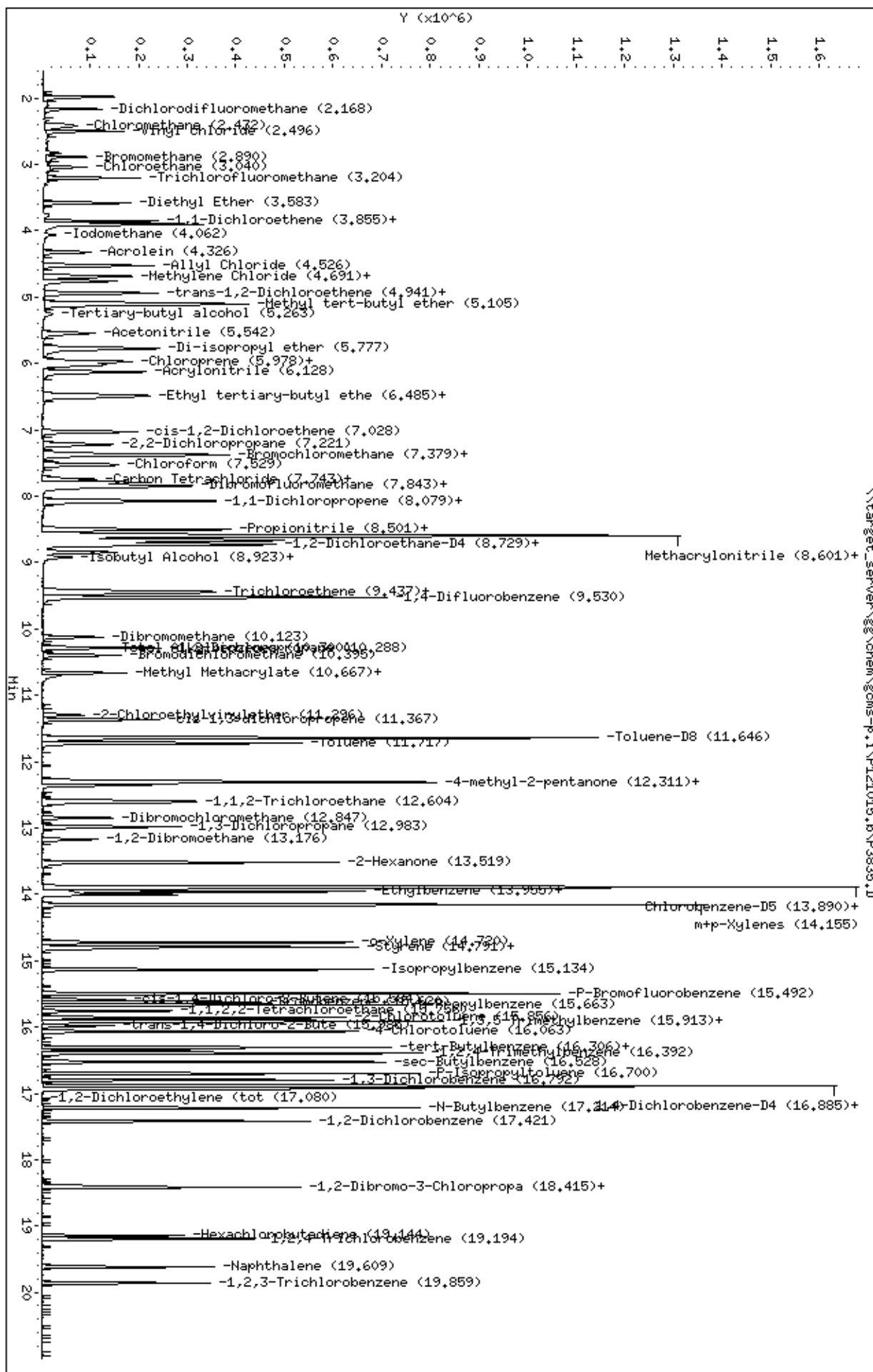
Compounds	QUANT SIG			AMOUNTS				REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.584	15.585	(0.923)	36967	20.0000	19.3	
78 trans-1,4-Dichloro-2-Butene	53	15.977	15.979	(0.946)	30772	20.0000	20.2	
79 Bromobenzene	156	15.627	15.621	(0.925)	100097	20.0000	19.2	
80 N-Propylbenzene	91	15.663	15.664	(0.928)	515980	20.0000	21.0	
81 1,1,2,2-Tetrachloroethane	83	15.755	15.756	(0.933)	120705	20.0000	20.5	
82 1,3,5-Trimethylbenzene	105	15.913	15.907	(0.942)	364915	20.0000	21.2	
83 2-Chlorotoluene	91	15.856	15.857	(0.939)	299709	20.0000	20.1	
84 1,2,3-Trichloropropane	75	15.927	15.928	(0.943)	98089	20.0000	3.1	
85 4-Chlorotoluene	91	16.063	16.064	(0.951)	327830	20.0000	20.5	
86 tert-Butylbenzene	119	16.306	16.307	(0.966)	331905	20.0000	20.8	
87 Pentachloroethane	117	16.334	16.335	(0.967)	57978	20.0000	22.2	
88 1,2,4-Trimethylbenzene	105	16.392	16.393	(0.971)	363793	20.0000	21.2	
89 p-Isopropyltoluene	119	16.699	16.700	(0.989)	375048	20.0000	21.2	
90 1,3-Dichlorobenzene	146	16.792	16.793	(0.994)	196390	20.0000	19.7	
* 91 1,4-Dichlorobenzene-D4	152	16.885	16.886	(1.000)	321215	50.0000		
92 1,4-Dichlorobenzene	146	16.906	16.907	(1.001)	204689	20.0000	19.4	
93 N-Butylbenzene	91	17.214	17.215	(1.019)	362114	20.0000	21.0	
94 sec-Butylbenzene	105	16.527	16.528	(0.979)	447601	20.0000	21.2	
95 1,2-Dichlorobenzene	146	17.421	17.422	(1.032)	187962	20.0000	20.0	
96 1,2-Dibromo-3-Chloropropane	75	18.386	18.387	(1.089)	19776	20.0000	20.0	
97 1,3,5-Trichlorobenzene	180	18.415	18.416	(1.091)	126588	20.0000	18.7	
98 Hexachlorobutadiene	225	19.144	19.145	(1.134)	41840	20.0000	18.9	
99 1,2,4-Trichlorobenzene	180	19.194	19.195	(1.137)	110710	20.0000	19.6	
100 1,2,3-Trimethylbenzene	105	16.928	16.929	(1.003)	376558	20.0000	20.7	
101 Naphthalene	128	19.608	19.610	(1.161)	237079	20.0000	21.2	
102 1,2,3-Trichlorobenzene	180	19.858	19.859	(1.176)	90709	20.0000	20.1	
103 Methyl Acetate	43	4.955	4.949	(0.572)	100419	20.0000	19.6	
104 Methylcyclohexane	83	9.430	9.430	(1.088)	147635	20.0000	20.7	
M 153 Total Alkylbenzenes	100				2761356	20.0000	148	

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\_server\chem\goms-p.i\PI21015.b\PI3835.D  
 Date: 10-DEC-2015 10:55  
 Client ID:  
 Sample Info: M0176143-3  
 Purge Volume: 5.0  
 Column phase: RTX-VHS

Instrument: goms-p.i  
 Operator: AAB  
 Column diameter: 0.18



Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121015.b\P3836.D  
 Lab Smp Id: WG176143-2  
 Inj Date : 10-DEC-2015 11:22 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG176143-2  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121015.b\P826A21.m  
 Meth Date : 11-Dec-2015 06:01 abullentin Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:22 Cal File: P3836.D  
 Als bottle: 3 Calibration Sample, Level: 2  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG		RT		REL RT	RESPONSE	AMOUNTS		REVIEW CODE
	MASS		EXP				CAL-AMT	ON-COL	
=====	====		====	=====	=====	=====	=====	=====	
1 Dichlorodifluoromethane	85		2.165	2.168 (0.250)		19394	5.00000	4.4	
2 Chloromethane	50		2.408	2.418 (0.278)		36702	5.00000	4.8(M)	M9
3 Vinyl chloride	62		2.501	2.497 (0.288)		30981	5.00000	4.9	
4 Bromomethane	94		2.887	2.883 (0.333)		10251	5.00000	4.7	
5 Chloroethane	64		3.044	3.040 (0.351)		18572	5.00000	5.1	
6 Trichlorofluoromethane	101		3.208	3.205 (0.370)		27813	5.00000	4.5	
7 Diethyl Ether	59		3.580	3.583 (0.413)		19266	5.00000	4.5	
8 Tertiary-butyl alcohol	59		5.253	5.257 (0.606)		5612	25.0000	21.8	
9 1,1-Dichloroethene	96		3.859	3.855 (0.445)		17552	5.00000	4.7	
10 Carbon Disulfide	76		3.909	3.912 (0.451)		59283	5.00000	4.5	
11 Freon-113	151		3.895	3.898 (0.449)		8778	5.00000	3.8	
12 Iodomethane	142		4.066	4.062 (0.469)		7009	5.00000	3.7(M)	M6
13 Acrolein	56		4.324	4.327 (0.499)		18684	25.0000	21.8	
14 Methylene Chloride	84		4.688	4.684 (0.541)		23639	5.00000	4.8(a)	
15 Acetone	43		4.760	4.756 (0.549)		51705	25.0000	25.9	
16 Isobutyl Alcohol	43		8.920	8.916 (1.029)		7614	100.000	61.1	
17 trans-1,2-Dichloroethene	96		4.938	4.934 (0.570)		20821	5.00000	5.2	
18 Allyl Chloride	41		4.524	4.520 (0.522)		35465	5.00000	4.7	
19 Methyl tert-butyl ether	73		5.103	5.099 (0.589)		108260	10.0000	9.3	
20 Acetonitrile	39		5.539	5.542 (0.639)		7261	50.0000	43.3	
21 Di-isopropyl ether	45		5.782	5.771 (0.667)		68548	5.00000	4.2	
22 Chloroprene	53		5.975	5.971 (0.689)		29121	5.00000	4.2	
23 Propionitrile	54		8.569	8.566 (0.988)		35623	50.0000	45.4	

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Compounds	QUANT SIG				AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.598	8.601	(0.992)	163409	50.0000	48.2	
25 1,1-Dichloroethane	63	6.025	6.021	(0.695)	38490	5.00000	5.1	
26 Acrylonitrile	52	6.125	6.128	(0.706)	38635	25.0000	22.1	
27 Ethyl tertiary-butyl ether	59	6.489	6.478	(0.749)	45904	5.00000	4.2	
28 Vinyl Acetate	43	6.518	6.514	(0.684)	40378	5.00000	3.8	
29 cis-1,2-Dichloroethene	96	7.033	7.029	(0.811)	23263	5.00000	4.9	
M 30 1,2-Dichloroethylene (total)	96				44084	5.00000	10.1	
31 Methyl Methacrylate	41	10.671	10.660	(1.120)	19133	5.00000	4.2	
32 2,2-Dichloropropane	77	7.226	7.222	(0.833)	19618	5.00000	4.6	
33 Bromochloromethane	128	7.383	7.386	(0.852)	9484	5.00000	5.3	
34 Chloroform	83	7.533	7.522	(0.869)	32870	5.00000	4.8	
35 Carbon Tetrachloride	117	7.747	7.744	(0.813)	15833	5.00000	4.0	
36 Tetrahydrofuran	42	7.805	7.786	(0.900)	42208	25.0000	26.1	
\$ 37 Dibromofluoromethane	113	7.840	7.844	(0.904)	165084	50.0000	51.3	
38 1,1,1-Trichloroethane	97	7.869	7.865	(0.908)	26293	5.00000	4.9	
39 1,1-Dichloropropene	75	8.083	8.080	(0.848)	26473	5.00000	4.7	
40 2-Butanone	43	8.069	8.065	(0.931)	64702	25.0000	25.5	
41 Benzene	78	8.505	8.501	(0.893)	84600	5.00000	4.7	
* 42 Pentafluorobenzene	168	8.669	8.666	(1.000)	332392	50.0000		
43 Cyclohexane	56	7.376	7.372	(0.851)	34774	5.00000	4.6	
44 Ethyl Methacrylate	69	10.671	10.668	(1.120)	11947	5.00000	3.9	
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.007)	227452	50.0000	52.9	
46 Tertiary-amyl methyl ether	73	8.720	8.715	(1.006)	37951	5.00000	4.0	
47 1,2-Dichloroethane	62	8.848	8.844	(0.929)	29550	5.00000	4.9	
48 Trichloroethene	95	9.463	9.459	(0.993)	19913	5.00000	4.8	
* 49 1,4-Difluorobenzene	114	9.527	9.523	(1.000)	603618	50.0000		
50 Dibromomethane	93	10.128	10.124	(1.063)	12111	5.00000	4.8	
51 1,2-Dichloropropane	63	10.292	10.288	(1.080)	21094	5.00000	4.6	
52 Bromodichloromethane	83	10.399	10.395	(1.092)	25374	5.00000	4.7	
53 cis-1,3-dichloropropene	75	11.371	11.368	(1.194)	27478	5.00000	4.4	
54 1,4-Dioxane	88	10.714	10.710	(1.125)	8334	100.000	125 (M)	M9
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	713746	50.0000	49.8	
56 2-Chloroethylvinylether	63	11.293	11.296	(1.185)	7508	5.00000	4.7	
57 Toluene	92	11.722	11.718	(1.230)	53391	5.00000	4.7	
58 4-methyl-2-pentanone	43	12.315	12.311	(1.293)	120294	25.0000	23.8	
59 Tetrachloroethene	164	12.286	12.290	(0.885)	17328	5.00000	5.1	
60 trans-1,3-Dichloropropene	75	12.358	12.355	(1.297)	20276	5.00000	4.0	
61 1,1,2-Trichloroethane	83	12.594	12.590	(1.322)	15667	5.00000	4.6	
62 Dibromochloromethane	129	12.844	12.847	(0.925)	16420	5.00000	4.7	
63 1,3-Dichloropropane	76	12.987	12.983	(0.935)	35322	5.00000	4.9	
64 1,2-Dibromoethane	107	13.173	13.176	(1.383)	17644	5.00000	4.6	
65 2-Hexanone	43	13.523	13.519	(0.974)	83548	25.0000	24.1	
* 66 Chlorobenzene-D5	117	13.888	13.891	(1.000)	548582	50.0000		
67 Chlorobenzene	112	13.909	13.912	(1.002)	54573	5.00000	4.7	
152 1-Chlorohexane	91	13.895	13.891	(1.000)	27221	5.00000	4.4	
68 Ethylbenzene	106	13.952	13.955	(1.005)	32469	5.00000	5.1	
69 1,1,1,2-Tetrachloroethane	131	14.002	14.006	(1.008)	15337	5.00000	4.7	
M 70 Xylenes (total)	106				112670	15.0000	14.6	
71 m+p-Xylenes	106	14.152	14.155	(1.019)	76927	10.0000	9.9	
72 o-Xylene	106	14.724	14.720	(1.060)	35743	5.00000	4.7	
73 Styrene	104	14.795	14.791	(1.065)	60218	5.00000	4.7	
74 Bromoform	173	14.824	14.827	(1.067)	9594	5.00000	4.0	
75 Isopropylbenzene	105	15.131	15.135	(0.896)	89258	5.00000	4.8	
\$ 76 P-Bromofluorobenzene	95	15.496	15.492	(1.626)	295688	50.0000	48.5	

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Compounds	QUANT SIG			AMOUNTS		REVIEW CODE		
	MASS	RT	EXP RT	REL RT	RESPONSE		CAL-AMT ( ug/l)	ON-COL ( ug/l)
77 cis-1,4-Dichloro-2-Butene	53	15.589	15.585	(0.923)	7031	5.00000	4.0	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.979	(0.947)	5551	5.00000	3.9	
79 Bromobenzene	156	15.625	15.621	(0.925)	22008	5.00000	4.6	
80 N-Propylbenzene	91	15.660	15.664	(0.928)	112684	5.00000	5.0	
81 1,1,2,2-Tetrachloroethane	83	15.760	15.756	(0.934)	24840	5.00000	4.6	
82 1,3,5-Trimethylbenzene	105	15.910	15.907	(0.942)	79408	5.00000	5.0	
83 2-Chlorotoluene	91	15.853	15.857	(0.939)	70929	5.00000	5.1	
84 1,2,3-Trichloropropane	75	15.925	15.928	(0.943)	20738	5.00000	4.7	
85 4-Chlorotoluene	91	16.068	16.064	(0.952)	75220	5.00000	5.1	
86 tert-Butylbenzene	119	16.311	16.307	(0.966)	70564	5.00000	4.8	
87 Pentachloroethane	117	16.332	16.335	(0.967)	9590	5.00000	3.9 (M)	M9
88 1,2,4-Trimethylbenzene	105	16.396	16.393	(0.971)	80072	5.00000	5.0	
89 P-Isopropyltoluene	119	16.704	16.700	(0.989)	77850	5.00000	4.7	
90 1,3-Dichlorobenzene	146	16.797	16.793	(0.995)	44843	5.00000	4.9	
* 91 1,4-Dichlorobenzene-D4	152	16.883	16.886	(1.000)	297242	50.0000		
92 1,4-Dichlorobenzene	146	16.904	16.907	(1.001)	47843	5.00000	4.9	
93 N-Butylbenzene	91	17.219	17.215	(1.020)	78720	5.00000	4.9	
94 sec-Butylbenzene	105	16.525	16.528	(0.979)	96408	5.00000	4.9	
95 1,2-Dichlorobenzene	146	17.419	17.422	(1.032)	42740	5.00000	4.9	
96 1,2-Dibromo-3-Chloropropane	75	18.384	18.387	(1.089)	3901	5.00000	4.3	
97 1,3,5-Trichlorobenzene	180	18.419	18.416	(1.091)	28343	5.00000	4.5	
98 Hexachlorobutadiene	225	19.148	19.145	(1.134)	9733	5.00000	4.8	
99 1,2,4-Trichlorobenzene	180	19.191	19.195	(1.137)	25412	5.00000	4.9	
100 1,2,3-Trimethylbenzene	105	16.933	16.929	(1.003)	77433	5.00000	4.6	
101 Naphthalene	128	19.613	19.610	(1.162)	44438	5.00000	4.3	
102 1,2,3-Trichlorobenzene	180	19.856	19.859	(1.176)	19700	5.00000	4.7	
103 Methyl Acetate	43	4.960	4.949	(0.572)	22169	5.00000	4.7	
104 Methylcyclohexane	83	9.434	9.430	(1.088)	25192	5.00000	3.8	
M 153 Total Alkylbenzenes	100				595706	5.00000	34.4	

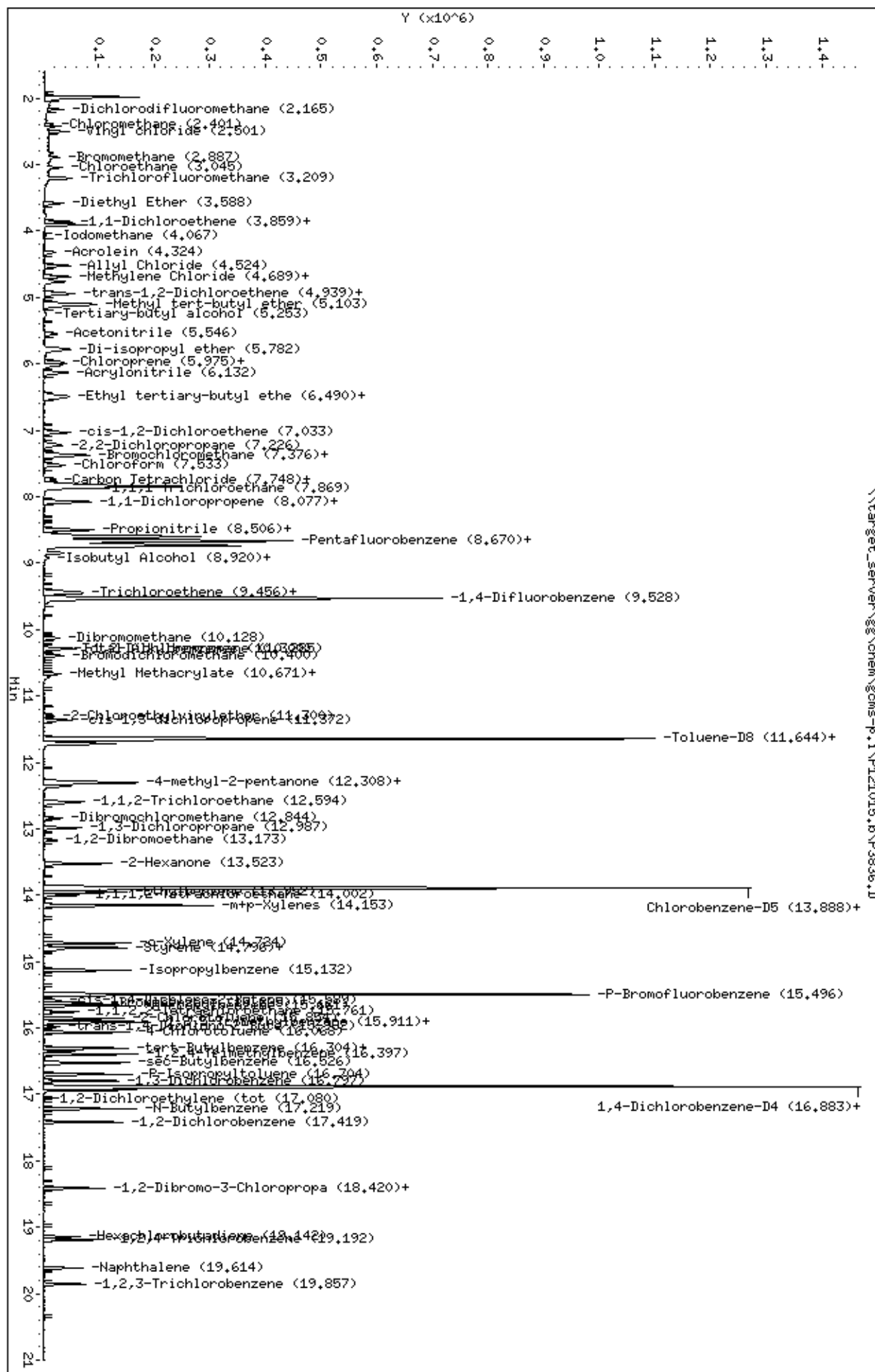
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 10:21 am, Jan 20, 2016

QC Flag Legend

- a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
- M - Compound response manually integrated.

Data File: \\target\_server\chem\gms\p.i\PI21015.b\PI3836.D  
 Date : 10-DEC-2015 11:22  
 Client ID:  
 Sample Info: M0176143-2  
 Purge Volume: 5.0  
 Column phase: RTX-VHS

Instrument: gms-p.i  
 Operator: AAB  
 Column diameter: 0.18





Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121015.b\P3837.D  
 Lab Smp Id: WG176143-1  
 Inj Date : 10-DEC-2015 11:48 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG176143-1  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121015.b\P826A21.m  
 Meth Date : 14-Jan-2016 11:40 abullentin Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:48 Cal File: P3837.D  
 Als bottle: 4 Calibration Sample, Level: 1  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG		RT		REL RT	RESPONSE	AMOUNTS		REVIEW CODE
	MASS		EXP RT				CAL-AMT ( ug/l)	ON-COL ( ug/l)	
1 Dichlorodifluoromethane	85		2.165	2.168 (0.250)		4205	1.00000	0.97(a)	
2 Chloromethane	50		2.422	2.418 (0.279)		8223	1.00000	1.1(M)	M9
3 Vinyl chloride	62		2.501	2.497 (0.289)		6347	1.00000	1.0	
4 Bromomethane	94		2.887	2.883 (0.333)		1789	1.00000	0.84(a)	
5 Chloroethane	64		3.037	3.040 (0.350)		4056	1.00000	1.1	
6 Trichlorofluoromethane	101		3.209	3.205 (0.370)		6203	1.00000	1.0	
7 Diethyl Ether	59		3.580	3.583 (0.413)		4511	1.00000	1.1	
8 Tertiary-butyl alcohol	59		5.253	5.257 (0.606)		773	5.00000	3.0(aM)	M9
9 1,1-Dichloroethene	96		3.859	3.855 (0.445)		3396	1.00000	0.93(a)	
10 Carbon Disulfide	76		3.909	3.912 (0.451)		12247	1.00000	0.93(a)	
11 Freon-113	151		3.902	3.898 (0.450)		2313	1.00000	1.0	
12 Iodomethane	142		4.073	4.062 (0.470)		723	1.00000	6.1(M)	M6
13 Acrolein	56		4.331	4.327 (0.500)		4553	5.00000	5.4	
14 Methylene Chloride	84		4.688	4.684 (0.541)		5694	1.00000	1.2(a)	
15 Acetone	43		4.760	4.756 (0.549)		11313	5.00000	5.7	
16 Isobutyl Alcohol	43		8.920	8.916 (1.029)		1498	20.0000	12.2(aM)	M9
17 trans-1,2-Dichloroethene	96		4.931	4.934 (0.569)		4071	1.00000	1.0	
18 Allyl Chloride	41		4.524	4.520 (0.522)		8043	1.00000	1.1	
19 Methyl tert-butyl ether	73		5.117	5.099 (0.590)		20950	2.00000	1.8	
20 Acetonitrile	39		5.546	5.542 (0.640)		2500	10.0000	17.7(aM)	M9
21 Di-isopropyl ether	45		5.782	5.771 (0.667)		15159	1.00000	0.95(a)	
22 Chloroprene	53		5.975	5.971 (0.689)		6045	1.00000	0.89(a)	
23 Propionitrile	54		8.570	8.566 (0.988)		7504	10.0000	9.7(a)	

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Compounds	QUANT SIG				AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.598	8.601 (0.992)		35782	10.0000	10.7	
25 1,1-Dichloroethane	63	6.018	6.021 (0.694)		6964	1.00000	0.93(a)	
26 Acrylonitrile	52	6.132	6.128 (0.707)		8535	5.00000	4.9(a)	
27 Ethyl tertiary-butyl ether	59	6.475	6.478 (0.747)		9529	1.00000	0.88(aM)	M9
28 Vinyl Acetate	43	6.518	6.515 (0.684)		6923	1.00000	0.72(aM)	M6
29 cis-1,2-Dichloroethene	96	7.033	7.029 (0.811)		4482	1.00000	0.96(a)	
M 30 1,2-Dichloroethylene (total)	96				8553	1.00000	2.0	
31 Methyl Methacrylate	41	10.664	10.660 (1.119)		3838	1.00000	0.86(a)	
32 2,2-Dichloropropane	77	7.226	7.222 (0.833)		3382	1.00000	0.79(a)	
33 Bromochloromethane	128	7.383	7.386 (0.852)		1676	1.00000	0.95(a)	
34 Chloroform	83	7.526	7.522 (0.868)		6561	1.00000	0.97(a)	
35 Carbon Tetrachloride	117	7.733	7.744 (0.812)		3227	1.00000	0.84(aM)	M9
36 Tetrahydrofuran	42	7.812	7.786 (0.901)		7118	5.00000	4.5(a)	
\$ 37 Dibromofluoromethane	113	7.840	7.844 (0.904)		164300	50.0000	51.7	
38 1,1,1-Trichloroethane	97	7.869	7.865 (0.908)		4395	1.00000	0.82(a)	
39 1,1-Dichloropropene	75	8.076	8.080 (0.848)		5034	1.00000	0.92(a)	
40 2-Butanone	43	8.069	8.065 (0.931)		11482	5.00000	4.6(a)	
41 Benzene	78	8.505	8.501 (0.893)		16935	1.00000	0.98(a)	
* 42 Pentafluorobenzene	168	8.670	8.666 (1.000)		328249	50.0000		
43 Cyclohexane	56	7.376	7.372 (0.851)		6483	1.00000	0.87(a)	
44 Ethyl Methacrylate	69	10.671	10.668 (1.120)		1871	1.00000	3.1	
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737 (1.007)		220457	50.0000	51.9	
46 Tertiary-amyl methyl ether	73	8.720	8.715 (1.006)		7757	1.00000	3.2	
47 1,2-Dichloroethane	62	8.848	8.844 (0.929)		6222	1.00000	1.1	
48 Trichloroethene	95	9.470	9.459 (0.994)		3709	1.00000	0.92(a)	
* 49 1,4-Difluorobenzene	114	9.527	9.523 (1.000)		587334	50.0000		
50 Dibromomethane	93	10.128	10.124 (1.063)		2129	1.00000	0.87(a)	
51 1,2-Dichloropropane	63	10.292	10.288 (1.080)		4368	1.00000	0.99(aM)	M6
52 Bromodichloromethane	83	10.399	10.395 (1.092)		4365	1.00000	0.83(a)	
53 cis-1,3-dichloropropene	75	11.364	11.368 (1.193)		4567	1.00000	3.2	
54 1,4-Dioxane	88	10.728	10.710 (1.126)		2041	20.0000	31.4	
\$ 55 Toluene-D8	98	11.643	11.646 (1.222)		696676	50.0000	49.9	
56 2-Chloroethylvinylether	63	11.300	11.296 (1.186)		1422	1.00000	0.92(a)	
57 Toluene	92	11.722	11.718 (1.230)		9857	1.00000	0.90(a)	
58 4-methyl-2-pentanone	43	12.315	12.311 (1.293)		19776	5.00000	4.0(a)	
59 Tetrachloroethene	164	12.287	12.290 (0.885)		3706	1.00000	1.1	
60 trans-1,3-Dichloropropene	75	12.358	12.355 (1.297)		3398	1.00000	3.5	
61 1,1,2-Trichloroethane	83	12.587	12.590 (1.321)		3361	1.00000	1.0	
62 Dibromochloromethane	129	12.844	12.847 (0.925)		2663	1.00000	0.79(a)	
63 1,3-Dichloropropane	76	12.987	12.983 (0.935)		6754	1.00000	0.97(a)	
64 1,2-Dibromoethane	107	13.180	13.176 (1.383)		3702	1.00000	0.98(aM)	M6
65 2-Hexanone	43	13.523	13.519 (0.974)		13305	5.00000	3.9(a)	
* 66 Chlorobenzene-D5	117	13.888	13.891 (1.000)		533477	50.0000		
67 Chlorobenzene	112	13.916	13.912 (1.002)		12390	1.00000	1.1	
152 1-Chlorohexane	91	13.895	13.891 (1.000)		6098	1.00000	1.0	
68 Ethylbenzene	106	13.959	13.955 (1.005)		6014	1.00000	0.96(a)	
69 1,1,1,2-Tetrachloroethane	131	14.009	14.006 (1.009)		2086	1.00000	1.8	
M 70 Xylenes (total)	106				20577	5.00000	2.7(a)	
71 m+p-Xylenes	106	14.152	14.155 (1.019)		13664	2.00000	1.8(a)	
72 o-Xylene	106	14.724	14.720 (1.060)		6913	1.00000	0.94(a)	
73 Styrene	104	14.795	14.791 (1.065)		9728	1.00000	0.79(a)	
74 Bromoform	173	14.831	14.828 (1.068)		1802	1.00000	0.80(aM)	M6
75 Isopropylbenzene	105	15.131	15.135 (0.896)		16765	1.00000	0.94(a)	
\$ 76 P-Bromofluorobenzene	95	15.496	15.492 (1.626)		289917	50.0000	48.9	

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10:22 am, Jan 20, 2016

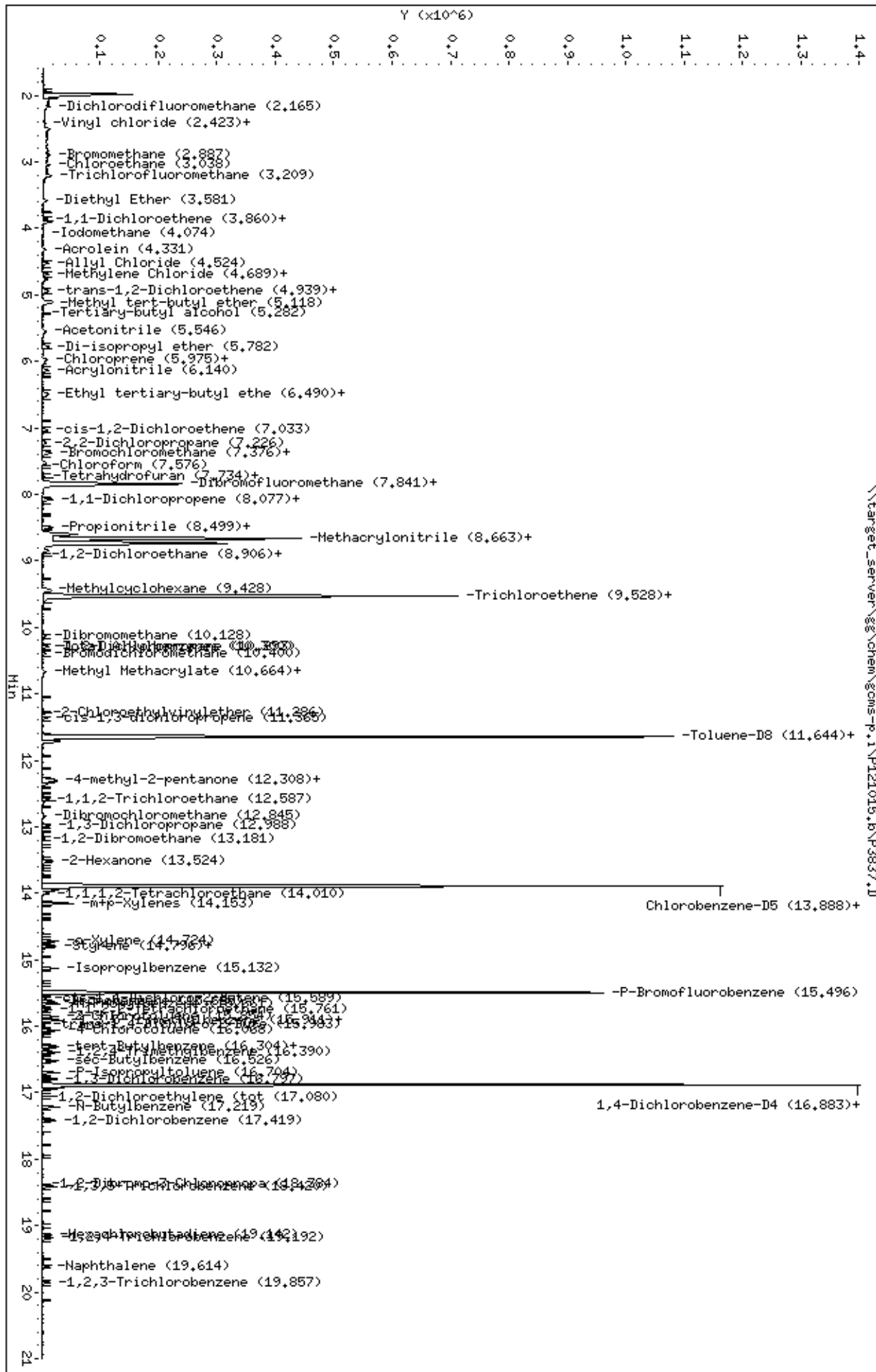
Compounds	QUANT SIG				AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.582	15.585	(0.923)	1311	1.00000	4.8	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.979	(0.947)	1115	1.00000	2.7	
79 Bromobenzene	156	15.625	15.621	(0.925)	4982	1.00000	1.1	
80 N-Propylbenzene	91	15.660	15.664	(0.928)	21122	1.00000	0.97(a)	
81 1,1,2,2-Tetrachloroethane	83	15.760	15.756	(0.934)	4724	1.00000	0.90(a)	
82 1,3,5-Trimethylbenzene	105	15.911	15.907	(0.942)	12719	1.00000	0.83(a)	
83 2-Chlorotoluene	91	15.853	15.857	(0.939)	12866	1.00000	0.97(a)	
84 1,2,3-Trichloropropane	75	15.925	15.928	(0.943)	4581	1.00000	1.1(M)	M6
85 4-Chlorotoluene	91	16.068	16.064	(0.952)	13963	1.00000	0.98(a)	
86 tert-Butylbenzene	119	16.304	16.307	(0.966)	11325	1.00000	0.80(a)	
87 Pentachloroethane	117	16.332	16.335	(0.967)	1662	1.00000	3.6(M)	M9
88 1,2,4-Trimethylbenzene	105	16.389	16.393	(0.971)	13461	1.00000	0.88(a)	
89 P-Isopropyltoluene	119	16.704	16.700	(0.989)	13494	1.00000	0.85(a)	
90 1,3-Dichlorobenzene	146	16.797	16.793	(0.995)	8570	1.00000	0.96(a)	
* 91 1,4-Dichlorobenzene-D4	152	16.883	16.886	(1.000)	286137	50.0000		
92 1,4-Dichlorobenzene	146	16.904	16.907	(1.001)	9866	1.00000	1.0	
93 N-Butylbenzene	91	17.219	17.215	(1.020)	13438	1.00000	0.88(a)	
94 sec-Butylbenzene	105	16.525	16.528	(0.979)	17117	1.00000	0.91(a)	
95 1,2-Dichlorobenzene	146	17.419	17.422	(1.032)	7586	1.00000	0.90(a)	
96 1,2-Dibromo-3-Chloropropane	75	18.391	18.387	(1.089)	919	1.00000	1.0	
97 1,3,5-Trichlorobenzene	180	18.420	18.416	(1.091)	6755	1.00000	1.1	
98 Hexachlorobutadiene	225	19.149	19.145	(1.134)	2464	1.00000	1.2	
99 1,2,4-Trichlorobenzene	180	19.191	19.195	(1.137)	4449	1.00000	0.88(a)	
100 1,2,3-Trimethylbenzene	105	16.933	16.929	(1.003)	16751	1.00000	1.0	
101 Naphthalene	128	19.613	19.610	(1.162)	6063	1.00000	2.2	
102 1,2,3-Trichlorobenzene	180	19.856	19.859	(1.176)	3690	1.00000	0.92(a)	
103 Methyl Acetate	43	4.960	4.949	(0.572)	4623	1.00000	0.99(a)	
104 Methylcyclohexane	83	9.427	9.430	(1.087)	6144	1.00000	0.94(a)	
M 153 Total Alkylbenzenes	100				102676	1.00000	6.1(a)	

*AAB*

10:22 am, Jan 20, 2016

QC Flag Legend

- a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
- M - Compound response manually integrated.



Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121015.b\P3838.D  
 Lab Smp Id: WG176143-6  
 Inj Date : 10-DEC-2015 12:15 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG176143-6  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121015.b\P826A21.m  
 Meth Date : 11-Dec-2015 06:01 abullentin Quant Type: ISTD  
 Cal Date : 10-DEC-2015 12:15 Cal File: P3838.D  
 Als bottle: 5 Calibration Sample, Level: 6  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG		RT		REL RT	RESPONSE	AMOUNTS		REVIEW CODE
	MASS		EXP RT				CAL-AMT ( ug/l)	ON-COL ( ug/l)	
1 Dichlorodifluoromethane	85		2.165	2.168 (0.250)		953468	200.000	194	
2 Chloromethane	50		2.394	2.418 (0.276)		1613494	200.000	190(M)	M9
3 Vinyl chloride	62		2.501	2.497 (0.288)		1343960	200.000	189	
4 Bromomethane	94		2.887	2.883 (0.333)		529323	200.000	219(A)	
5 Chloroethane	64		3.030	3.040 (0.349)		552947	200.000	137	
6 Trichlorofluoromethane	101		3.202	3.205 (0.369)		1455551	200.000	210(A)	
7 Diethyl Ether	59		3.588	3.583 (0.414)		964289	200.000	200(A)	
8 Tertiary-butyl alcohol	59		5.268	5.257 (0.607)		338480	1000.00	1180(A)	
9 1,1-Dichloroethene	96		3.859	3.855 (0.445)		881811	200.000	213(A)	
10 Carbon Disulfide	76		3.909	3.912 (0.451)		3072528	200.000	207(A)	
11 Freon-113	151		3.895	3.898 (0.449)		553141	200.000	212(A)	
12 Iodomethane	142		4.060	4.062 (0.468)		455348	200.000	217(A)	
13 Acrolein	56		4.331	4.327 (0.499)		979530	1000.00	1020(A)	
14 Methylene Chloride	84		4.689	4.684 (0.540)		1065629	200.000	196	
15 Acetone	43		4.767	4.756 (0.549)		2105384	1000.00	945	
16 Isobutyl Alcohol	43		8.927	8.916 (1.029)		784724	4000.00	5640(A)	
17 trans-1,2-Dichloroethene	96		4.939	4.934 (0.569)		886872	200.000	197	
18 Allyl Chloride	41		4.524	4.520 (0.521)		1432047	200.000	170	
19 Methyl tert-butyl ether	73		5.103	5.099 (0.588)		5405531	400.000	415(A)	
20 Acetonitrile	39		5.553	5.542 (0.640)		340597	2000.00	1820	
21 Di-isopropyl ether	45		5.775	5.771 (0.666)		3851083	200.000	214(A)	
22 Chloroprene	53		5.975	5.971 (0.689)		1620252	200.000	212(A)	
23 Propionitrile	54		8.591	8.566 (0.990)		1873329	2000.00	2130(A)	

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Compounds	QUANT SIG					AMOUNTS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.620	8.601	(0.993)	6618996	2000.00	1740	
25 1,1-Dichloroethane	63	6.025	6.021	(0.694)	1689227	200.000	200(A)	
26 Acrylonitrile	52	6.140	6.128	(0.708)	2040396	1000.00	1040(A)	
27 Ethyl tertiary-butyl ether	59	6.483	6.478	(0.747)	2738765	200.000	224(A)	
28 Vinyl Acetate	43	6.518	6.514	(0.684)	2471857	200.000	223(A)	
29 cis-1,2-Dichloroethene	96	7.033	7.029	(0.811)	1061577	200.000	202(A)	
M 30 1,2-Dichloroethylene (total)	96				1948449	200.000	399	
31 Methyl Methacrylate	41	10.664	10.660	(1.119)	1094850	200.000	225(A)	
32 2,2-Dichloropropane	77	7.219	7.222	(0.832)	1124995	200.000	234(A)	
33 Bromochloromethane	128	7.391	7.386	(0.852)	372106	200.000	187	
34 Chloroform	83	7.526	7.522	(0.867)	1541175	200.000	202(A)	
35 Carbon Tetrachloride	117	7.748	7.744	(0.813)	928126	200.000	224(A)	
36 Tetrahydrofuran	42	7.791	7.786	(0.898)	1807280	1000.00	1000(A)	
\$ 37 Dibromofluoromethane	113	7.848	7.844	(0.904)	176180	50.0000	49.0	
38 1,1,1-Trichloroethane	97	7.869	7.865	(0.907)	1272322	200.000	211(A)	
39 1,1-Dichloropropene	75	8.084	8.080	(0.848)	1230198	200.000	206(A)	
40 2-Butanone	43	8.070	8.065	(0.930)	2865206	1000.00	1010(A)	
41 Benzene	78	8.506	8.501	(0.893)	3820700	200.000	203(A)	
* 42 Pentafluorobenzene	168	8.677	8.666	(1.000)	371383	50.0000		
43 Cyclohexane	56	7.369	7.372	(0.849)	1787229	200.000	212(A)	
44 Ethyl Methacrylate	69	10.664	10.668	(1.119)	793429	200.000	246(A)	
\$ 45 1,2-Dichloroethane-D4	65	8.741	8.737	(1.007)	228836	50.0000	47.6	
46 Tertiary-amyl methyl ether	73	8.720	8.715	(1.005)	2496359	200.000	234(A)	
47 1,2-Dichloroethane	62	8.849	8.844	(0.929)	1227789	200.000	194	
48 Trichloroethene	95	9.463	9.459	(0.993)	895234	200.000	205(A)	
* 49 1,4-Difluorobenzene	114	9.528	9.523	(1.000)	638471	50.0000		
50 Dibromomethane	93	10.128	10.124	(1.063)	565373	200.000	213(A)	
51 1,2-Dichloropropane	63	10.293	10.288	(1.080)	1004268	200.000	209(A)	
52 Bromodichloromethane	83	10.400	10.395	(1.092)	1241043	200.000	218(A)	
53 cis-1,3-dichloropropene	75	11.372	11.368	(1.194)	1558467	200.000	236(A)	
54 1,4-Dioxane	88	10.714	10.710	(1.125)	152547	4000.00	2160(M)	M9
\$ 55 Toluene-D8	98	11.644	11.646	(1.222)	762876	50.0000	50.3	
56 2-Chloroethylvinylether	63	11.300	11.296	(1.186)	304188	200.000	182	
57 Toluene	92	11.722	11.718	(1.230)	2515753	200.000	211(A)	
58 4-methyl-2-pentanone	43	12.315	12.311	(1.293)	5317442	1000.00	996	
59 Tetrachloroethene	164	12.287	12.290	(0.885)	772200	200.000	193	
60 trans-1,3-Dichloropropene	75	12.366	12.355	(1.298)	1293715	200.000	244(A)	10:22 am, Jan 20, 2016
61 1,1,2-Trichloroethane	83	12.594	12.590	(1.322)	766445	200.000	213(A)	
62 Dibromochloromethane	129	12.852	12.847	(0.925)	894004	200.000	220(A)	
63 1,3-Dichloropropane	76	12.987	12.983	(0.935)	1644731	200.000	196	
64 1,2-Dibromoethane	107	13.180	13.176	(1.383)	882921	200.000	216(A)	
65 2-Hexanone	43	13.524	13.519	(0.974)	4034010	1000.00	991	
* 66 Chlorobenzene-D5	117	13.888	13.891	(1.000)	643185	50.0000		
67 Chlorobenzene	112	13.917	13.912	(1.002)	2667294	200.000	194	
152 1-Chlorohexane	91	13.895	13.891	(1.000)	1486317	200.000	205(A)	
68 Ethylbenzene	106	13.960	13.955	(1.005)	1491070	200.000	198	
69 1,1,1,2-Tetrachloroethane	131	14.010	14.006	(1.009)	861724	200.000	227(A)	
M 70 Xylenes (total)	106				5271706	200.000	583	
71 m+p-Xylenes	106	14.160	14.155	(1.020)	3440088	400.000	377	
72 o-Xylene	106	14.724	14.720	(1.060)	1831618	200.000	206(A)	
73 Styrene	104	14.796	14.791	(1.065)	3105389	200.000	208(A)	
74 Bromoform	173	14.832	14.827	(1.068)	638391	200.000	227(A)	
75 Isopropylbenzene	105	15.132	15.135	(0.896)	4119489	200.000	198	
\$ 76 P-Bromofluorobenzene	95	15.496	15.492	(1.626)	328456	50.0000	51.0	

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10:22 am, Jan 20, 2016

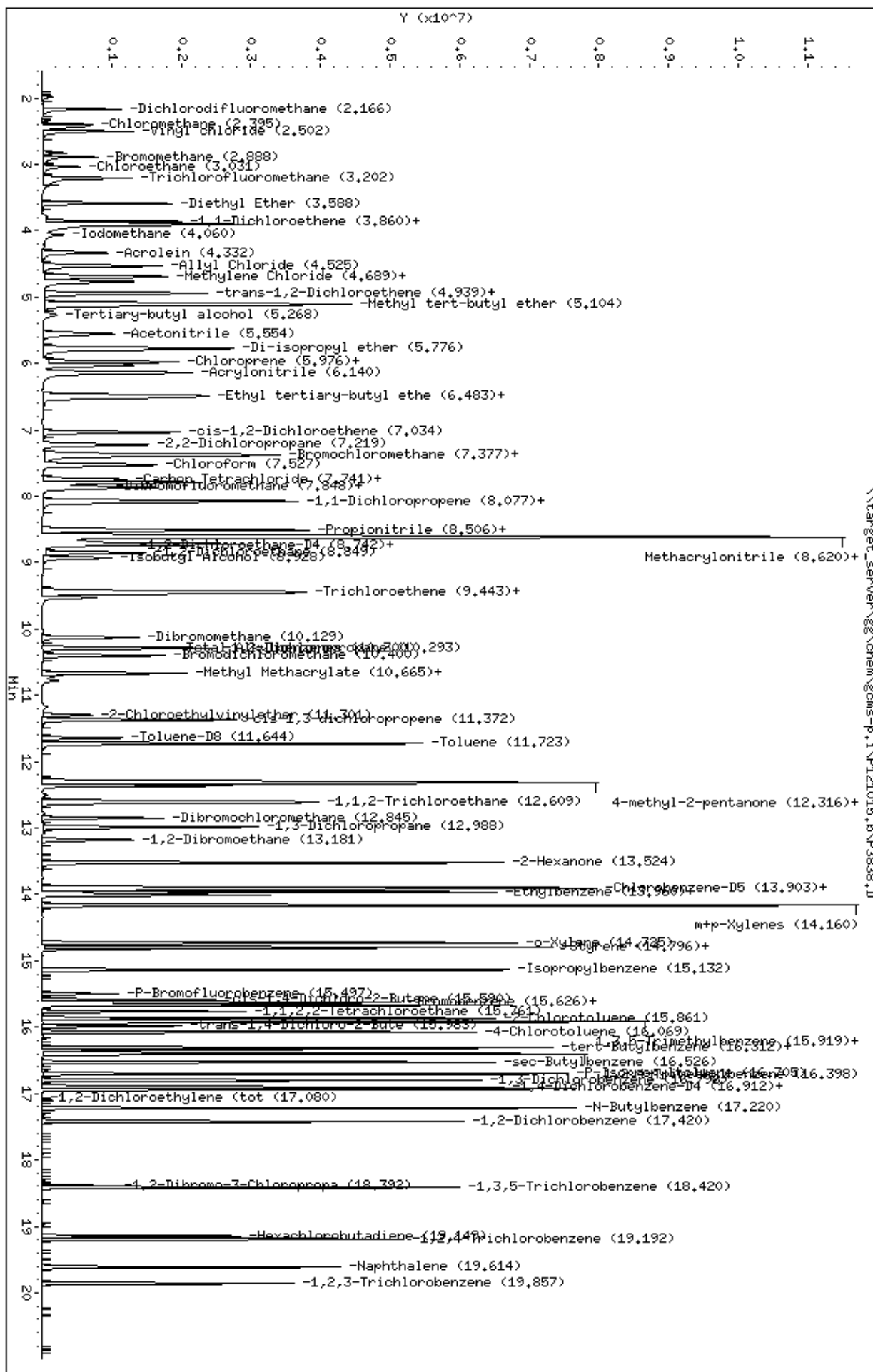
Compounds	QUANT SIG			AMOUNTS				REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.589	15.585	(0.923)	501162	200.000	252(A)	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.979	(0.946)	367970	200.000	232(A)	
79 Bromobenzene	156	15.625	15.621	(0.925)	1159064	200.000	214(A)	
80 N-Propylbenzene	91	15.668	15.664	(0.928)	4709002	200.000	184	
81 1,1,2,2-Tetrachloroethane	83	15.761	15.756	(0.933)	1309905	200.000	214(A)	
82 1,3,5-Trimethylbenzene	105	15.918	15.907	(0.942)	3574573	200.000	200	
83 2-Chlorotoluene	91	15.861	15.857	(0.939)	3066987	200.000	197	
84 1,2,3-Trichloropropane	75	15.932	15.928	(0.943)	1001865	200.000	30.1	
85 4-Chlorotoluene	91	16.068	16.064	(0.951)	3204890	200.000	193	
86 tert-Butylbenzene	119	16.311	16.307	(0.966)	3582974	200.000	216(A)	
87 Pentachloroethane	117	16.340	16.335	(0.967)	715698	200.000	264(A)	
88 1,2,4-Trimethylbenzene	105	16.397	16.393	(0.971)	3499532	200.000	196	
89 P-Isopropyltoluene	119	16.704	16.700	(0.989)	3664842	200.000	199	
90 1,3-Dichlorobenzene	146	16.797	16.793	(0.994)	2158654	200.000	208(A)	
* 91 1,4-Dichlorobenzene-D4	152	16.890	16.886	(1.000)	334009	50.0000		
92 1,4-Dichlorobenzene	146	16.912	16.907	(1.001)	2213933	200.000	202(A)	
93 N-Butylbenzene	91	17.219	17.215	(1.019)	3469555	200.000	194	
94 sec-Butylbenzene	105	16.533	16.528	(0.979)	4181168	200.000	190	
95 1,2-Dichlorobenzene	146	17.419	17.422	(1.031)	2063264	200.000	211(A)	
96 1,2-Dibromo-3-Chloropropane	75	18.391	18.387	(1.089)	207160	200.000	202(A)	
97 1,3,5-Trichlorobenzene	180	18.420	18.416	(1.091)	1487765	200.000	211(A)	
98 Hexachlorobutadiene	225	19.149	19.145	(1.134)	435544	200.000	189	
99 1,2,4-Trichlorobenzene	180	19.192	19.195	(1.136)	1281156	200.000	218(A)	
100 1,2,3-Trimethylbenzene	105	16.933	16.929	(1.003)	3598112	200.000	190	
101 Naphthalene	128	19.614	19.610	(1.161)	2748211	200.000	237(A)	
102 1,2,3-Trichlorobenzene	180	19.857	19.859	(1.176)	1019797	200.000	217(A)	
103 Methyl Acetate	43	4.953	4.949	(0.571)	1105782	200.000	209(A)	
104 Methylcyclohexane	83	9.435	9.430	(1.087)	1603066	200.000	218(A)	
M 153 Total Alkylbenzenes	100				26681646	200.000	1380	

QC Flag Legend

- A - Target compound detected but, quantitated amount exceeded maximum amount.
- M - Compound response manually integrated.

Data File: \\target\_server\chem\goms-p.i\PI21015.b\3838.D  
 Date: 10-DEC-2015 12:15  
 Client ID:  
 Sample Info: M0176143-6  
 Purge Volume: 5.0  
 Column phase: RTX-VMS

Instrument: goms-p.i  
 Operator: AAB  
 Column diameter: 0.18





Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121015.b\P3839.D  
 Lab Smp Id: WG176143-5  
 Inj Date : 10-DEC-2015 15:51 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG176143-5  
 Misc Info :  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121015.b\P826A21.m  
 Meth Date : 11-Dec-2015 06:01 abullentin Quant Type: ISTD  
 Cal Date : 10-DEC-2015 15:51 Cal File: P3839.D  
 Als bottle: 1 Calibration Sample, Level: 5  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

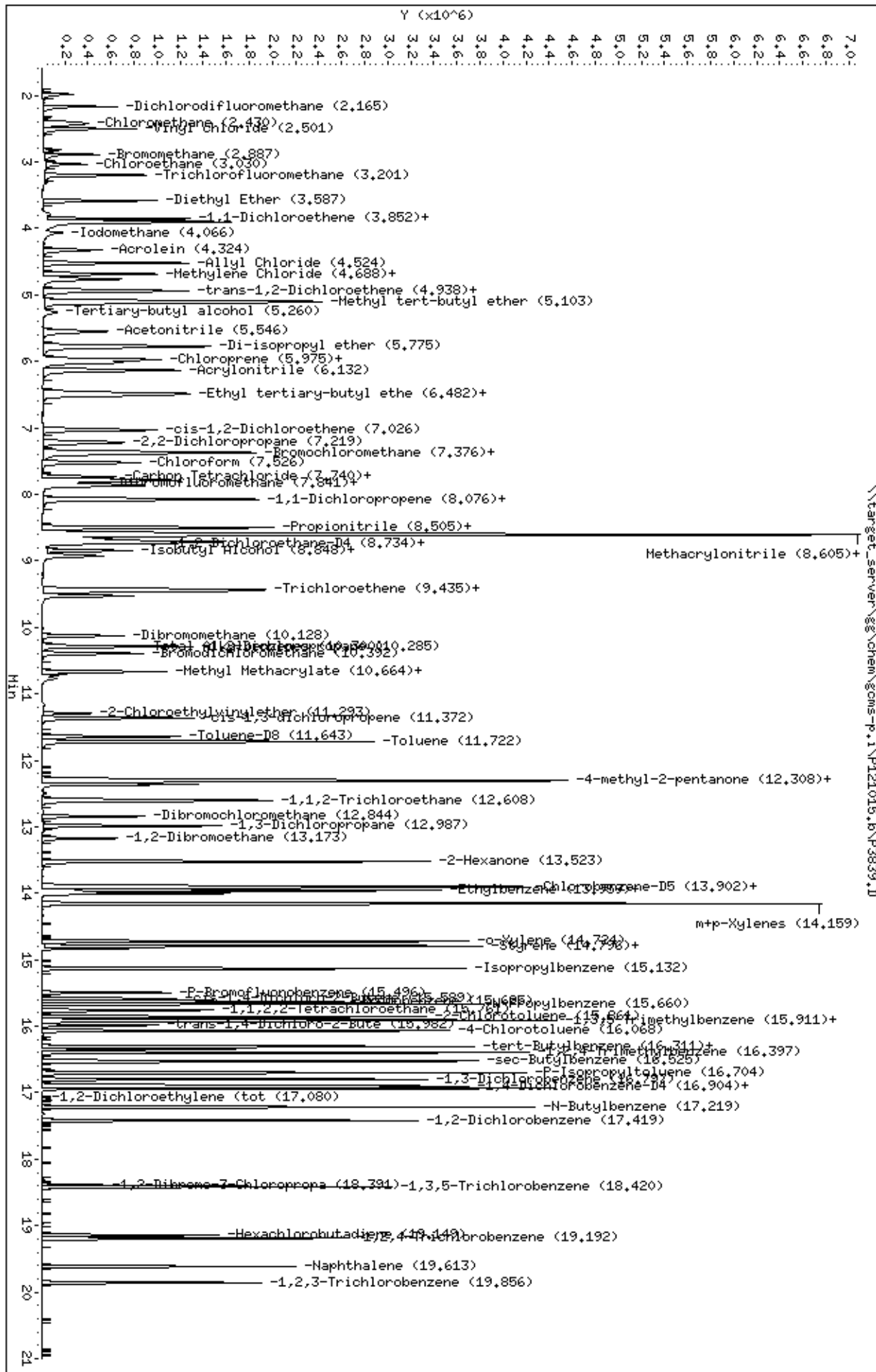
Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS		REVIEW CODE
						CAL-AMT ( ug/l)	ON-COL ( ug/l)	
1 Dichlorodifluoromethane	85	2.165	2.168 (0.250)		540335	100.000	108	
2 Chloromethane	50	2.422	2.418 (0.279)		892356	100.000	133	
3 Vinyl chloride	62	2.500	2.497 (0.288)		753392	100.000	104	
4 Bromomethane	94	2.886	2.883 (0.333)		288682	100.000	117	
5 Chloroethane	64	3.029	3.040 (0.349)		333293	100.000	80.8	
6 Trichlorofluoromethane	101	3.201	3.205 (0.369)		720309	100.000	102	
7 Diethyl Ether	59	3.587	3.583 (0.414)		526270	100.000	107	
8 Tertiary-butyl alcohol	59	5.260	5.257 (0.607)		206056	500.000	713	
9 1,1-Dichloroethene	96	3.851	3.855 (0.444)		449027	100.000	106	
10 Carbon Disulfide	76	3.909	3.912 (0.451)		1641918	100.000	108	
11 Freon-113	151	3.894	3.898 (0.449)		295984	100.000	111	
12 Iodomethane	142	4.066	4.062 (0.469)		311220	100.000	119	
13 Acrolein	56	4.323	4.327 (0.499)		510213	500.000	521	
14 Methylene Chloride	84	4.688	4.684 (0.541)		545437	100.000	97.9	
15 Acetone	43	4.759	4.756 (0.549)		1041635	500.000	457	
16 Isobutyl Alcohol	43	8.927	8.916 (1.030)		434799	2000.00	3140	
17 trans-1,2-Dichloroethene	96	4.931	4.934 (0.569)		461364	100.000	100	
18 Allyl Chloride	41	4.523	4.520 (0.522)		927246	100.000	107	
19 Methyl tert-butyl ether	73	5.102	5.099 (0.589)		2978919	200.000	223	
20 Acetonitrile	39	5.553	5.542 (0.641)		190100	1000.00	1030	
21 Di-isopropyl ether	45	5.774	5.771 (0.666)		2030612	100.000	110	
22 Chloroprene	53	5.974	5.971 (0.689)		858460	100.000	110	
23 Propionitrile	54	8.576	8.566 (0.989)		982404	1000.00	1090	

Compounds	QUANT SIG				AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.605	8.601	(0.993)	3957581	1000.00	1020	
25 1,1-Dichloroethane	63	6.017	6.021	(0.694)	890616	100.000	103	
26 Acrylonitrile	52	6.132	6.128	(0.707)	1086558	500.000	543	
27 Ethyl tertiary-butyl ether	59	6.482	6.478	(0.748)	1496400	100.000	129	
28 Vinyl Acetate	43	6.511	6.514	(0.683)	1274547	100.000	112	
29 cis-1,2-Dichloroethene	96	7.025	7.029	(0.810)	556123	100.000	103	
M 30 1,2-Dichloroethylene (total)	96				1017487	100.000	203	
31 Methyl Methacrylate	41	10.664	10.660	(1.119)	572239	100.000	114	
32 2,2-Dichloropropane	77	7.218	7.222	(0.833)	520317	100.000	106	
33 Bromochloromethane	128	7.383	7.386	(0.852)	195319	100.000	96.0	
34 Chloroform	83	7.526	7.522	(0.868)	800074	100.000	102	
35 Carbon Tetrachloride	117	7.740	7.744	(0.812)	482500	100.000	122	
36 Tetrahydrofuran	42	7.790	7.786	(0.899)	967397	500.000	524	
\$ 37 Dibromofluoromethane	113	7.840	7.844	(0.904)	180930	50.0000	49.2	
38 1,1,1-Trichloroethane	97	7.869	7.865	(0.908)	661721	100.000	107	
39 1,1-Dichloropropene	75	8.083	8.080	(0.848)	636810	100.000	104	
40 2-Butanone	43	8.062	8.065	(0.930)	1486070	500.000	512	
41 Benzene	78	8.505	8.501	(0.893)	2014355	100.000	104	
* 42 Pentafluorobenzene	168	8.669	8.666	(1.000)	380013	50.0000		
43 Cyclohexane	56	7.368	7.372	(0.850)	904080	100.000	105	
44 Ethyl Methacrylate	69	10.664	10.668	(1.119)	407753	100.000	123	
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.007)	238487	50.0000	48.5	
46 Tertiary-amyl methyl ether	73	8.712	8.715	(1.005)	1327387	100.000	122	
47 1,2-Dichloroethane	62	8.848	8.844	(0.929)	634146	100.000	97.7	
48 Trichloroethene	95	9.456	9.459	(0.992)	463916	100.000	104	
* 49 1,4-Difluorobenzene	114	9.527	9.523	(1.000)	655159	50.0000		
50 Dibromomethane	93	10.127	10.124	(1.063)	284899	100.000	104	
51 1,2-Dichloropropane	63	10.285	10.288	(1.080)	510638	100.000	104	
52 Bromodichloromethane	83	10.392	10.395	(1.091)	634670	100.000	108	
53 cis-1,3-dichloropropene	75	11.371	11.368	(1.194)	765508	100.000	113	
54 1,4-Dioxane	88	10.714	10.710	(1.125)	144349	2000.00	2090	
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	781923	50.0000	50.2	
56 2-Chloroethylvinylether	63	11.293	11.296	(1.185)	179612	100.000	105	
57 Toluene	92	11.721	11.718	(1.230)	1287853	100.000	105	
58 4-methyl-2-pentanone	43	12.308	12.311	(1.292)	3024990	500.000	552	
59 Tetrachloroethene	164	12.286	12.290	(0.885)	408520	100.000	104	
60 trans-1,3-Dichloropropene	75	12.358	12.355	(1.297)	638953	100.000	118	
61 1,1,2-Trichloroethane	83	12.593	12.590	(1.322)	380701	100.000	103	
62 Dibromochloromethane	129	12.844	12.847	(0.925)	437753	100.000	109	
63 1,3-Dichloropropane	76	12.987	12.983	(0.935)	840205	100.000	102	
64 1,2-Dibromoethane	107	13.180	13.176	(1.383)	443702	100.000	106	
65 2-Hexanone	43	13.523	13.519	(0.974)	2160006	500.000	539	
* 66 Chlorobenzene-D5	117	13.887	13.891	(1.000)	632805	50.0000		
67 Chlorobenzene	112	13.909	13.912	(1.002)	1359651	100.000	101	
152 1-Chlorohexane	91	13.894	13.891	(1.000)	736027	100.000	103	
68 Ethylbenzene	106	13.959	13.955	(1.005)	750113	100.000	102	
69 1,1,1,2-Tetrachloroethane	131	14.002	14.006	(1.008)	424439	100.000	114	
M 70 Xylenes (total)	106				2804399	100.000	315	
71 m+p-Xylenes	106	14.159	14.155	(1.020)	1884634	200.000	210	
72 o-Xylene	106	14.724	14.720	(1.060)	919765	100.000	105	
73 Styrene	104	14.795	14.791	(1.065)	1614811	100.000	110	
74 Bromoform	173	14.824	14.827	(1.067)	314551	100.000	114	
75 Isopropylbenzene	105	15.131	15.135	(0.896)	2262919	100.000	105	
\$ 76 P-Bromofluorobenzene	95	15.496	15.492	(1.626)	341019	50.0000	51.6	

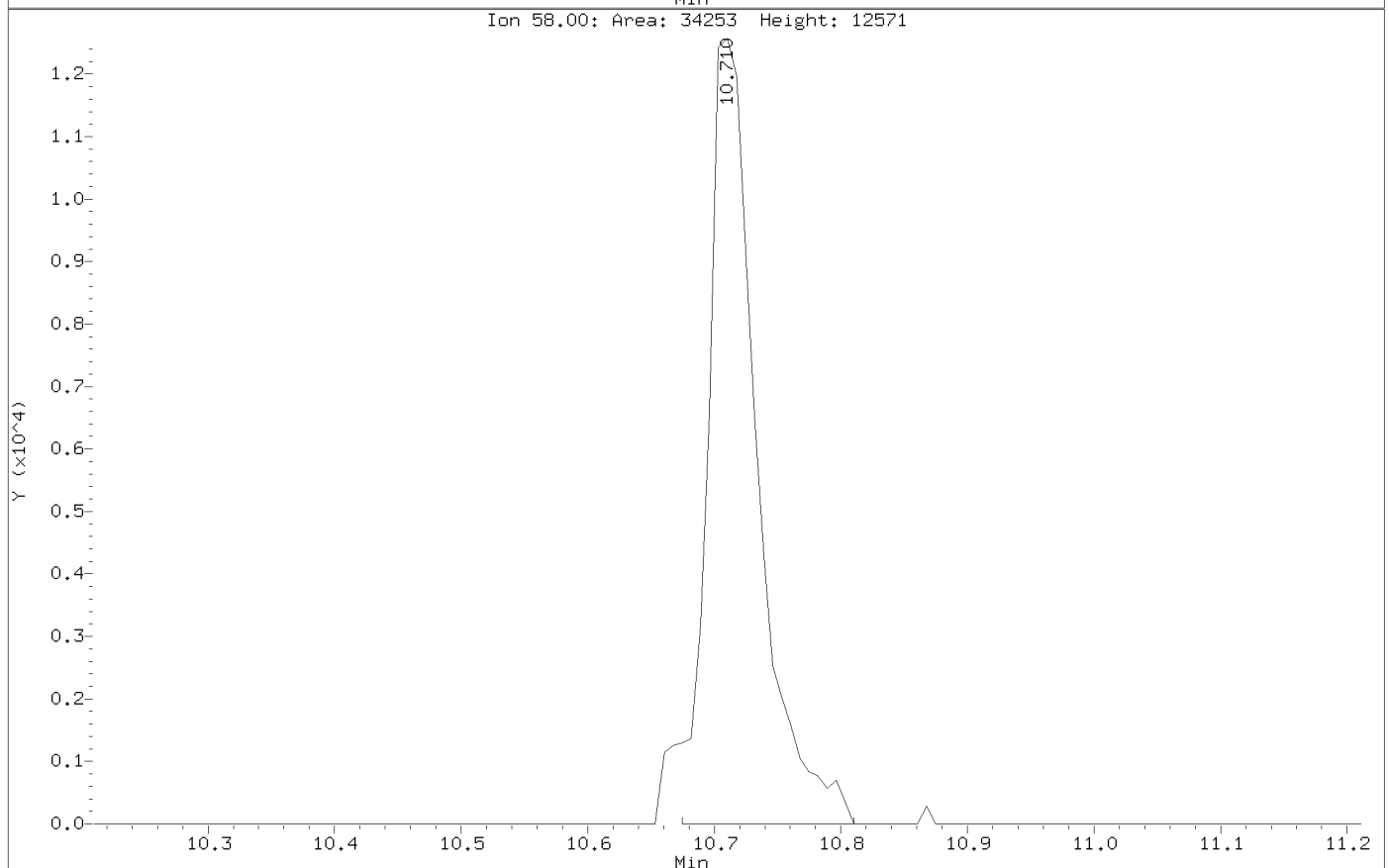
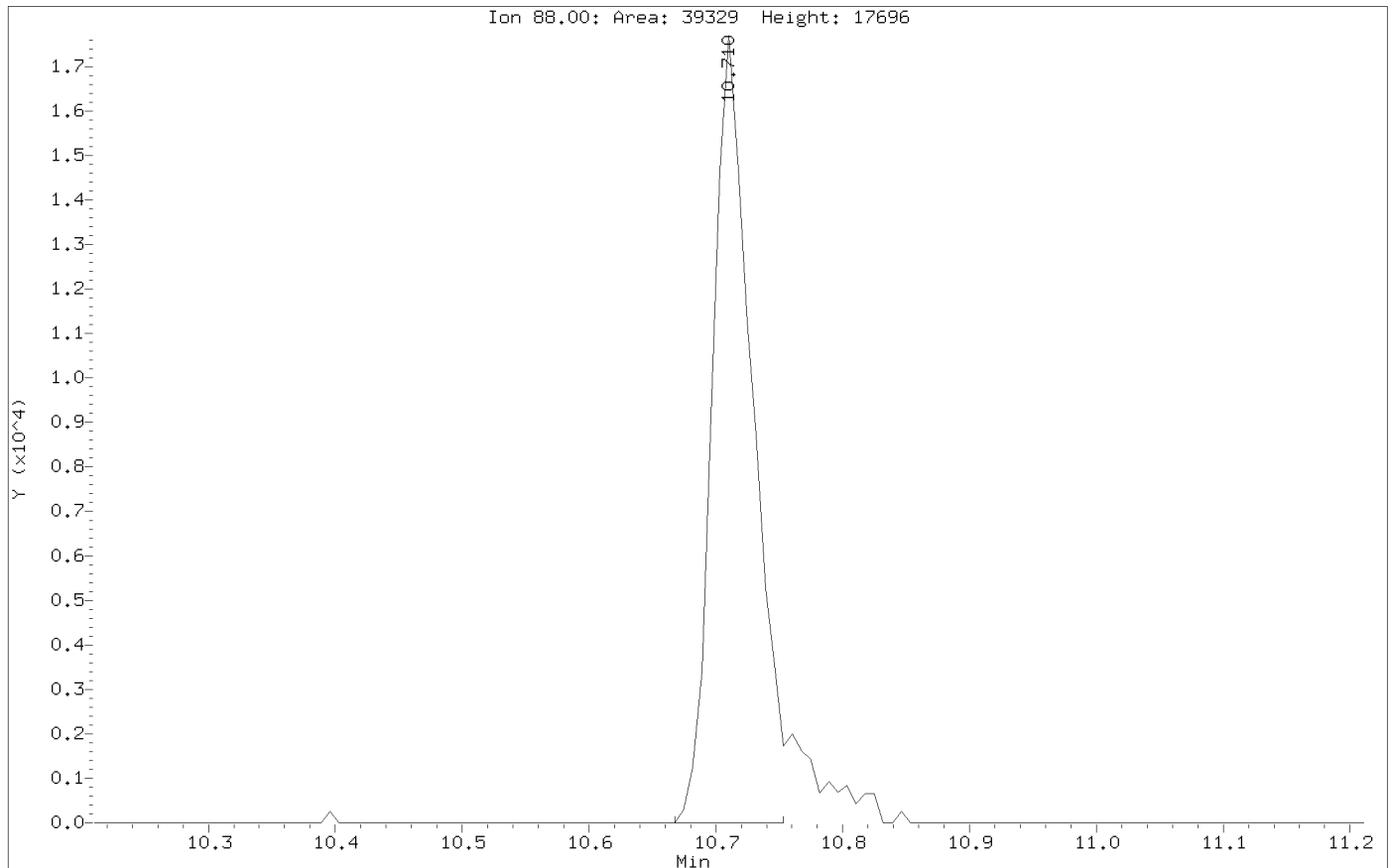
Compounds	QUANT SIG				AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.588	15.585	(0.923)	236394	100.000	114	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.979	(0.946)	187979	100.000	114	
79 Bromobenzene	156	15.624	15.621	(0.925)	574280	100.000	102	
80 N-Propylbenzene	91	15.660	15.664	(0.927)	2724649	100.000	103	
81 1,1,2,2-Tetrachloroethane	83	15.760	15.756	(0.933)	672256	100.000	106	
82 1,3,5-Trimethylbenzene	105	15.910	15.907	(0.942)	1973164	100.000	106	
83 2-Chlorotoluene	91	15.860	15.857	(0.939)	1640356	100.000	102	
84 1,2,3-Trichloropropane	75	15.924	15.928	(0.943)	520769	100.000	15.1	
85 4-Chlorotoluene	91	16.067	16.064	(0.951)	1724289	100.000	100	
86 tert-Butylbenzene	119	16.310	16.307	(0.966)	1851438	100.000	108	
87 Pentachloroethane	117	16.339	16.335	(0.967)	330435	100.000	117	
88 1,2,4-Trimethylbenzene	105	16.396	16.393	(0.971)	1940949	100.000	105	
89 P-Isopropyltoluene	119	16.704	16.700	(0.989)	2058882	100.000	108	
90 1,3-Dichlorobenzene	146	16.796	16.793	(0.994)	1107167	100.000	103	
* 91 1,4-Dichlorobenzene-D4	152	16.889	16.886	(1.000)	346558	50.0000		
92 1,4-Dichlorobenzene	146	16.904	16.907	(1.001)	1155152	100.000	101	
93 N-Butylbenzene	91	17.218	17.215	(1.019)	1959903	100.000	106	
94 sec-Butylbenzene	105	16.525	16.528	(0.978)	2387000	100.000	105	
95 1,2-Dichlorobenzene	146	17.418	17.422	(1.031)	1063337	100.000	105	
96 1,2-Dibromo-3-Chloropropane	75	18.383	18.387	(1.088)	108647	100.000	102	
97 1,3,5-Trichlorobenzene	180	18.419	18.416	(1.091)	752414	100.000	103	
98 Hexachlorobutadiene	225	19.148	19.145	(1.134)	230264	100.000	96.5	
99 1,2,4-Trichlorobenzene	180	19.191	19.195	(1.136)	644194	100.000	106	
100 1,2,3-Trimethylbenzene	105	16.932	16.929	(1.003)	2052310	100.000	104	
101 Naphthalene	128	19.613	19.610	(1.161)	1420303	100.000	118	
102 1,2,3-Trichlorobenzene	180	19.856	19.859	(1.176)	506431	100.000	104	
103 Methyl Acetate	43	4.952	4.949	(0.571)	595655	100.000	110	
104 Methylcyclohexane	83	9.434	9.430	(1.088)	825298	100.000	110	
M 153 Total Alkylbenzenes	100				14895985	100.000	739	



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Client Sample ID:

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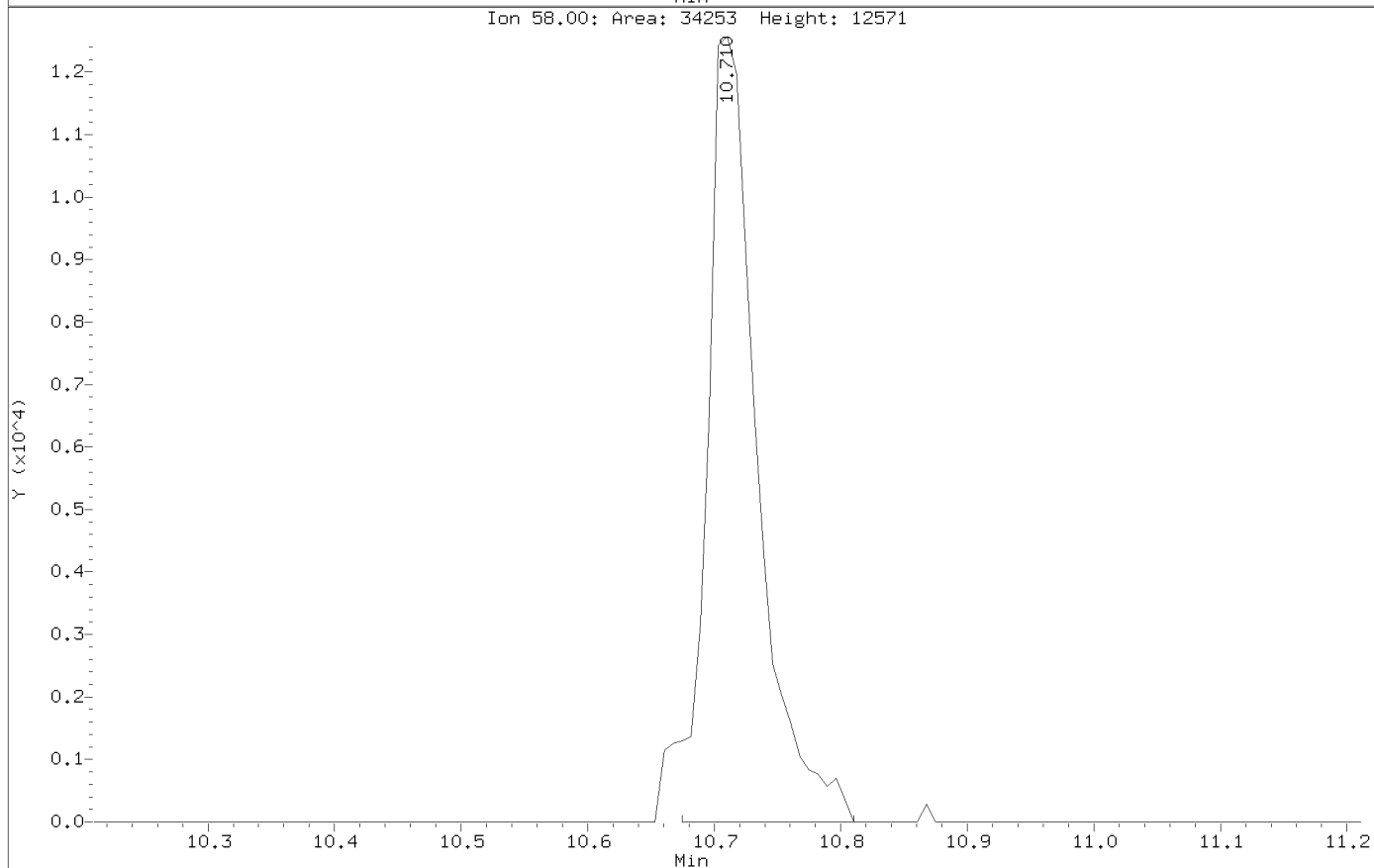
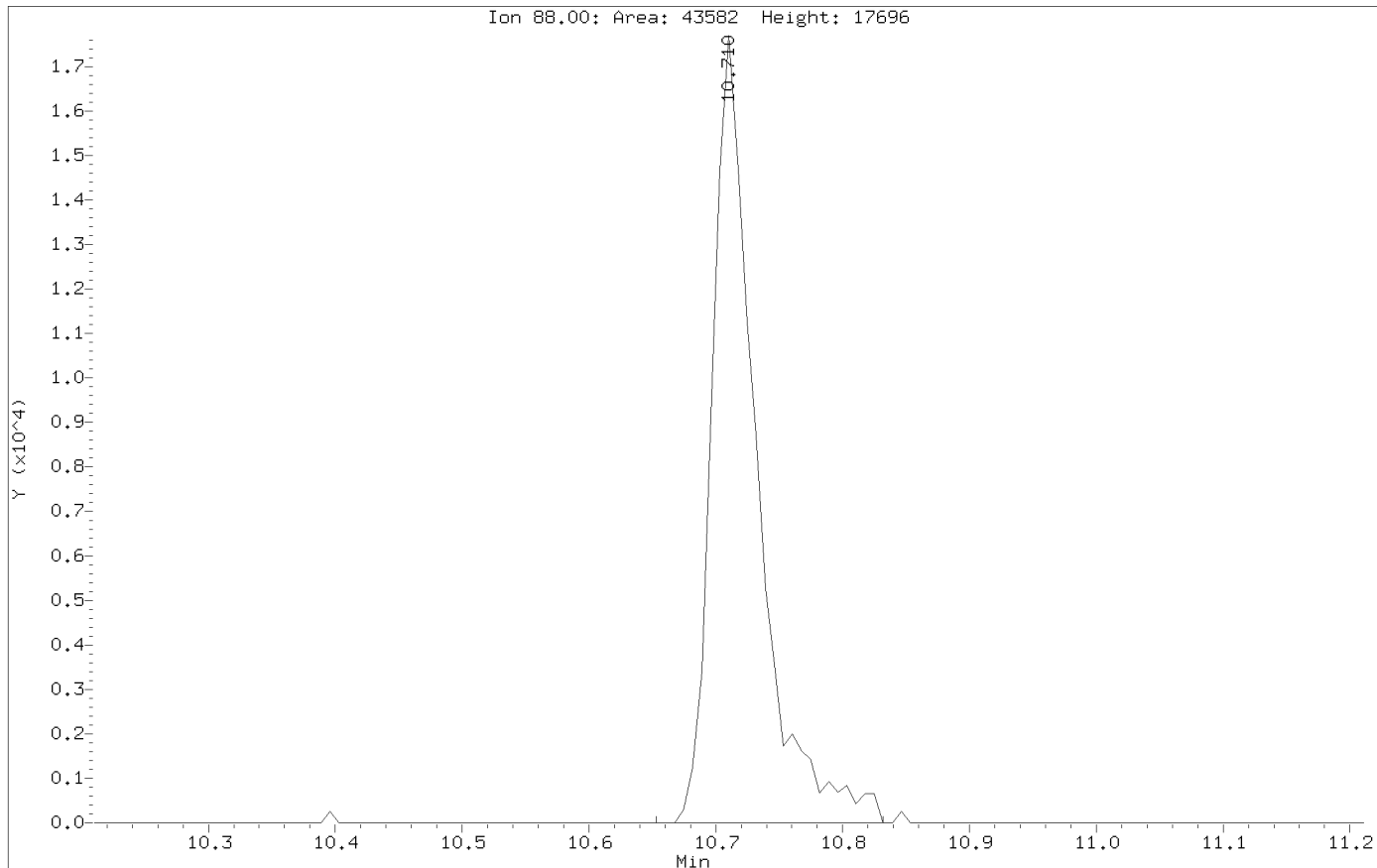
Compound: 1,4-Dioxane  
CAS Number: 123-91-1



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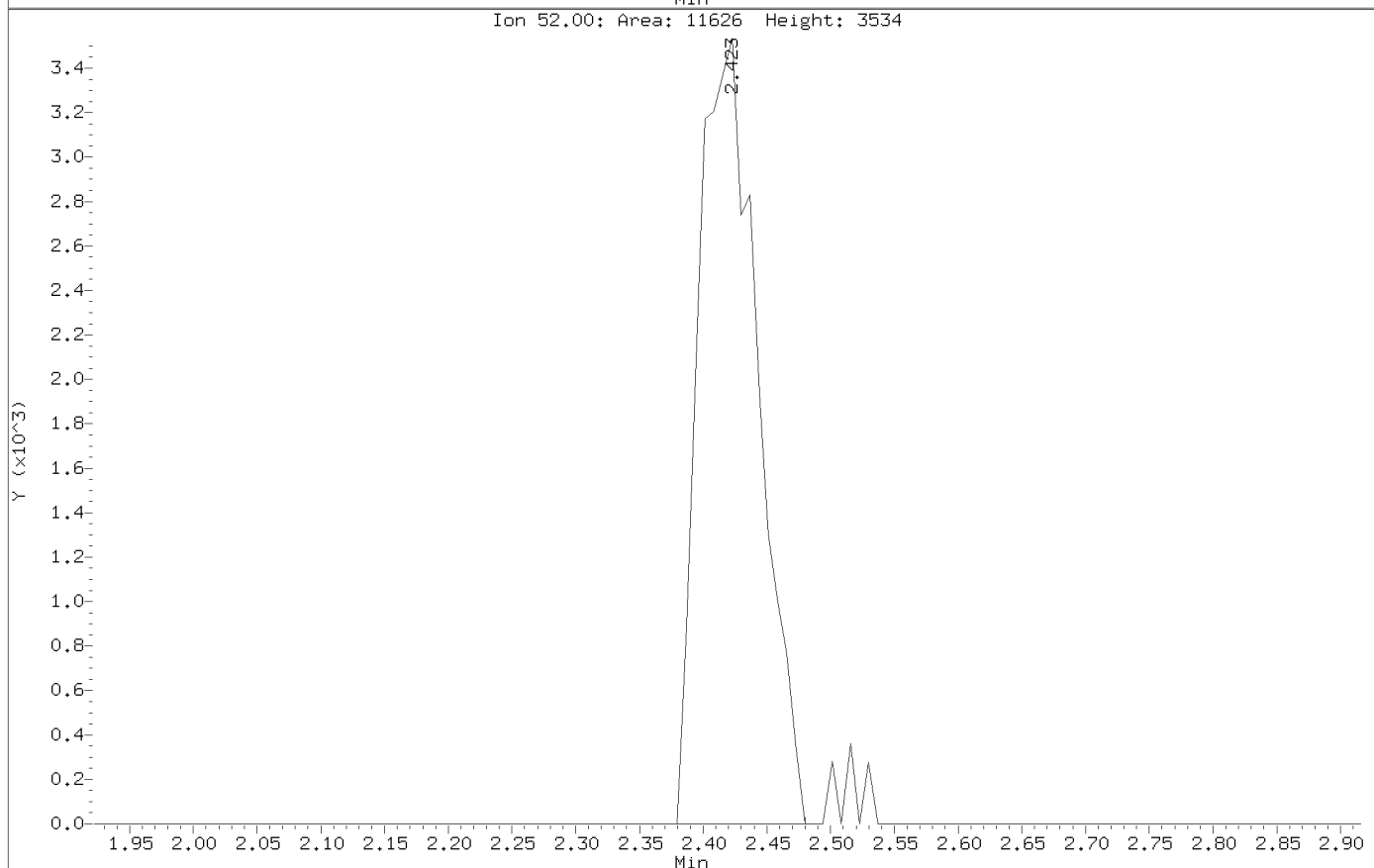
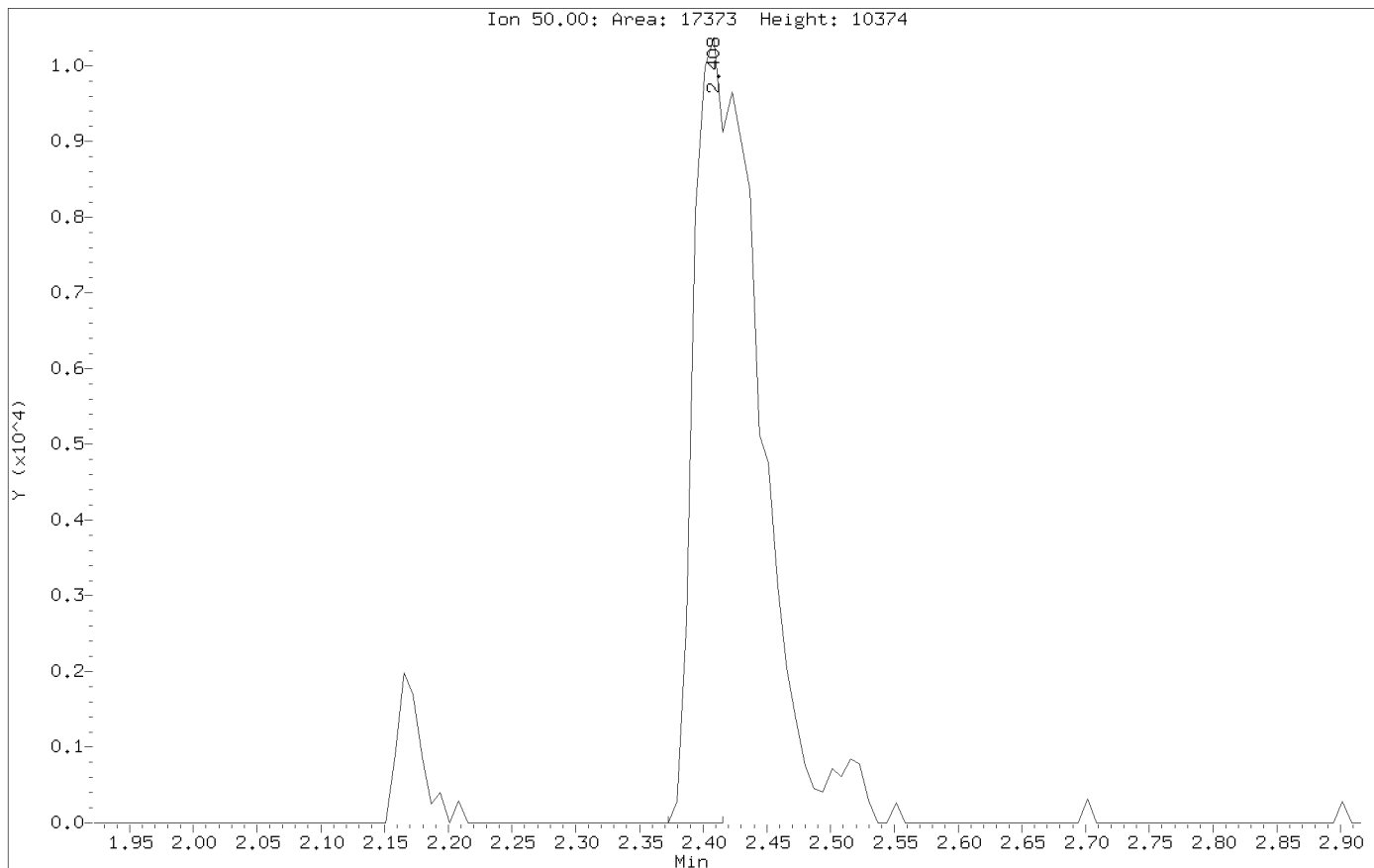
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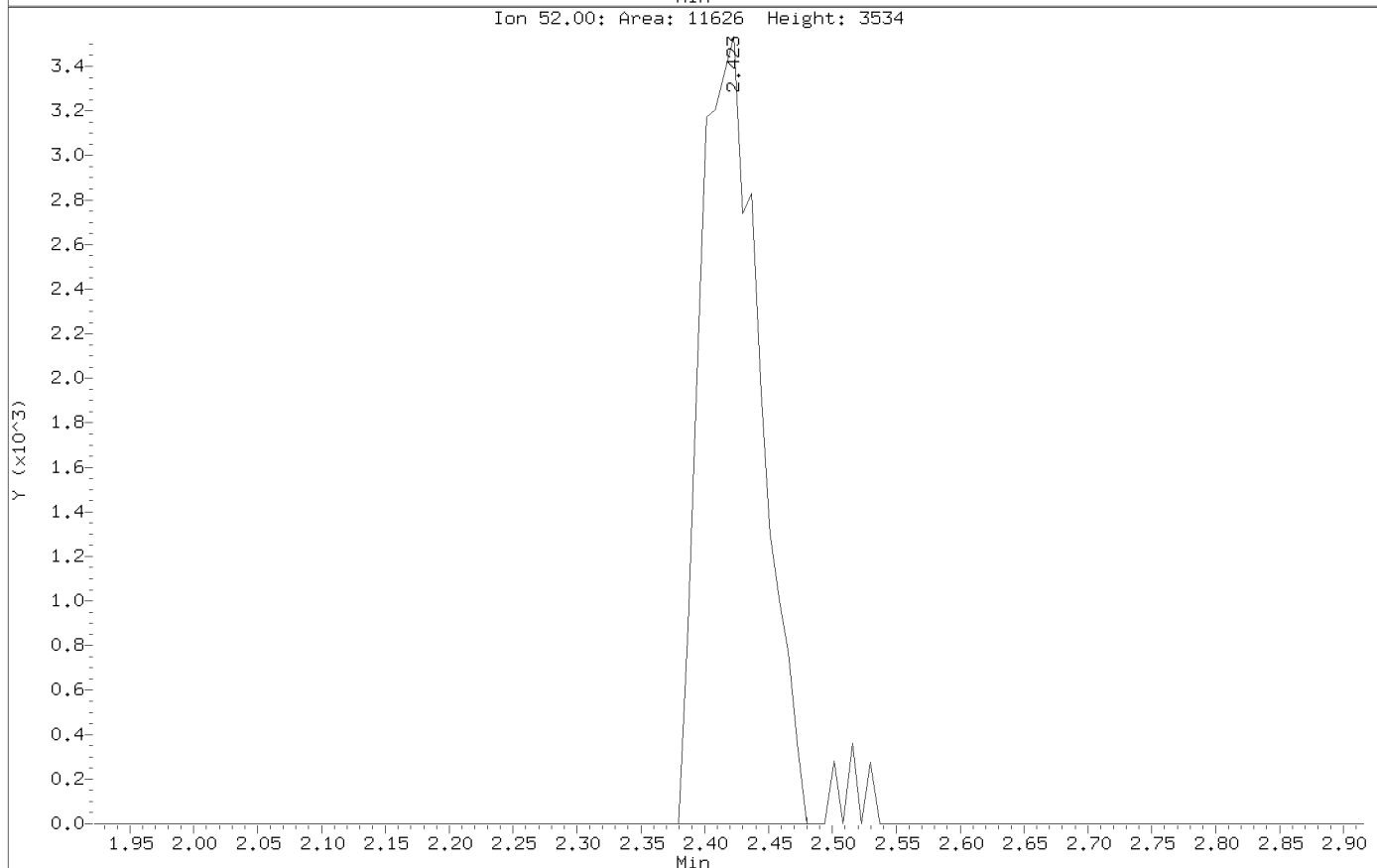
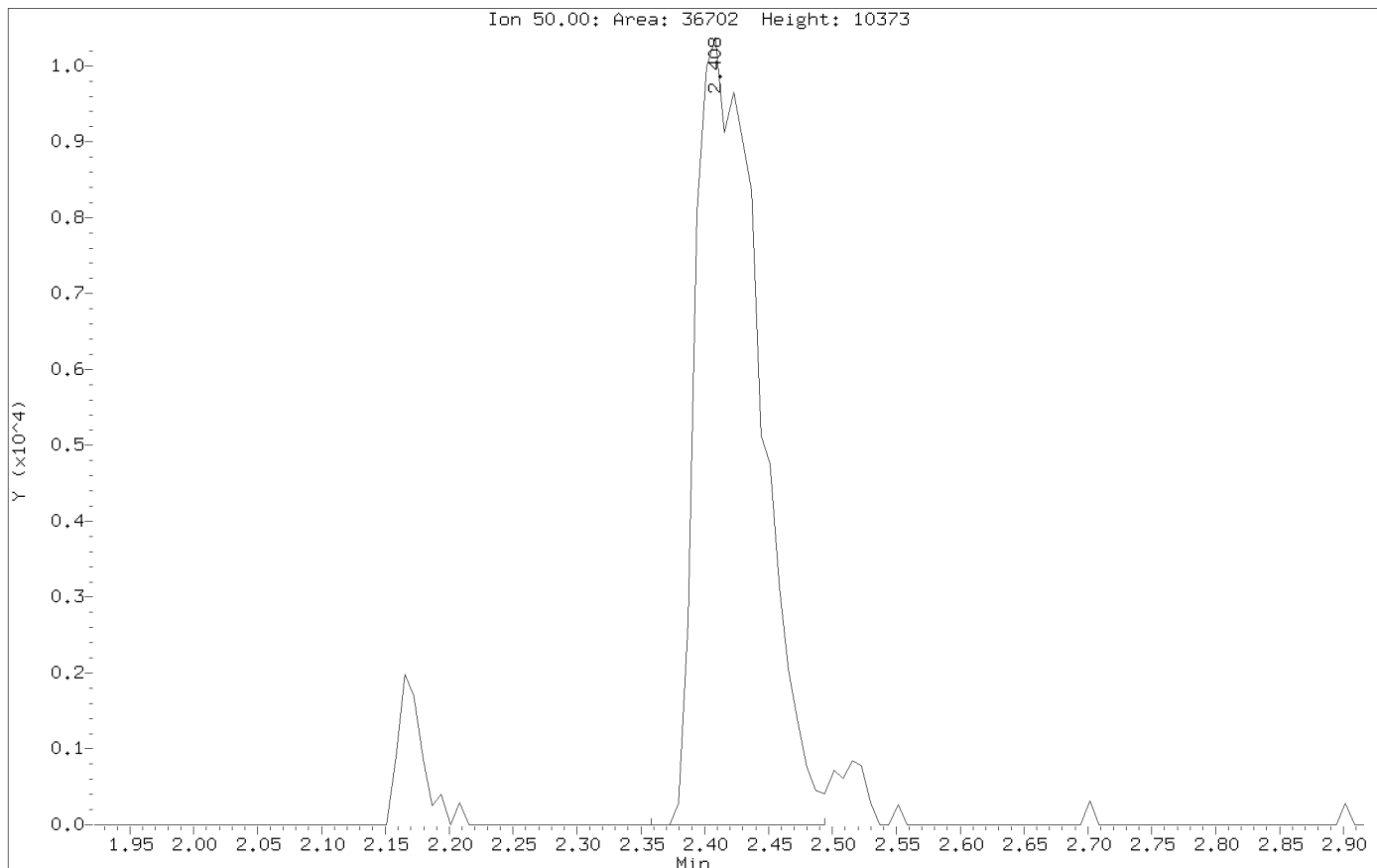
Compound: Chloromethane  
CAS Number: 74-87-3



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Compound: Chloromethane  
CAS Number: 74-87-3

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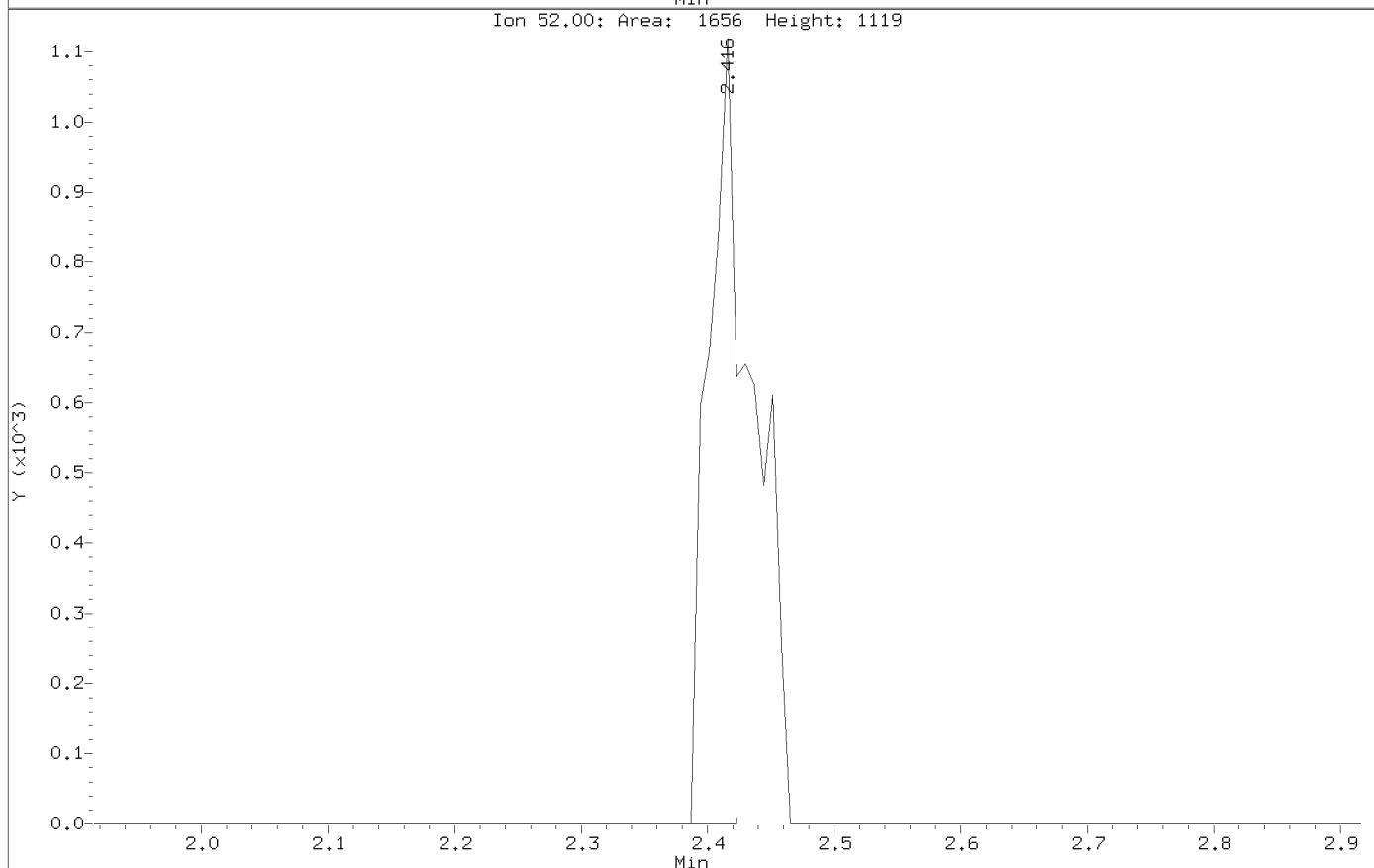
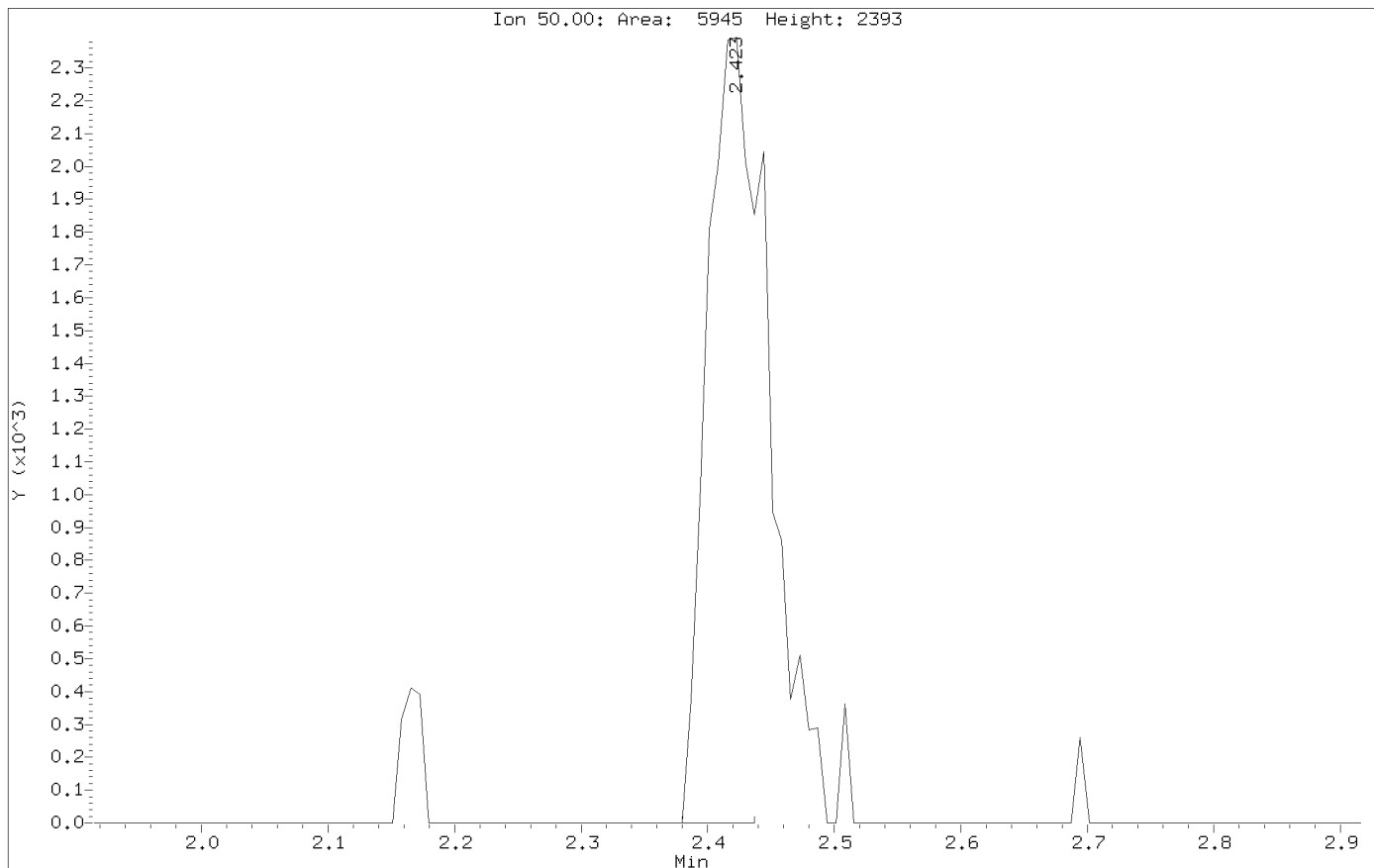




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Compound: Chloromethane  
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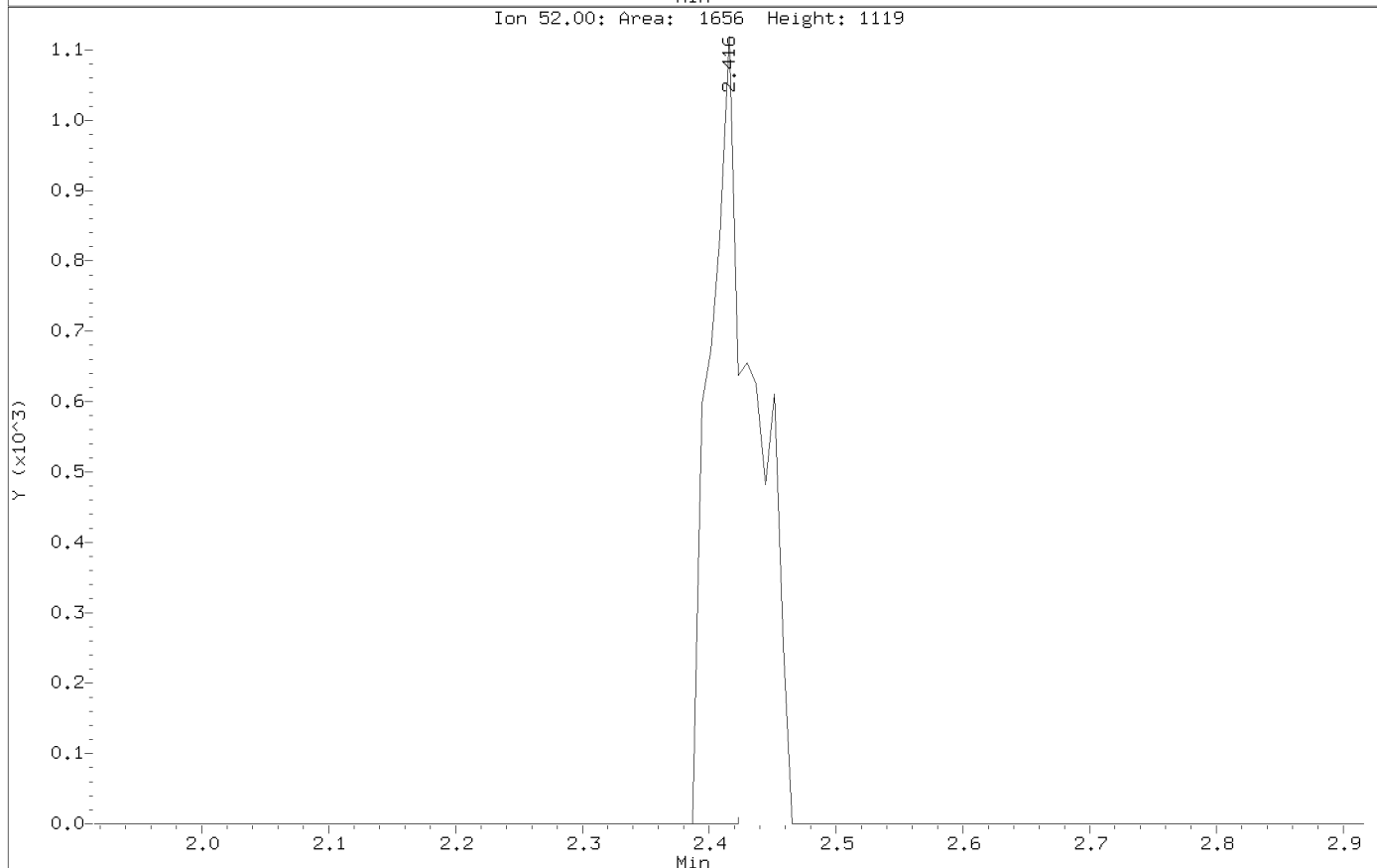
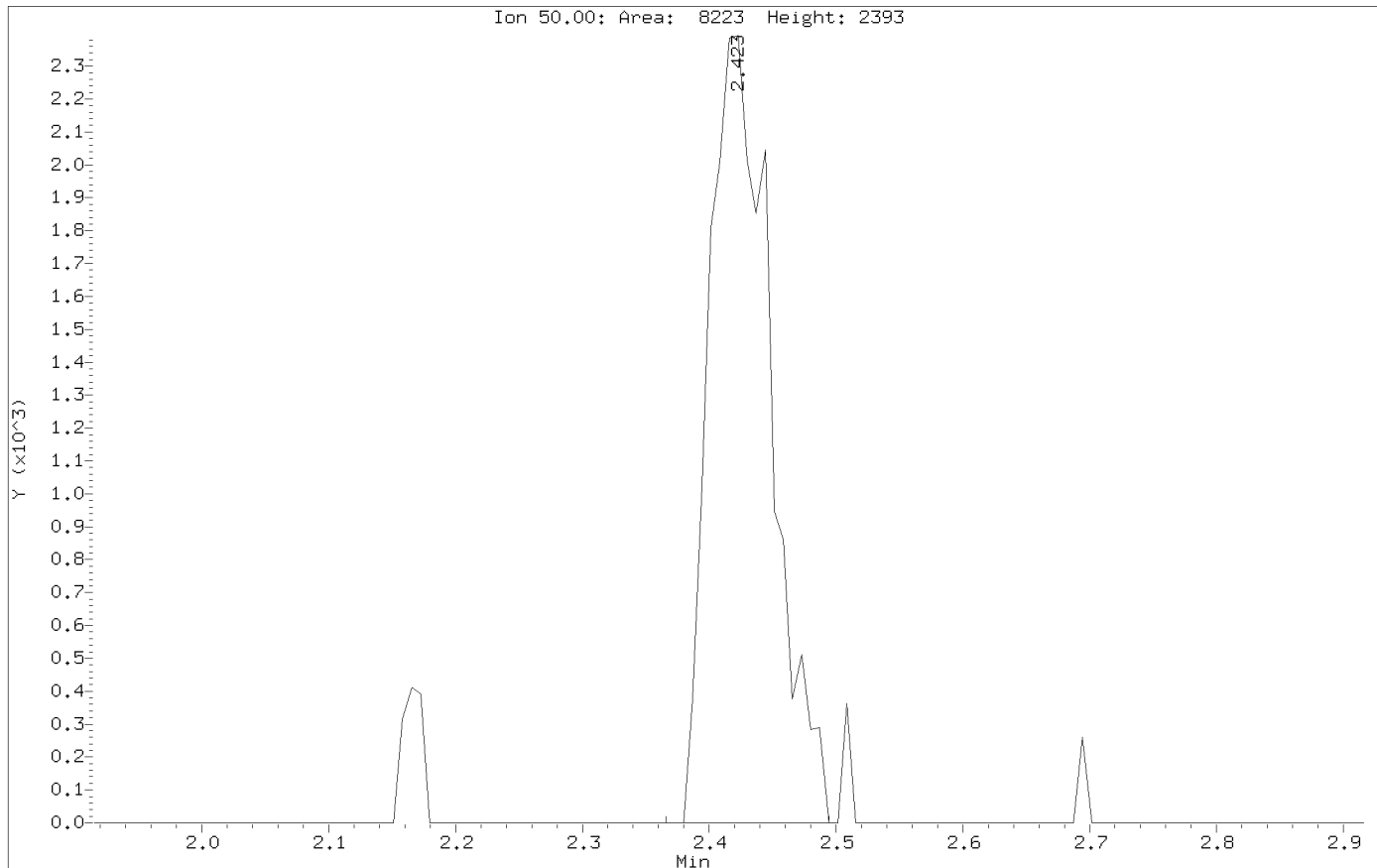
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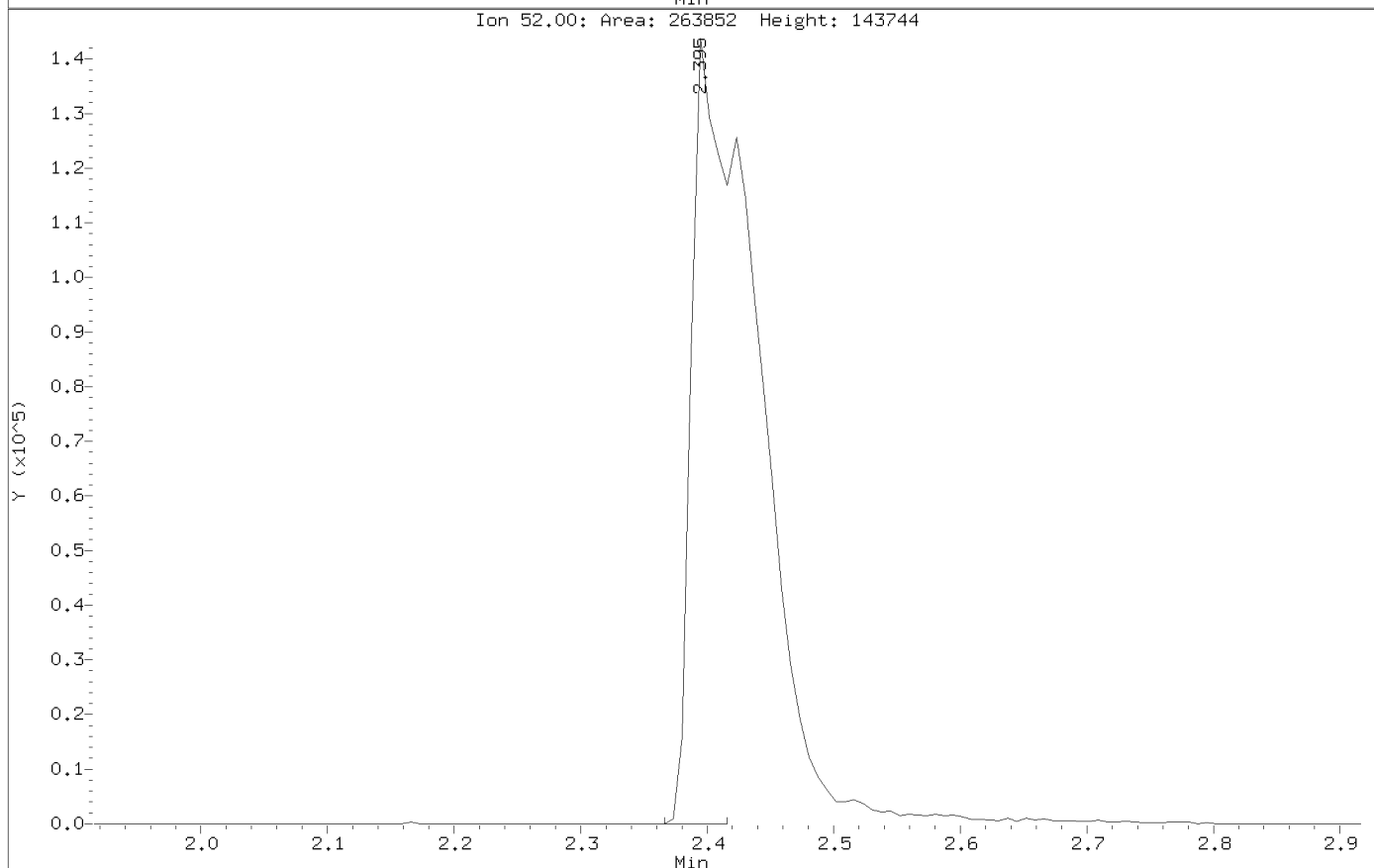
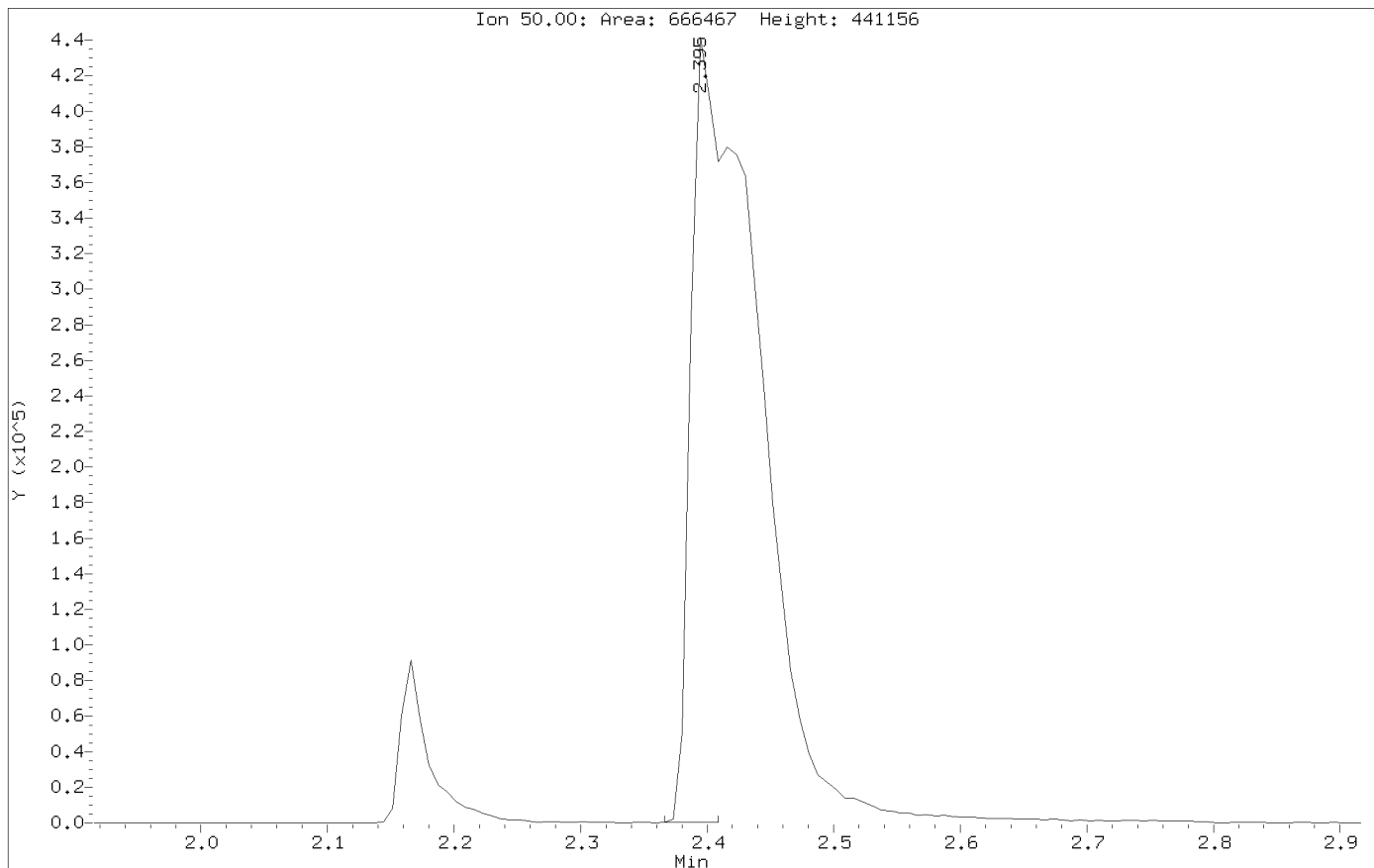
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CAS Number: 74-87-3



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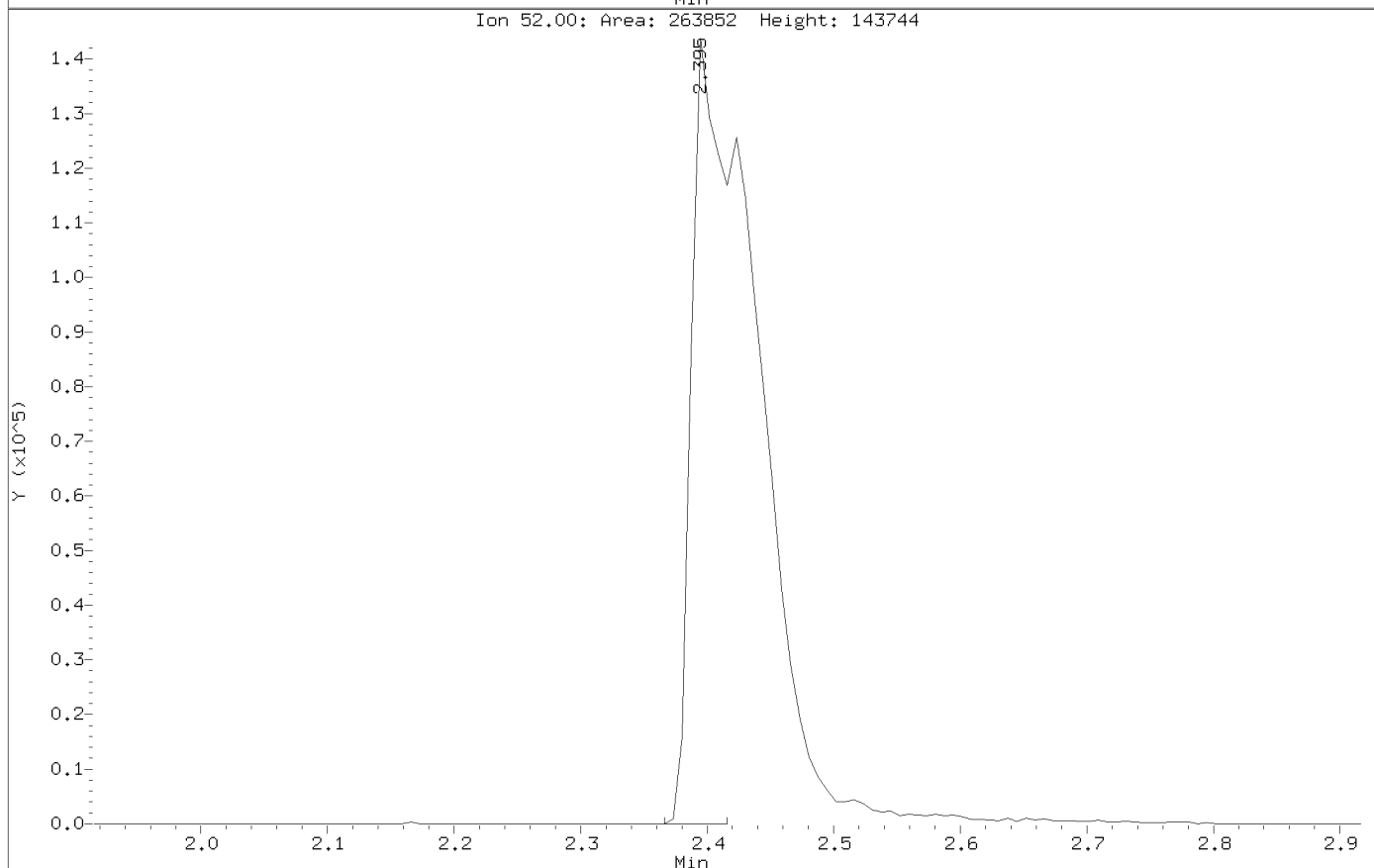
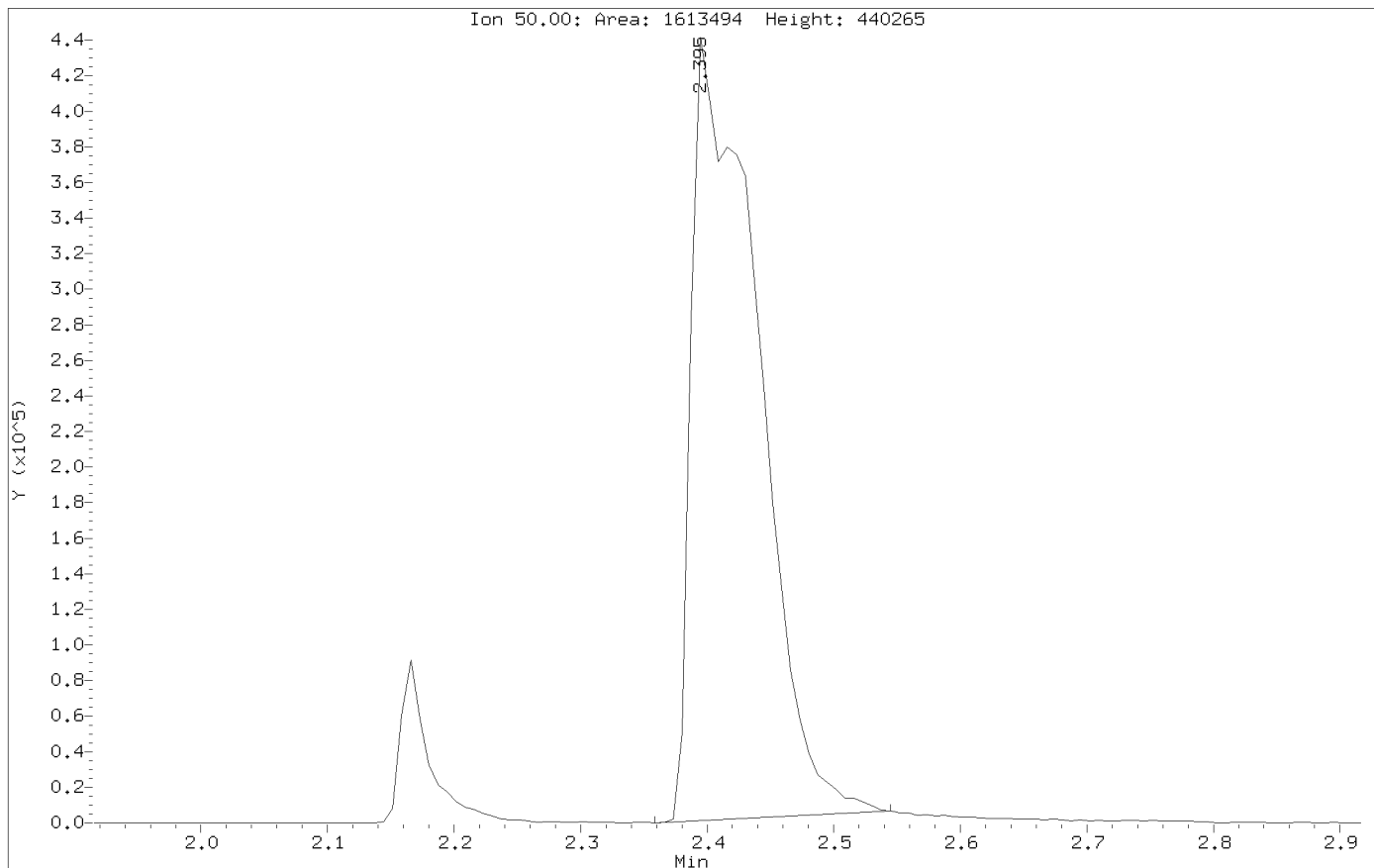
Compound: Chloromethane  
CAS Number: 74-87-3



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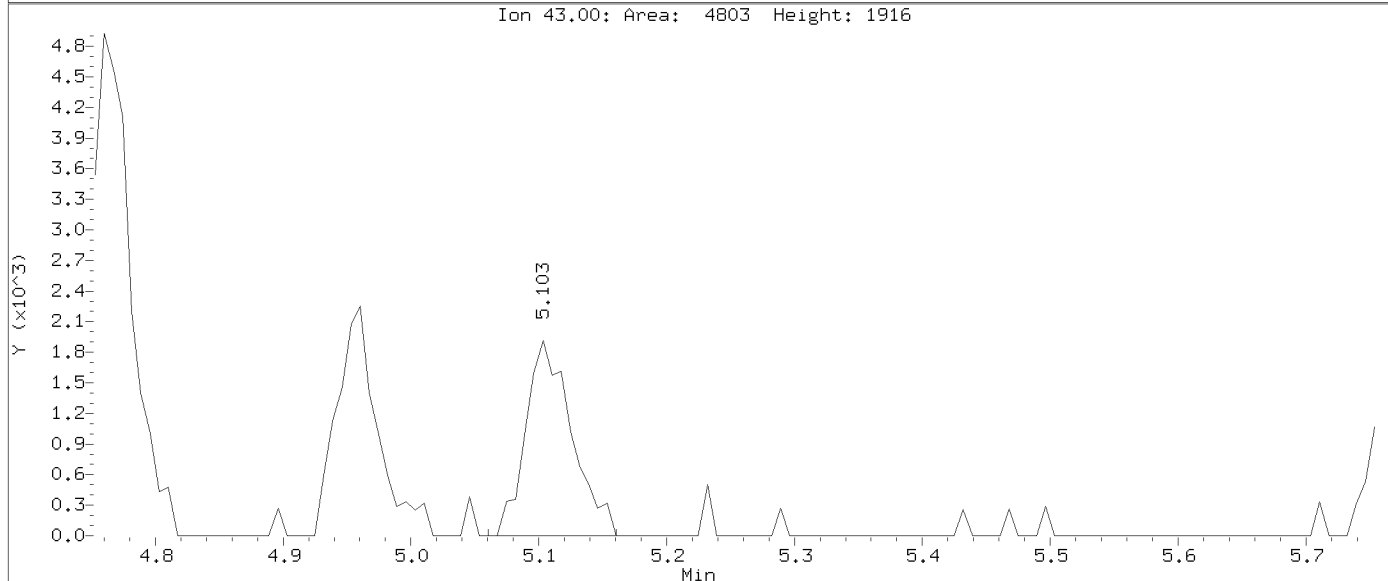
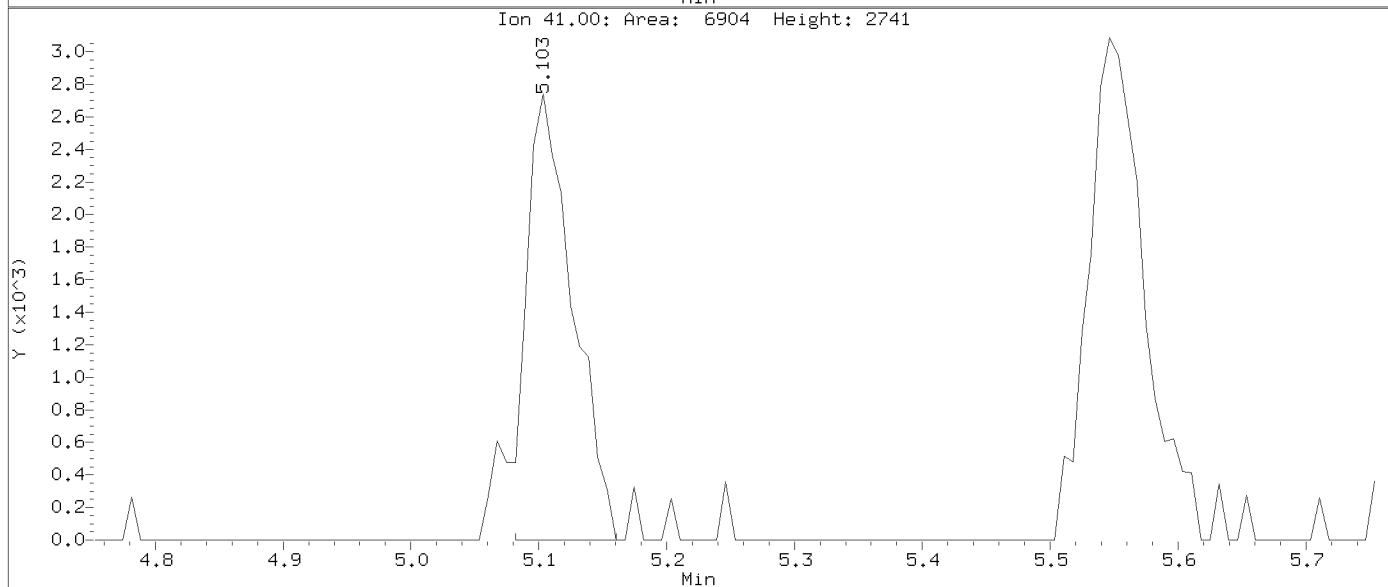
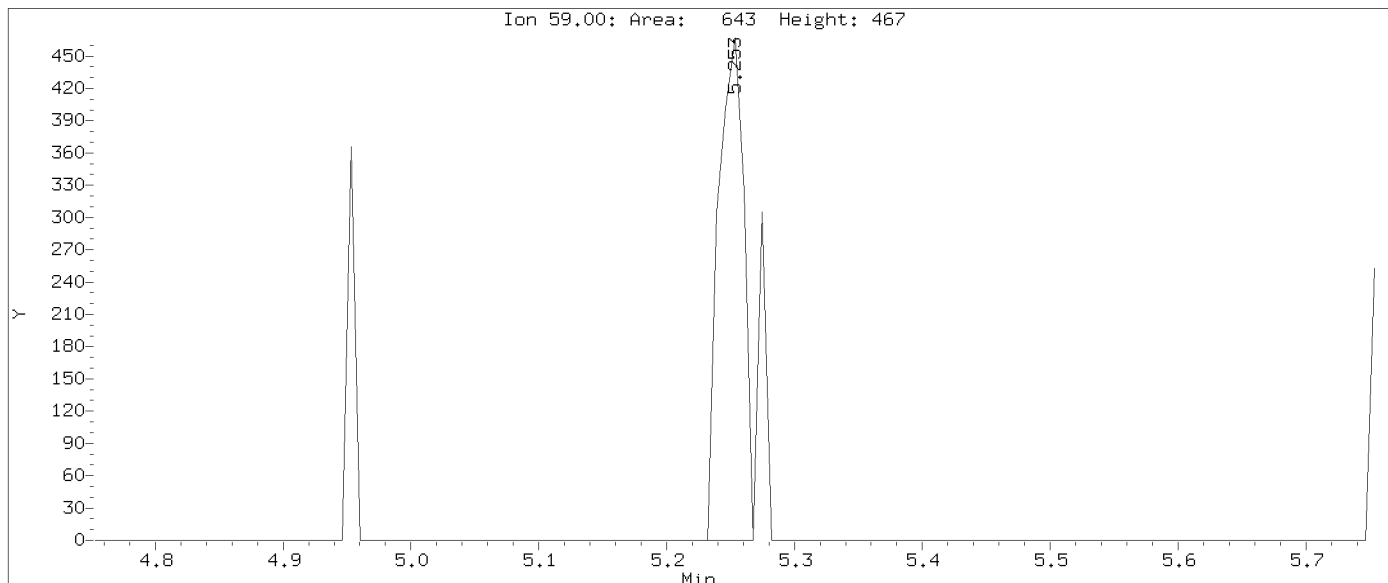
Compound: Chloromethane  
CAS Number: 74-87-3



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Client Sample ID:

Compound: Tertiary-butyl alcohol  
CAS Number: 75-65-0

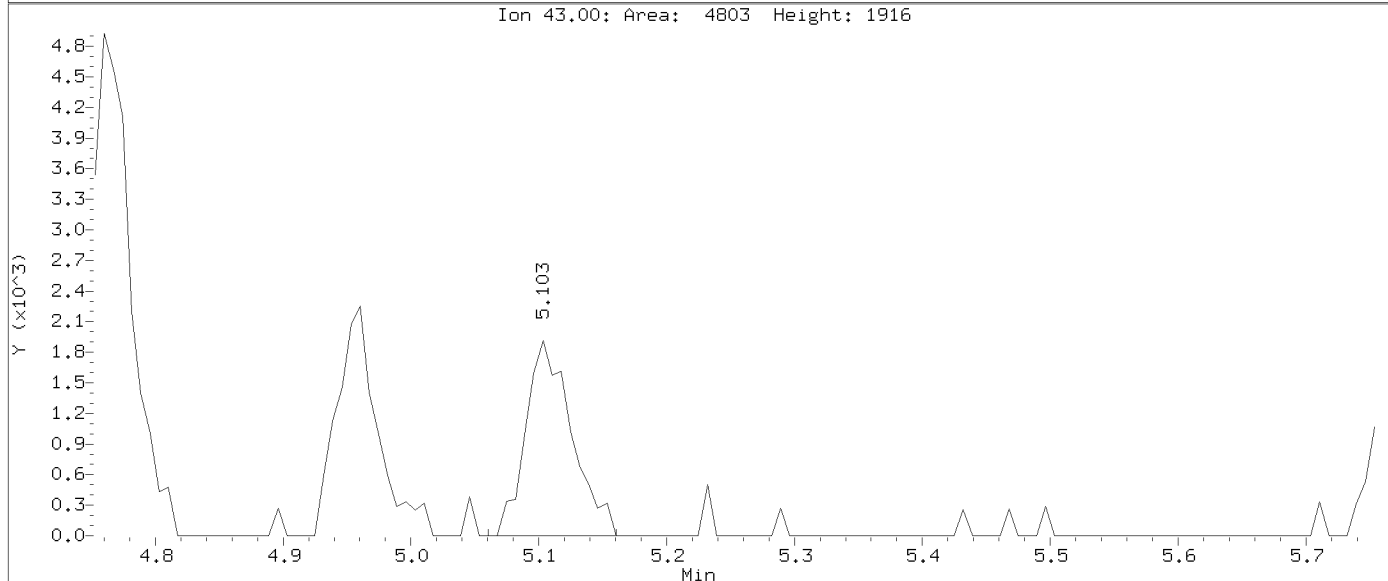
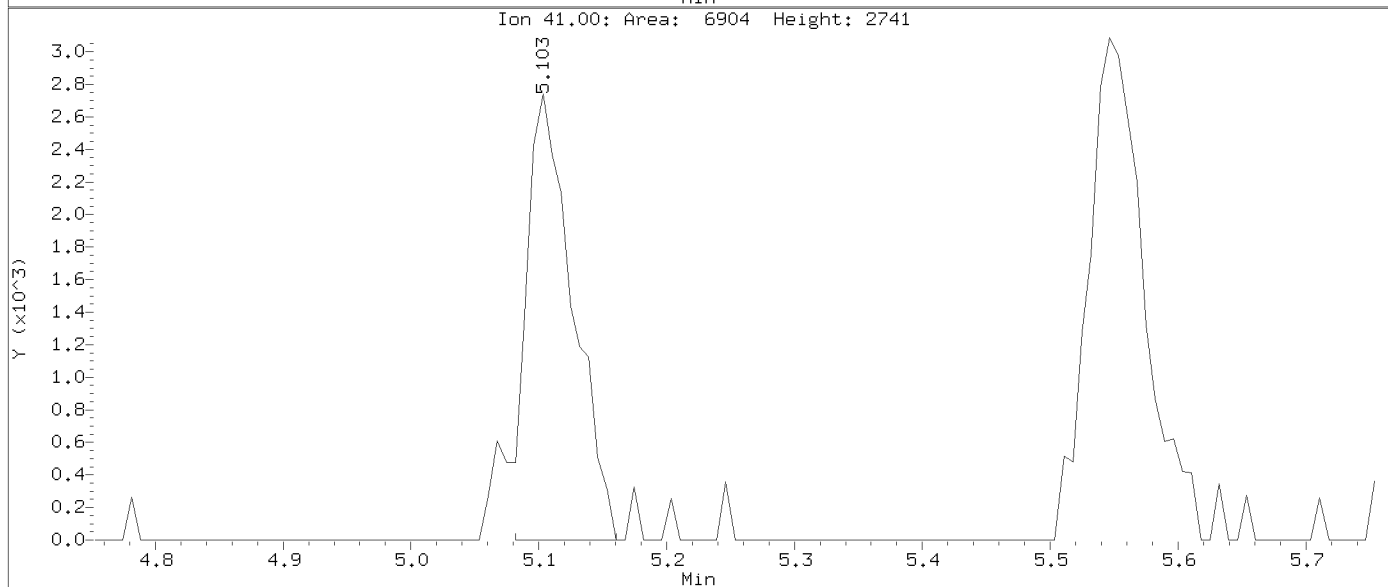
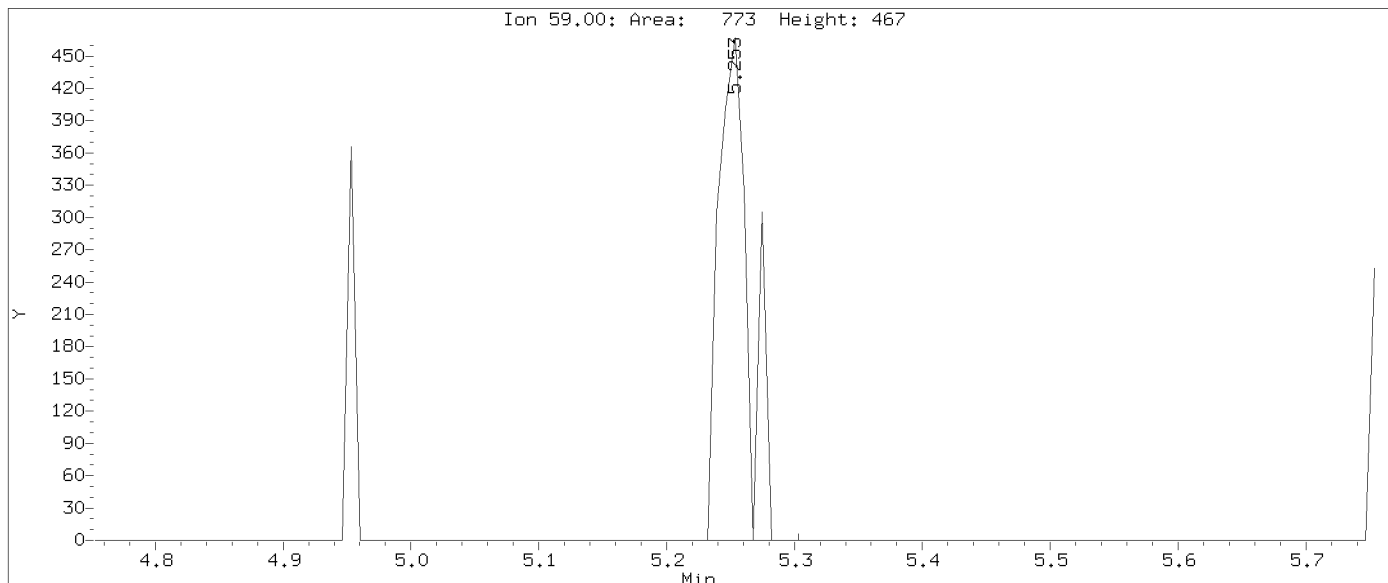
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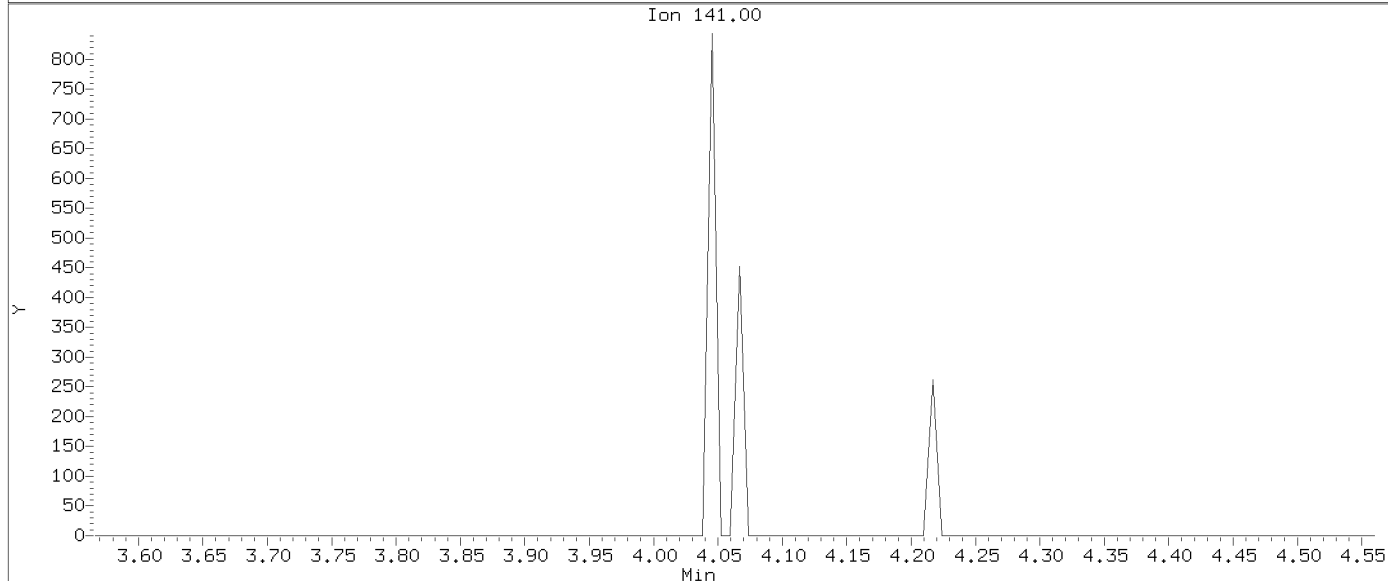
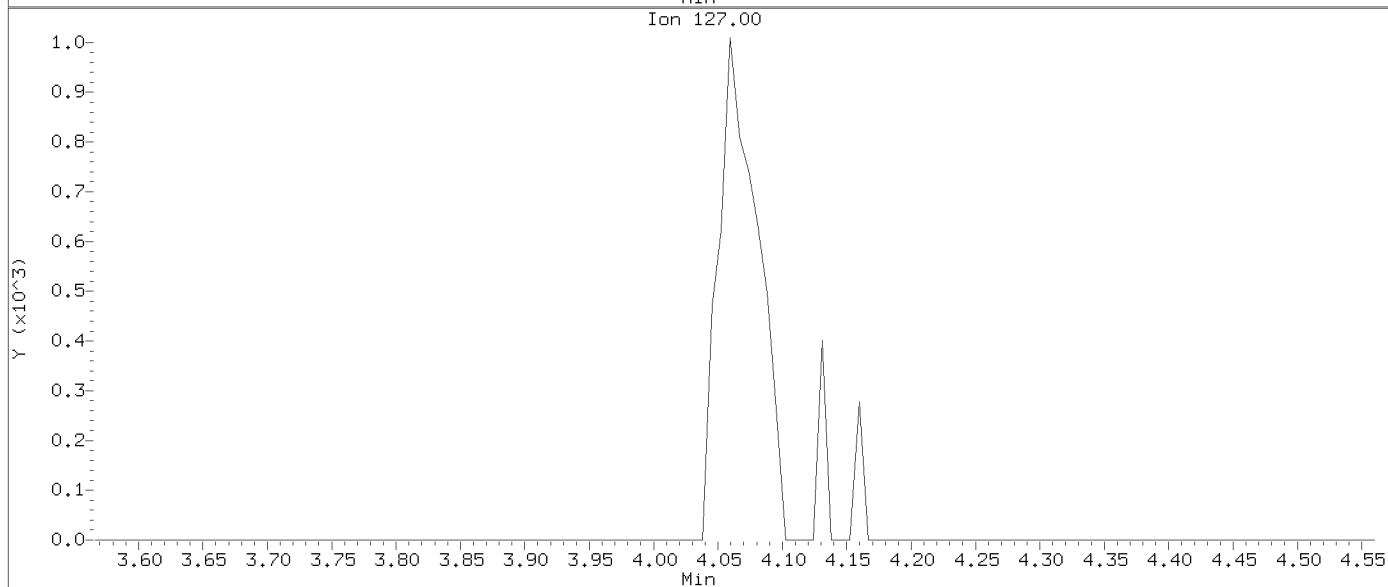
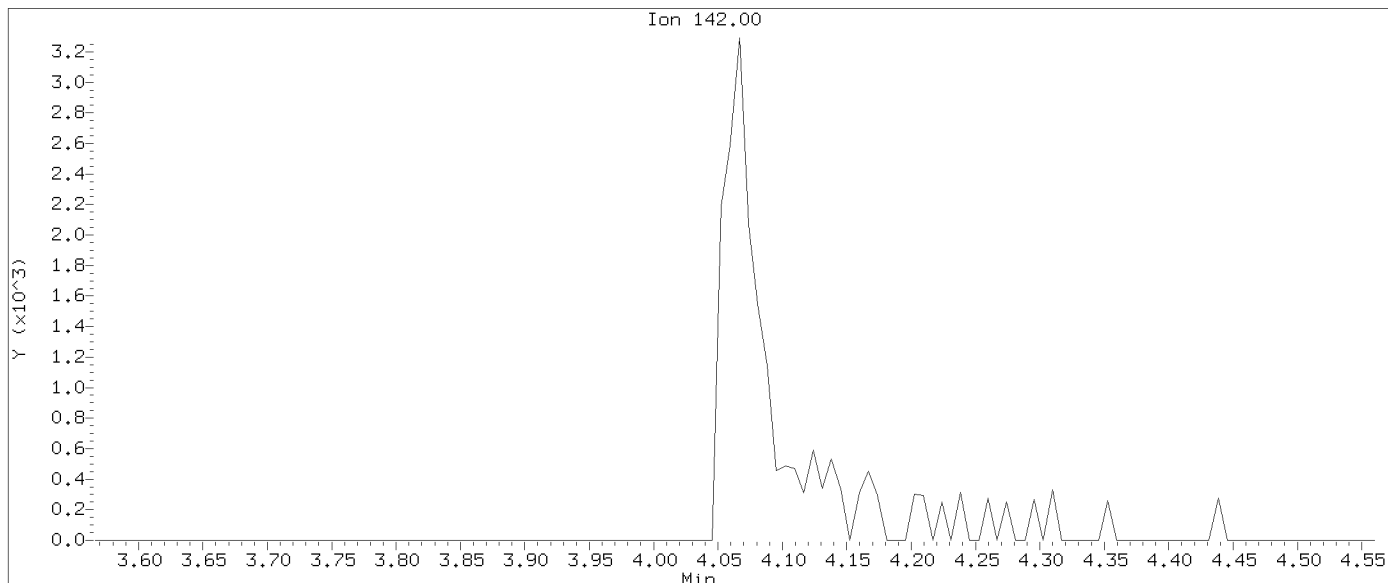
Compound: Tertiary-butyl alcohol  
CAS Number: 75-65-0



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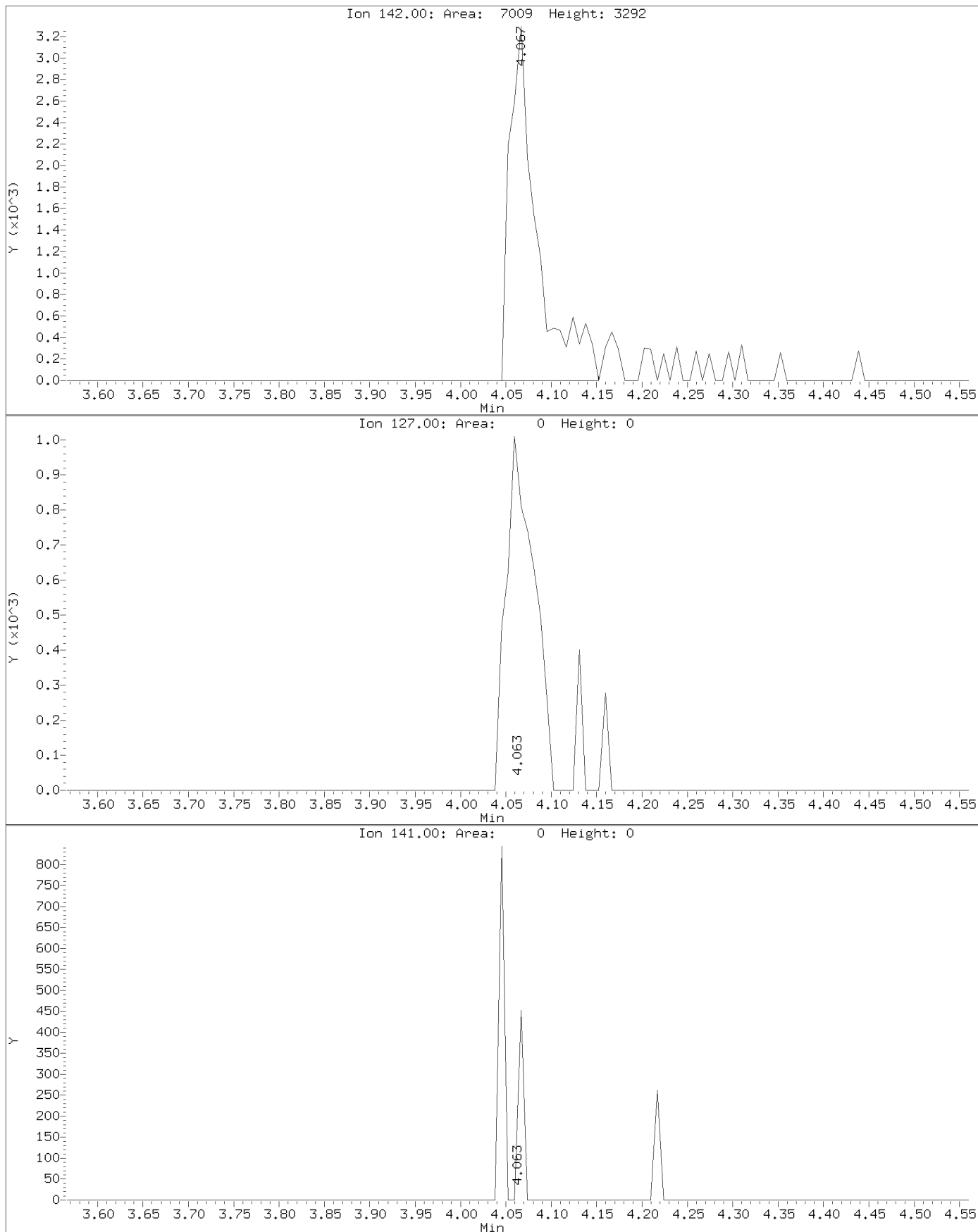
Compound: Iodomethane  
CAS Number: 74-88-4



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Instrument: gcms-p.i  
Client Sample ID:

# AFTER MANUAL INTEGRATION

Compound: Iodomethane  
CAS Number: 74-88-4

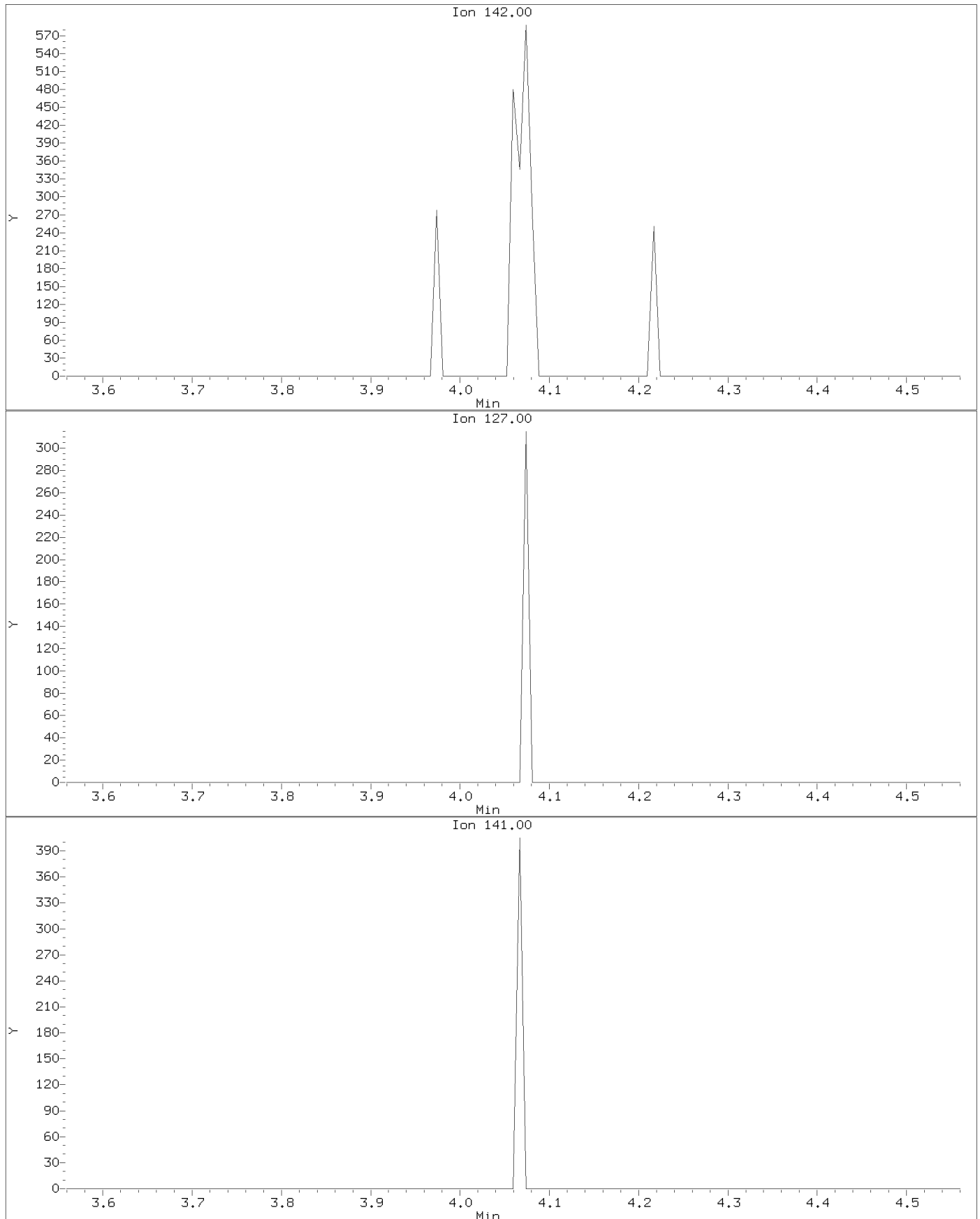




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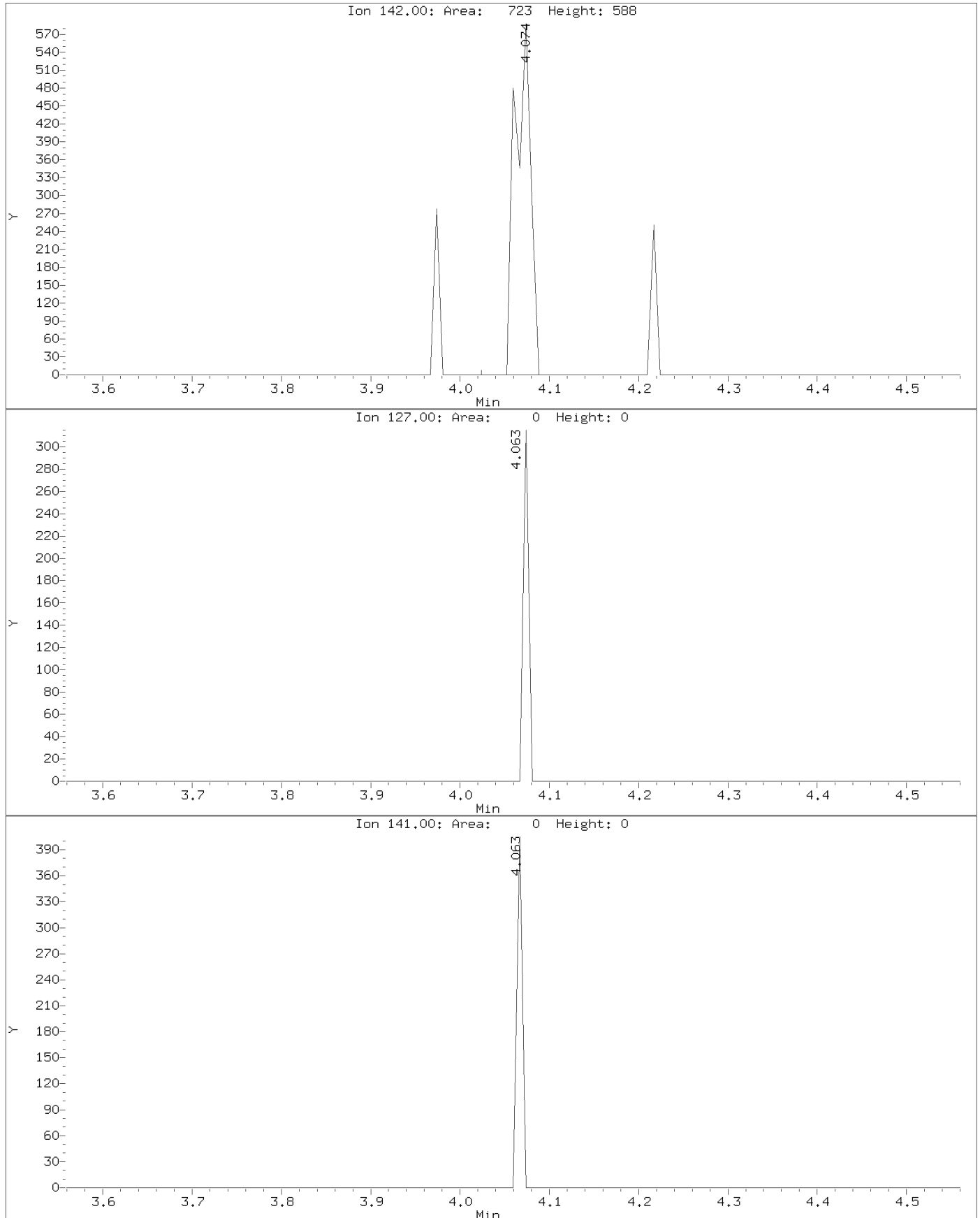
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CAS Number: 74-88-4



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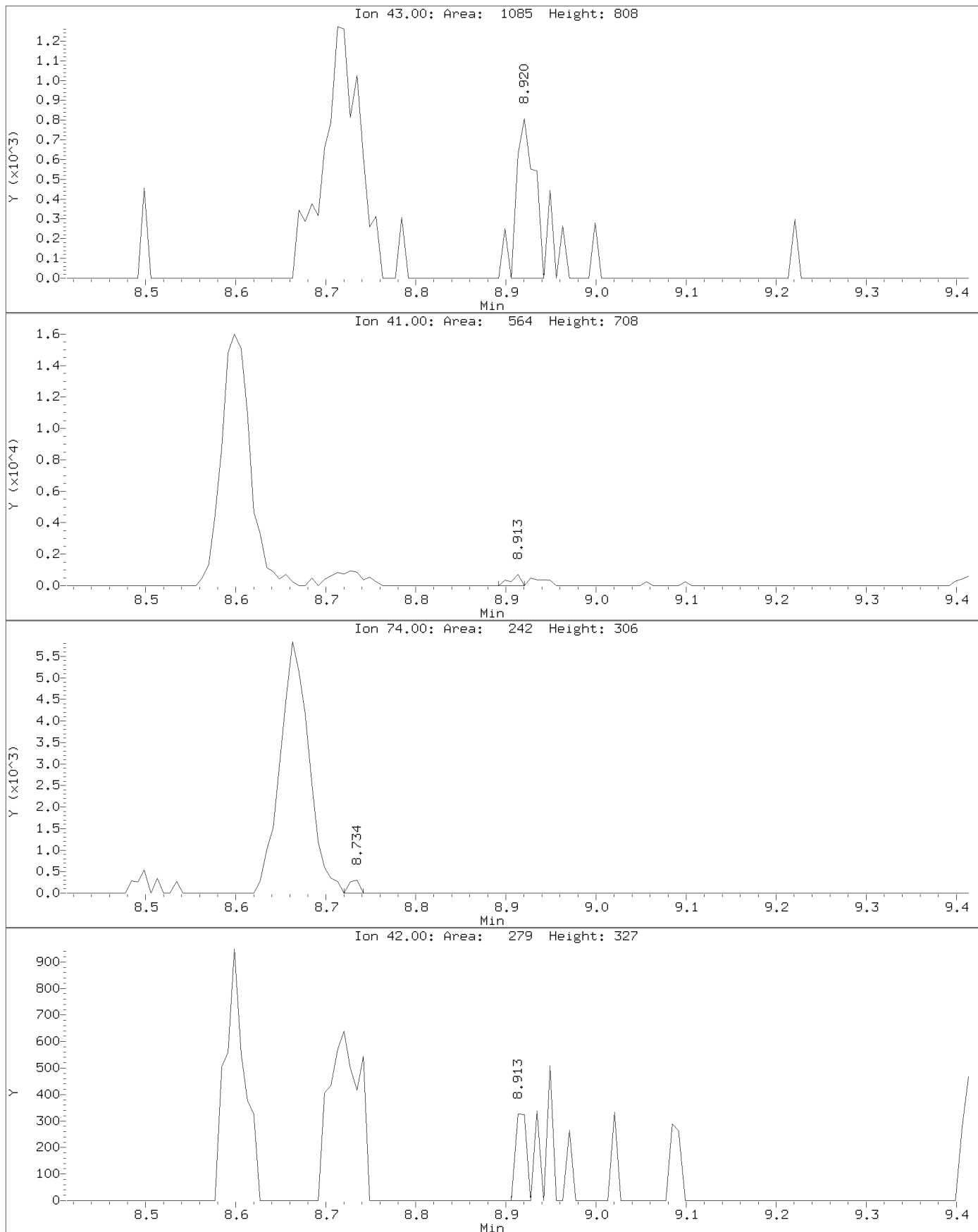
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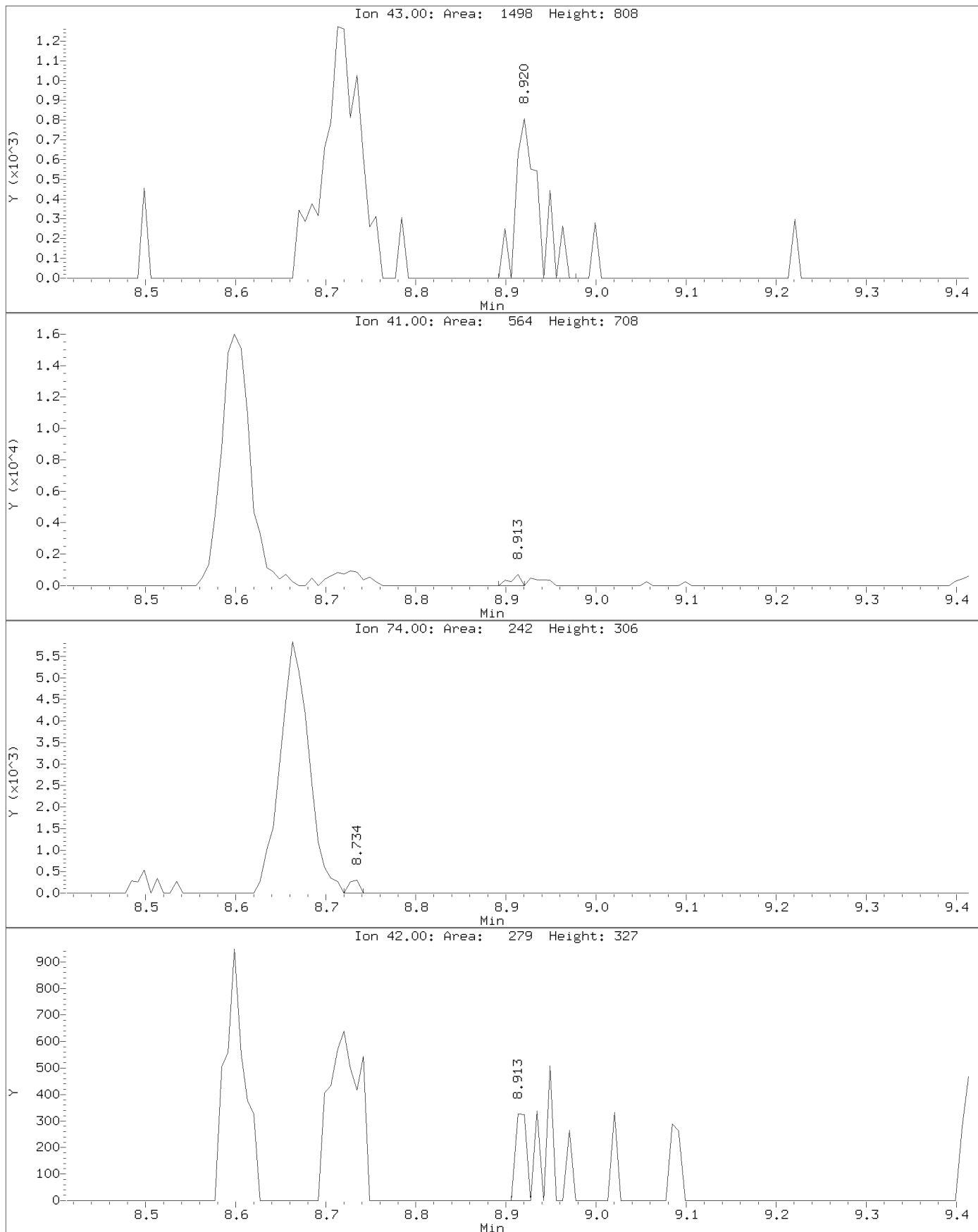
Compound: Isobutyl Alcohol  
CAS Number: 78-83-1



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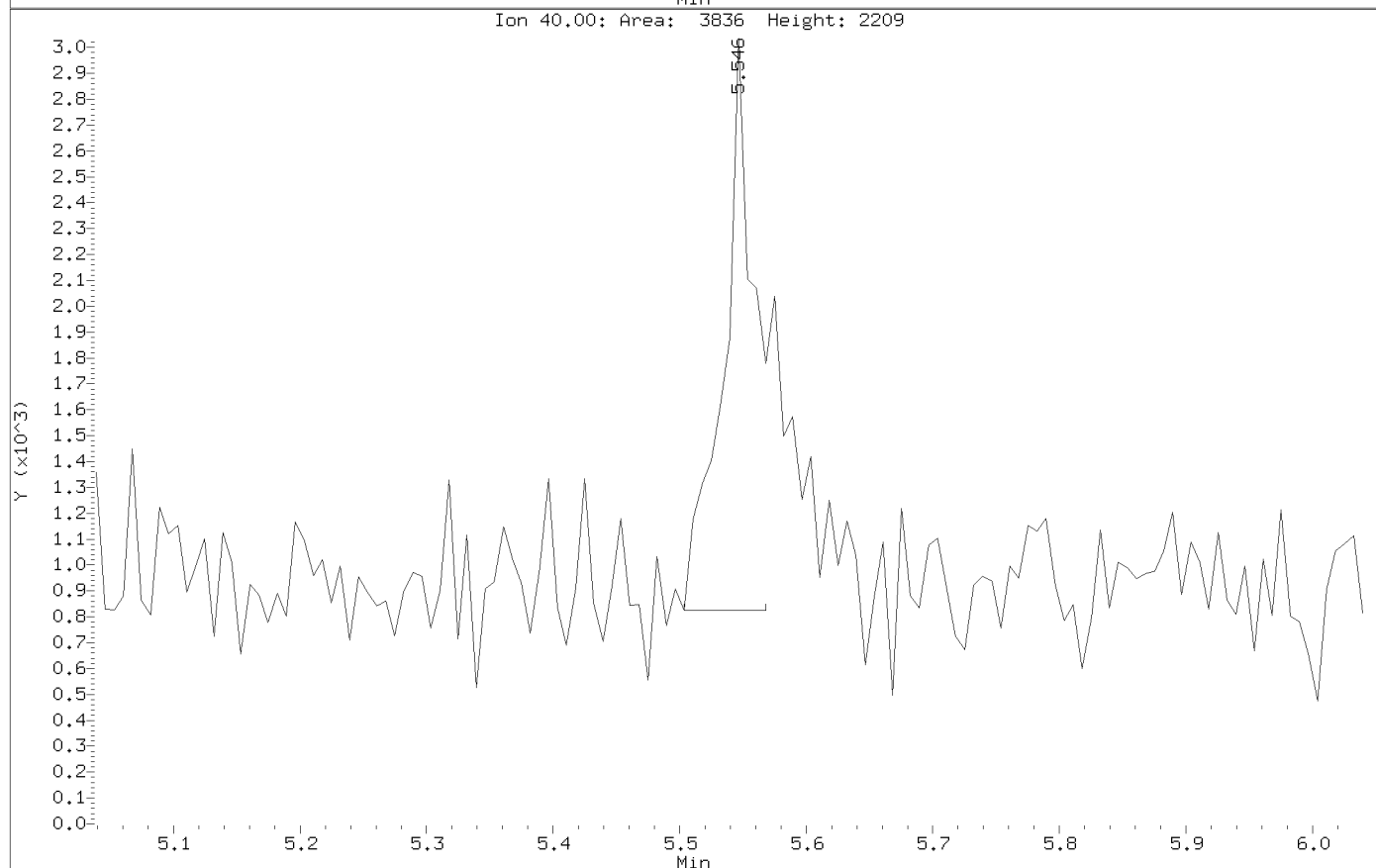
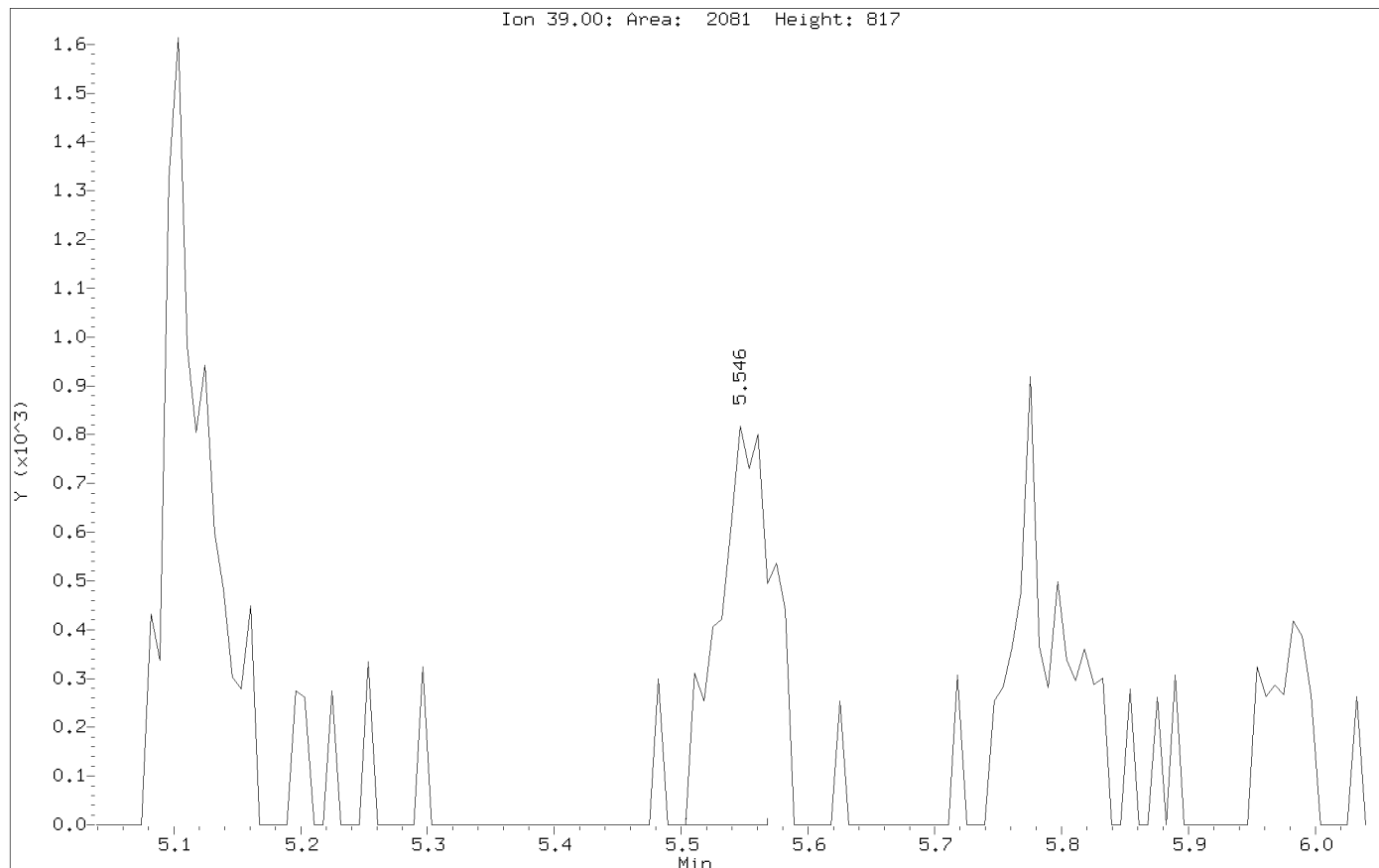
Compound: Isobutyl Alcohol  
CAS Number: 78-83-1



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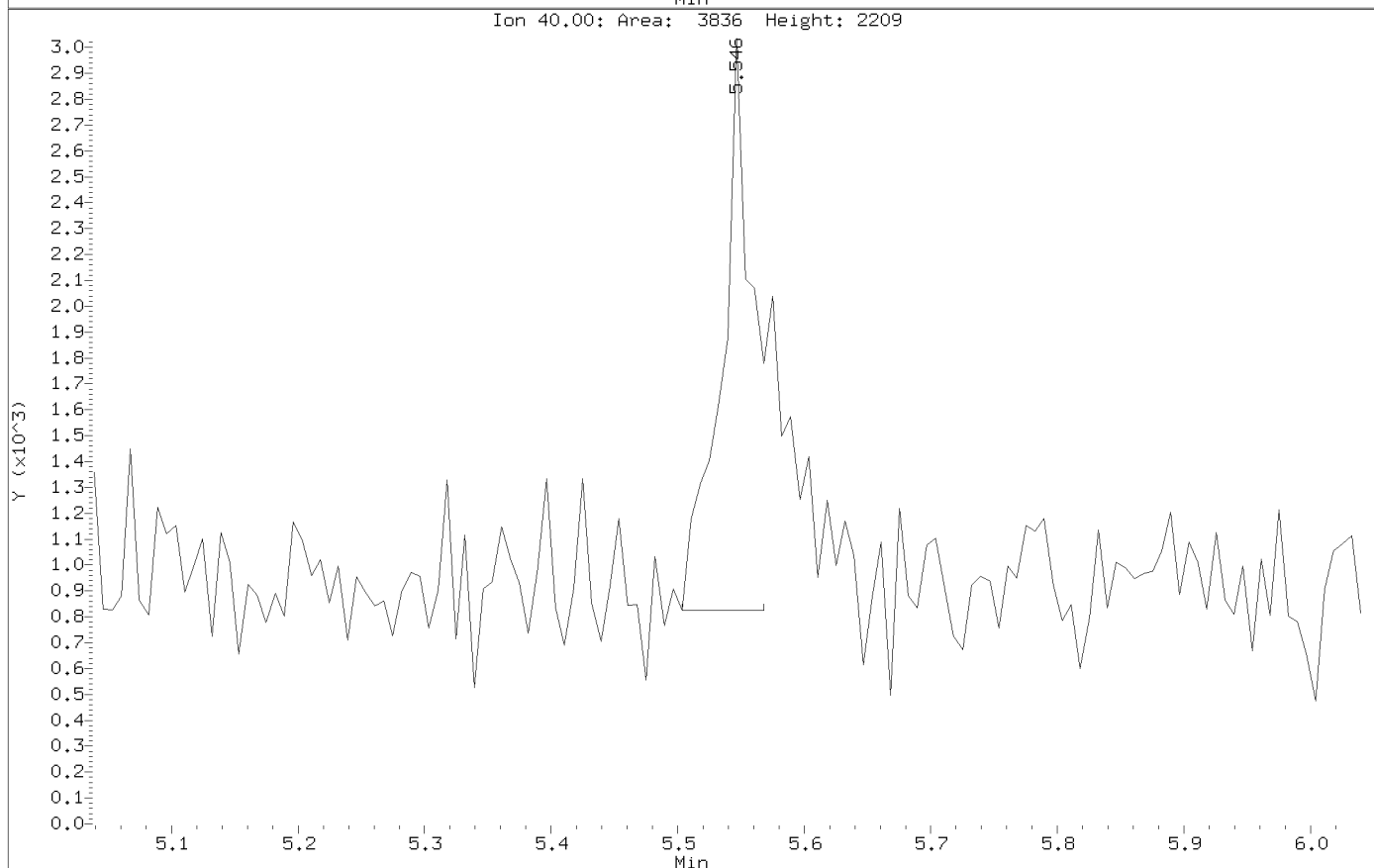
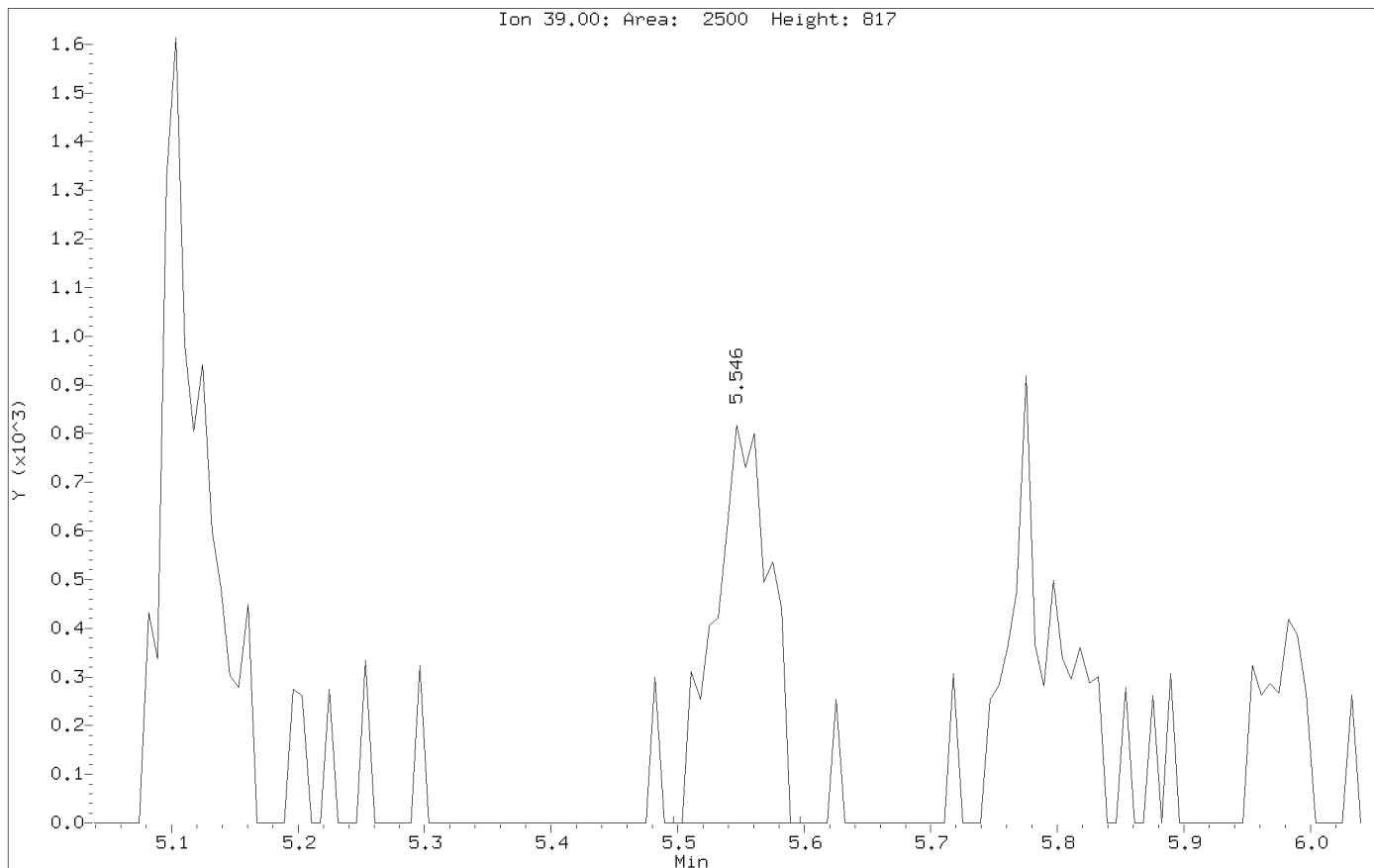
Compound: Acetonitrile  
CAS Number: 75-05-8



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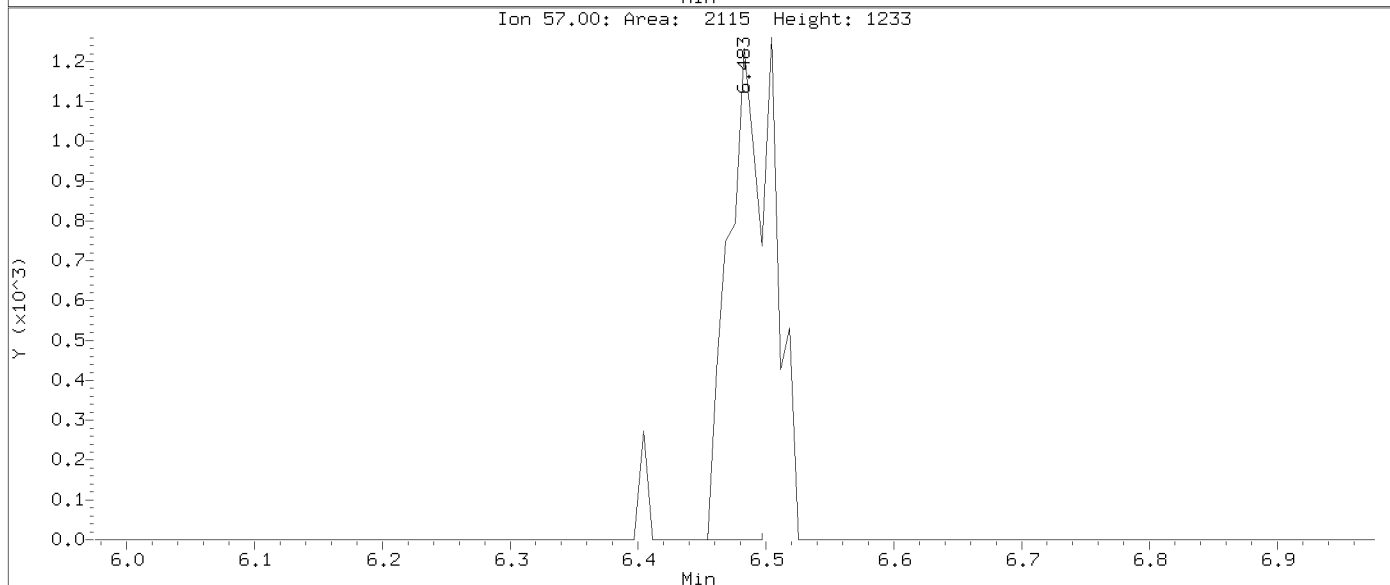
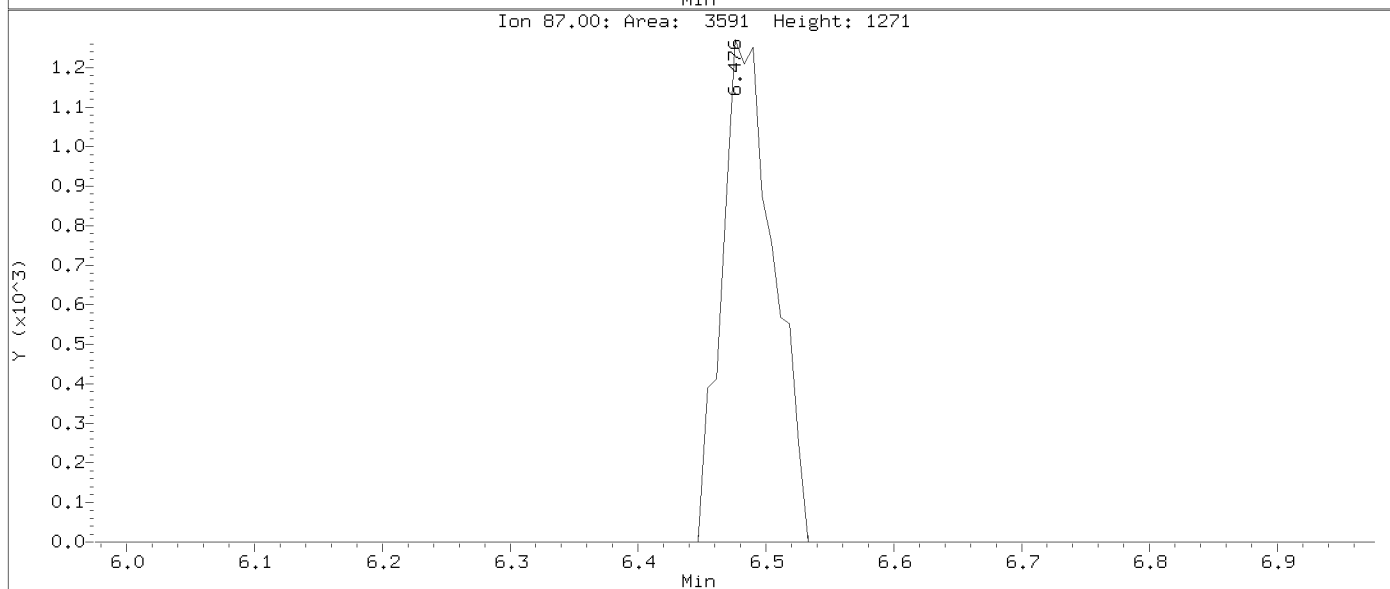
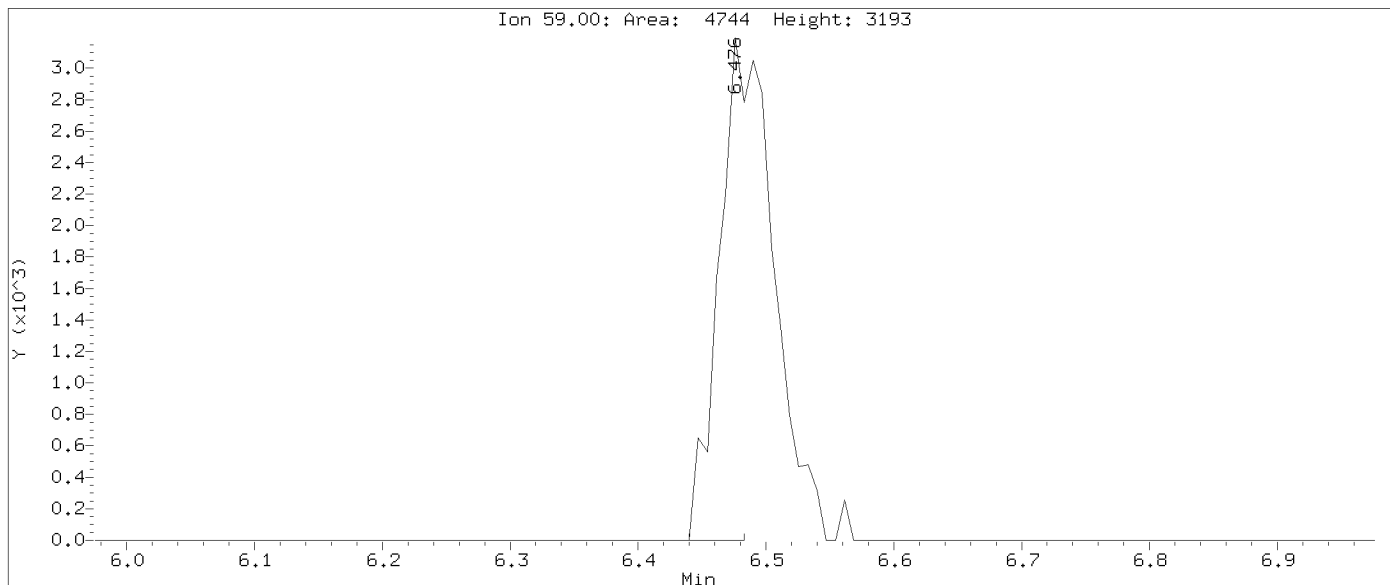
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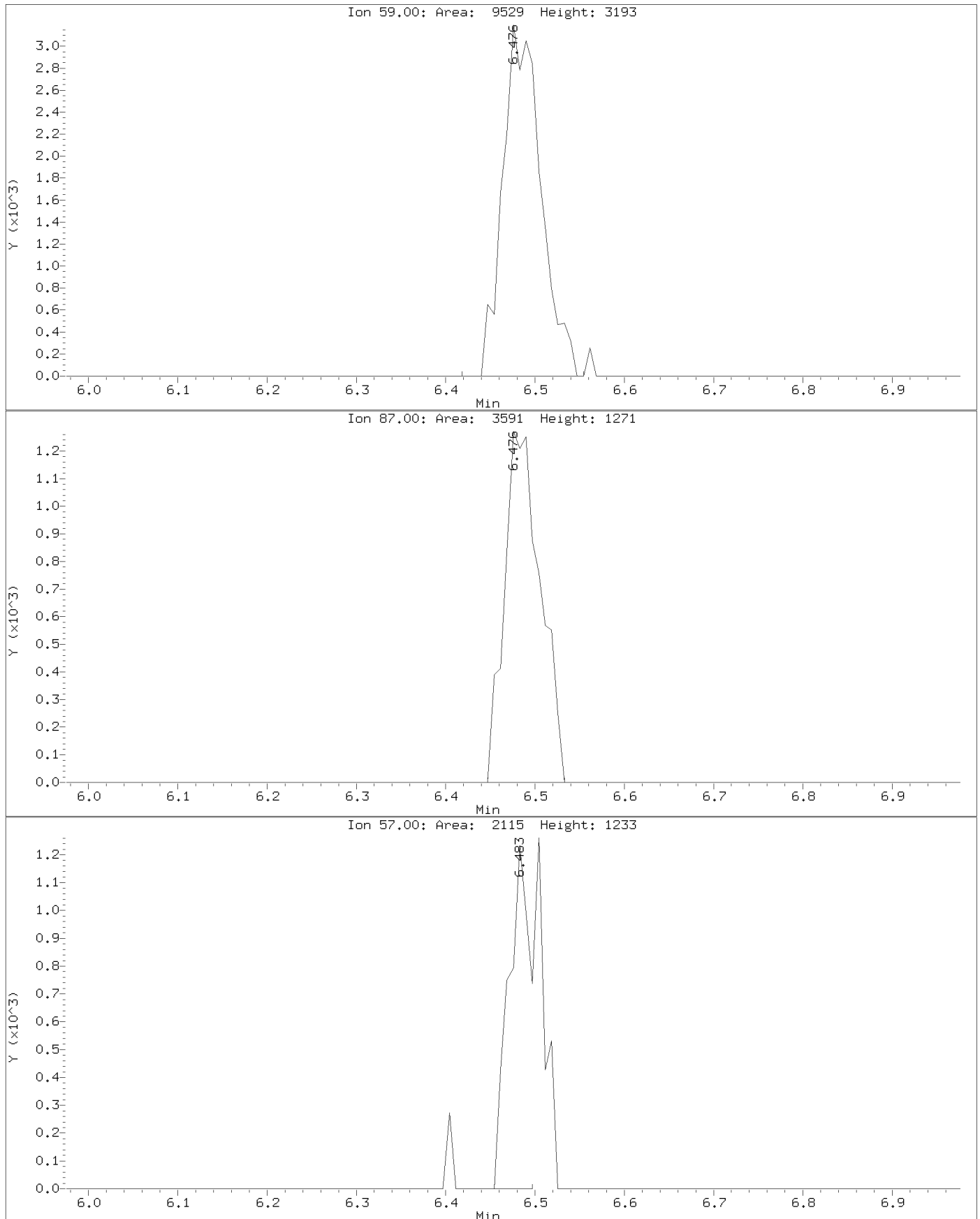
Compound: Ethyl tertiary-butyl ether  
CAS Number: 637-92-3



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Compound: Ethyl tertiary-butyl ether  
CAS Number: 637-92-3

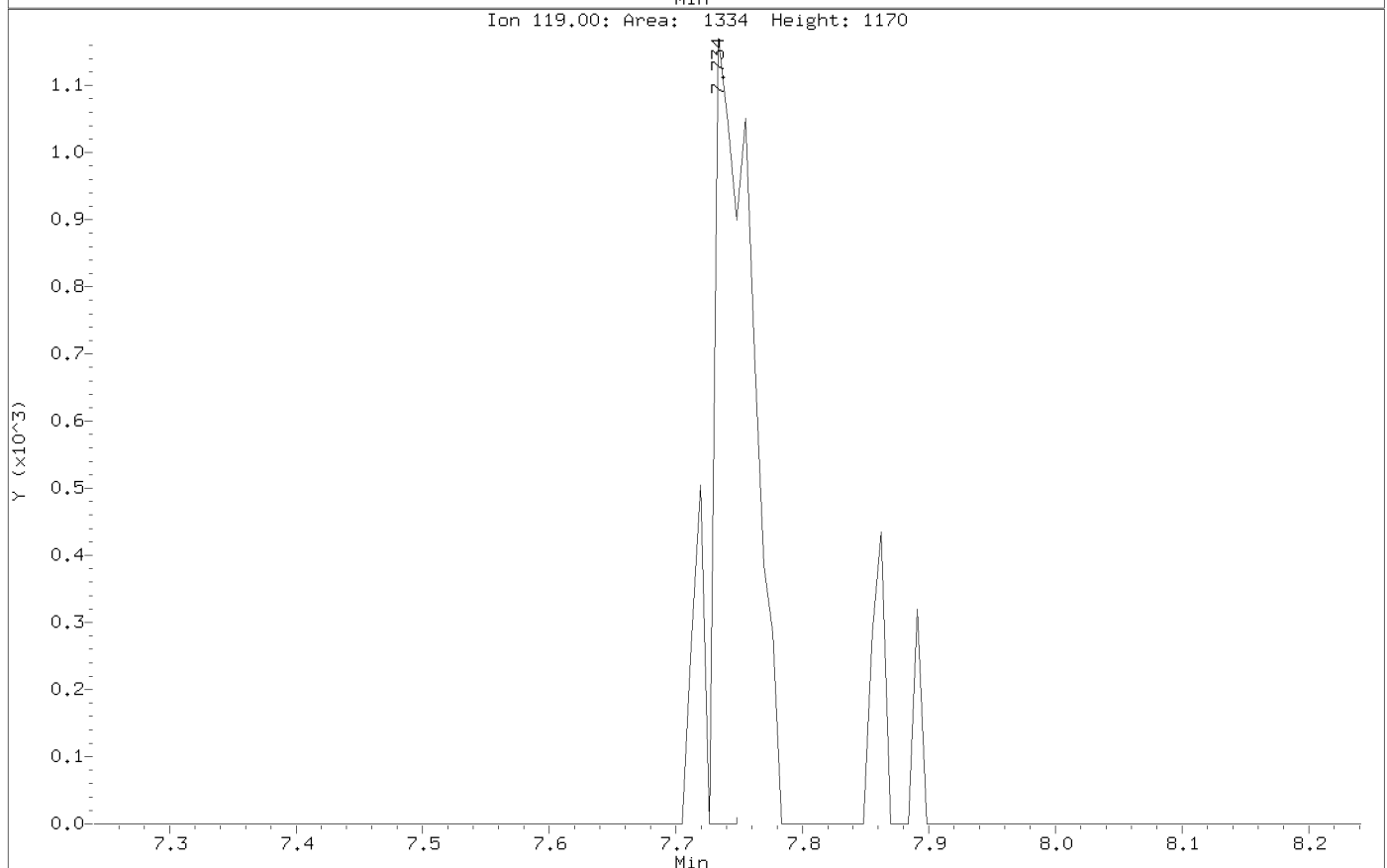
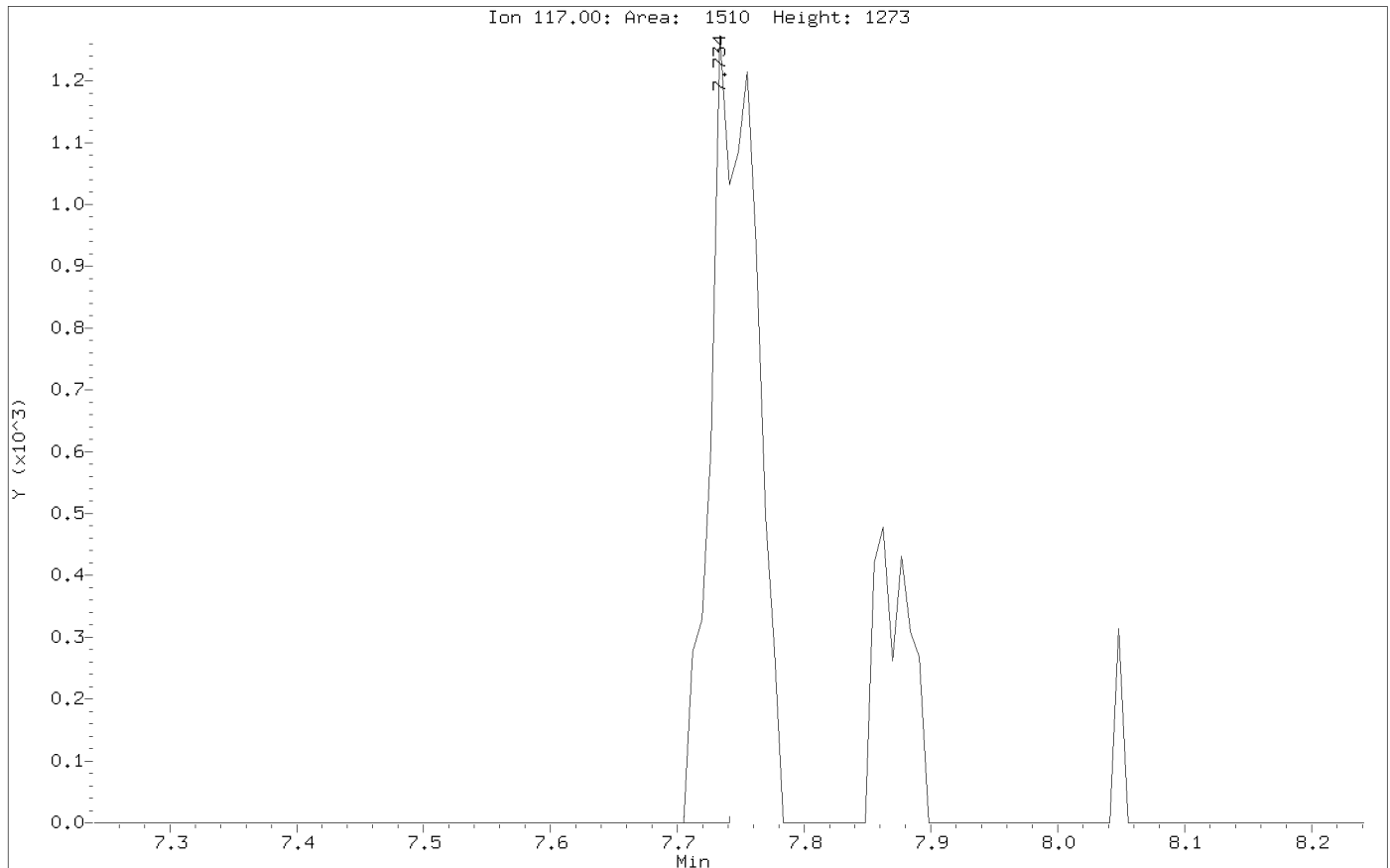




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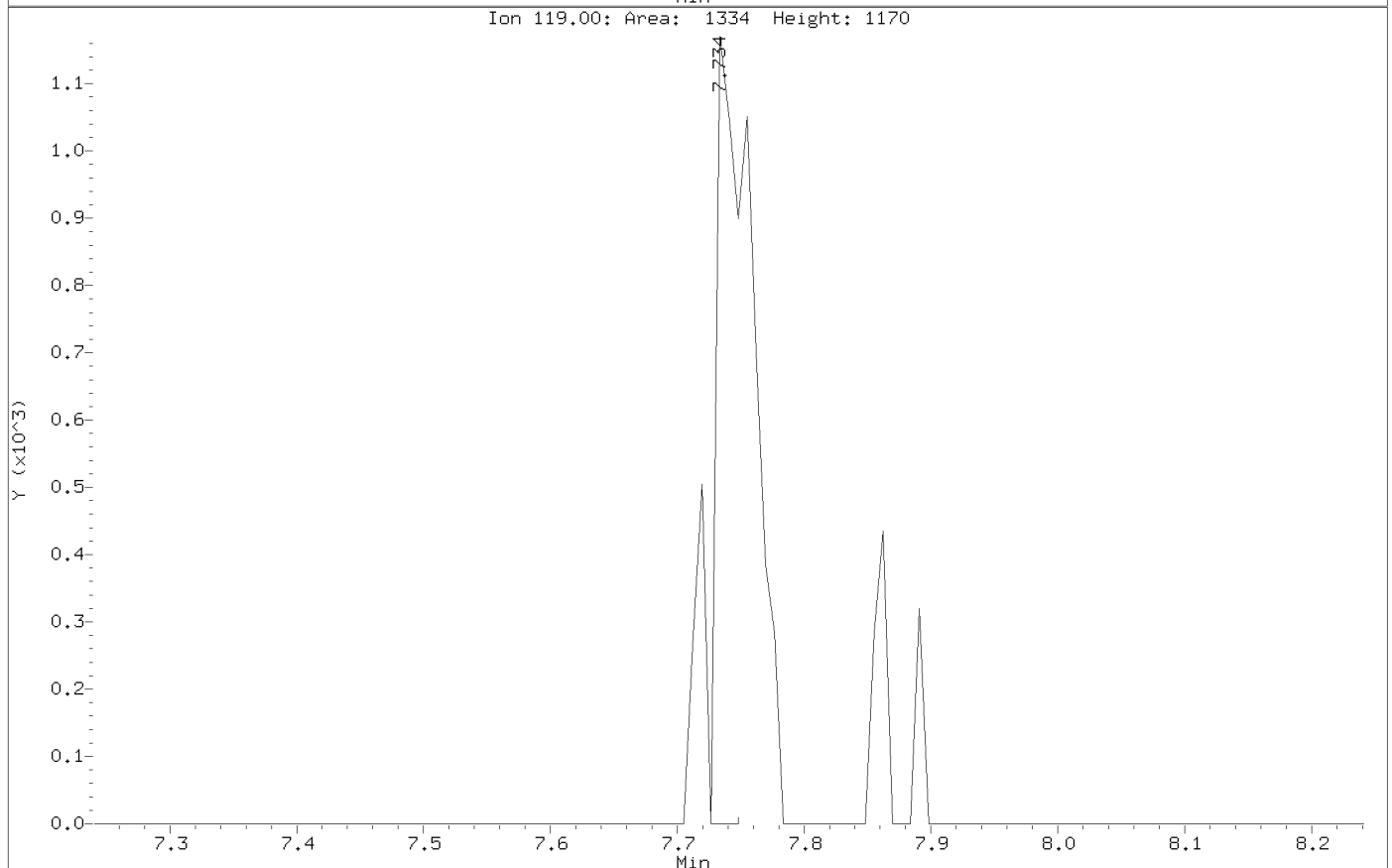
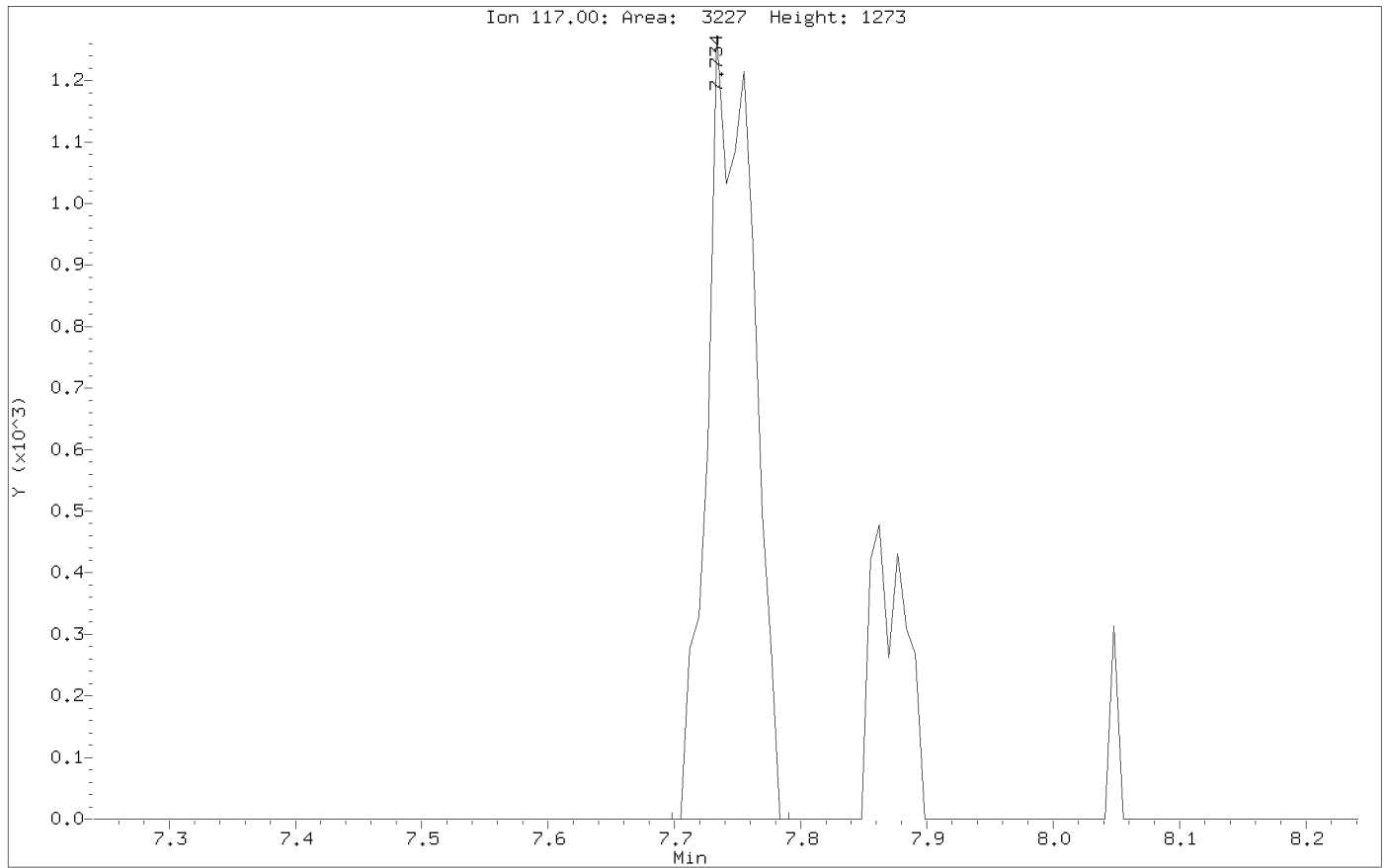
Compound: Carbon Tetrachloride  
CAS Number: 56-23-5



Data File: \\target\_server\gg\chem\gcms-p.i\N121015.b\P3837.D  
Injection Date: 10-DEC-2015 11:48  
Instrument: gcms-p.i  
Client Sample ID:

# AFTER MANUAL INTEGRATION

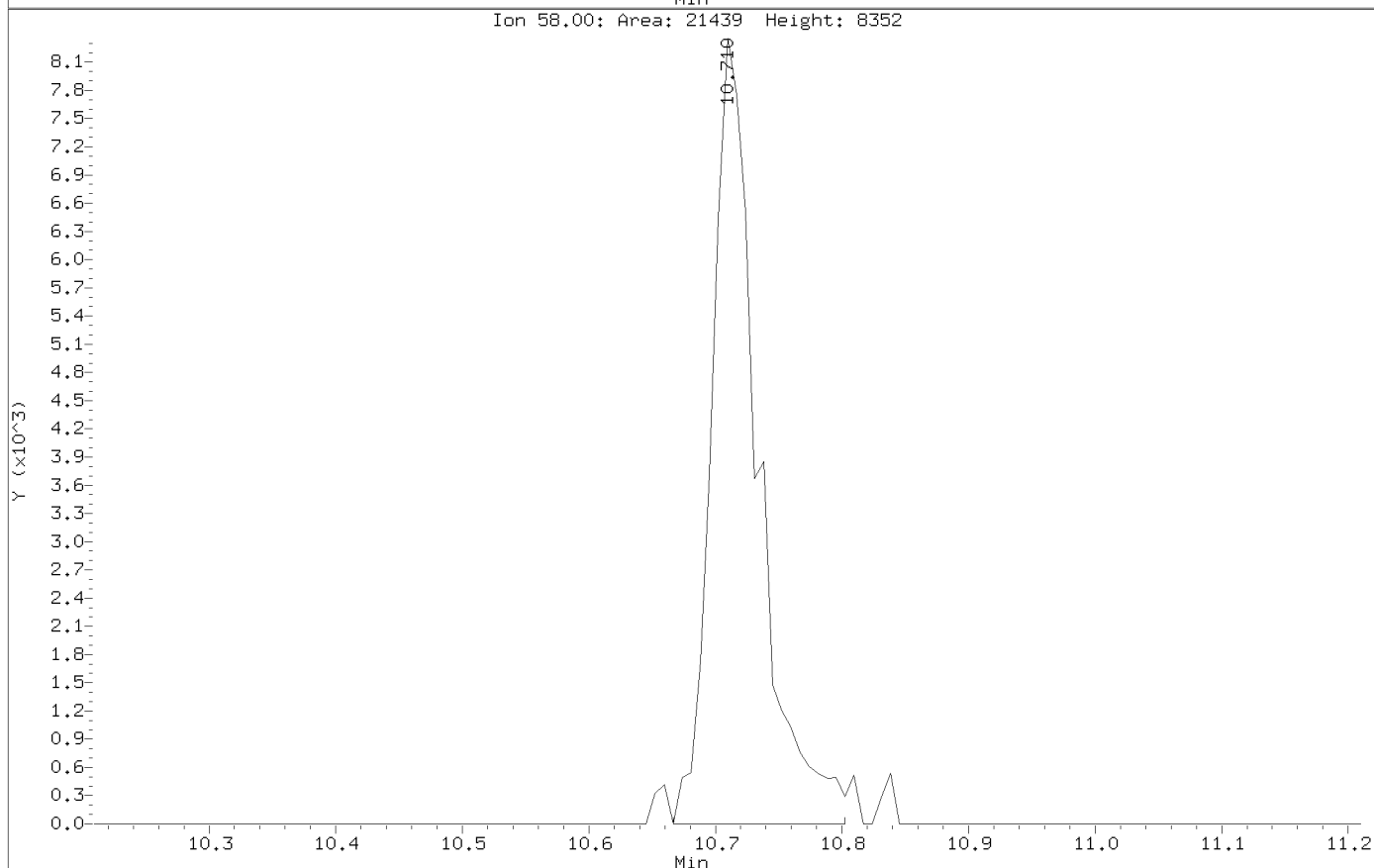
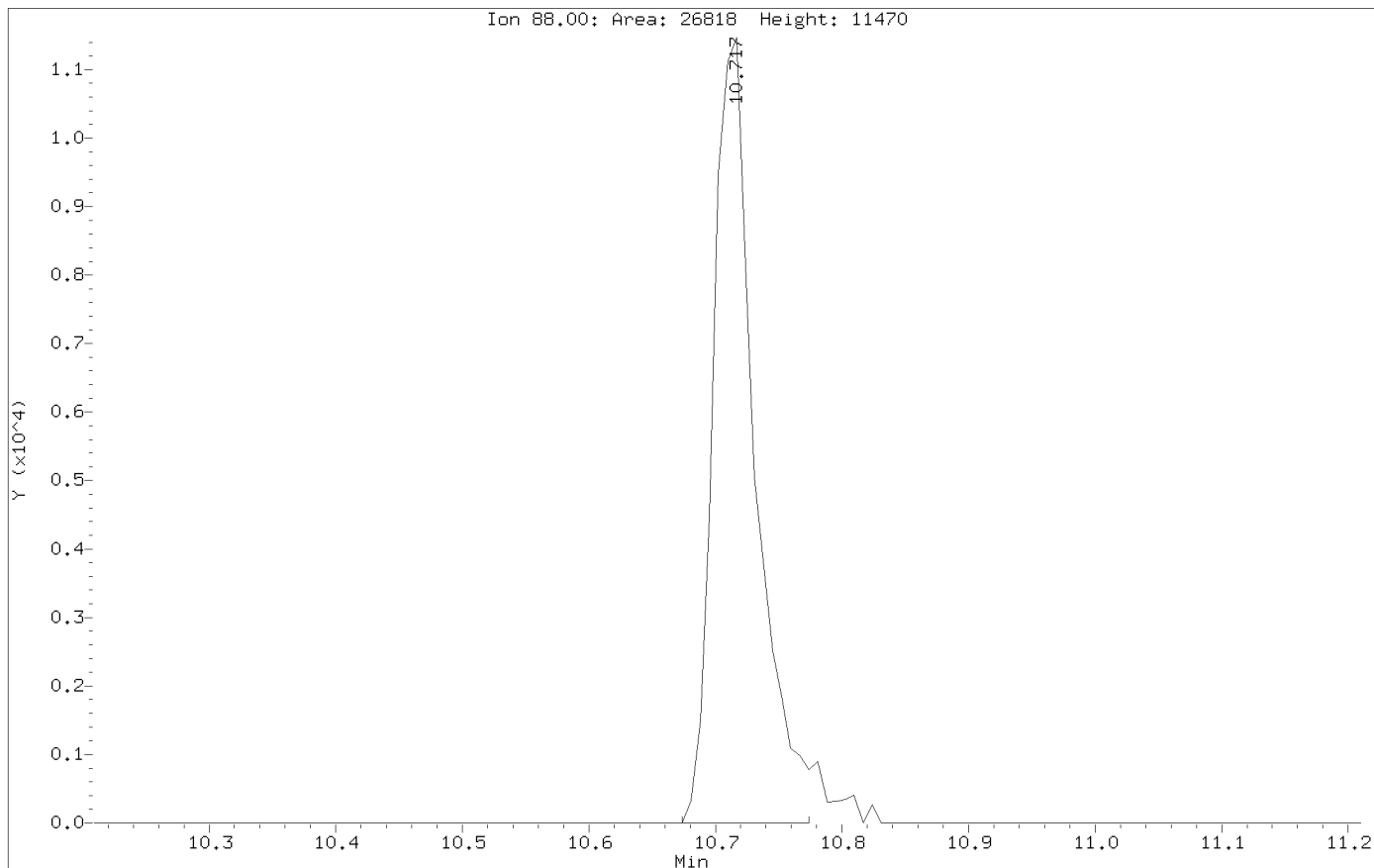
Compound: Carbon Tetrachloride  
CAS Number: 56-23-5



Data File: \\target\_server\gg\chem\gcms-p.i\P121015.b\P3835.D  
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Instrument: gcms-p.i  
Client Sample ID:

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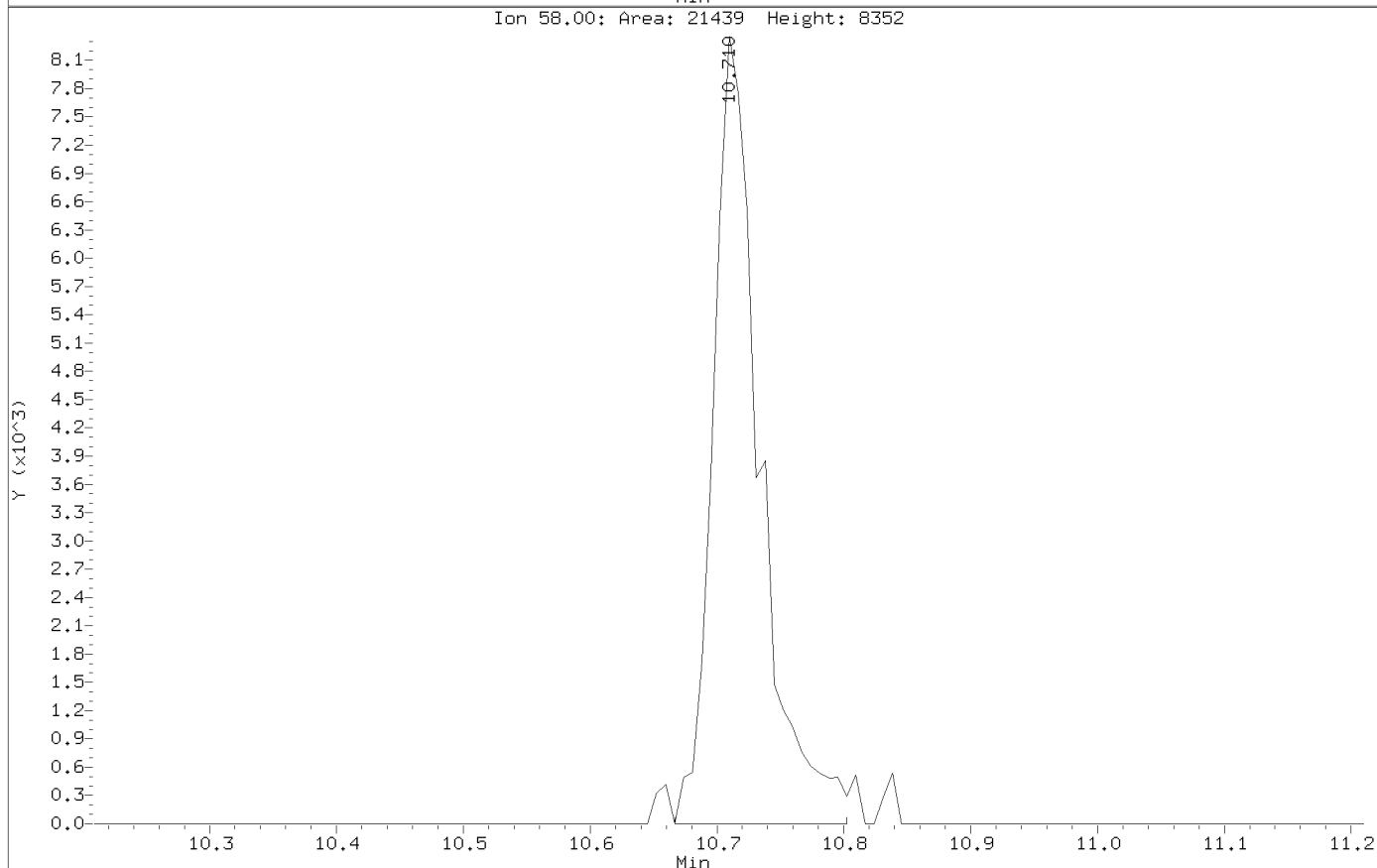
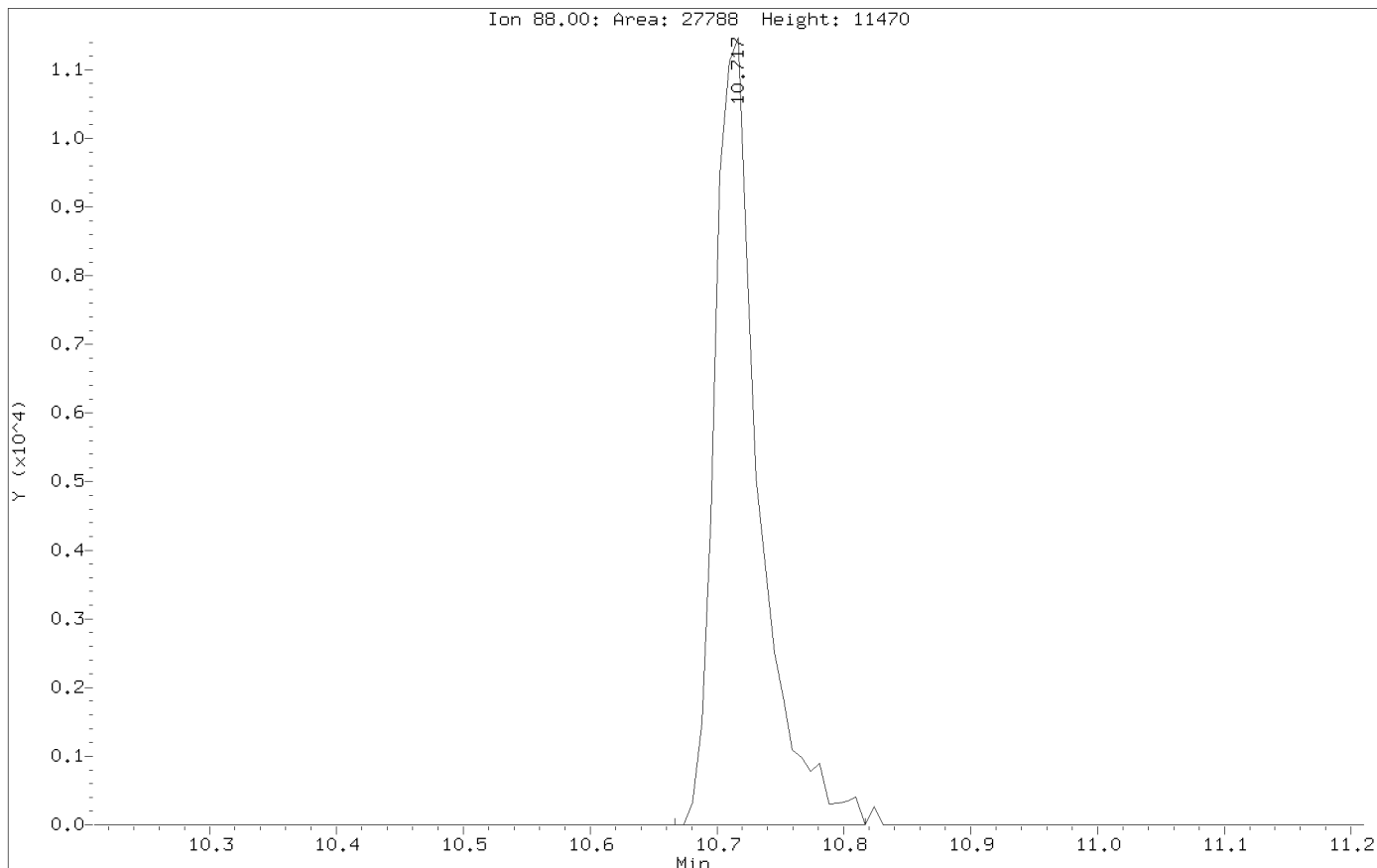
Compound: 1,4-Dioxane  
CAS Number: 123-91-1



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Instrument: gcms-p.i  
Client Sample ID:

# AFTER MANUAL INTEGRATION

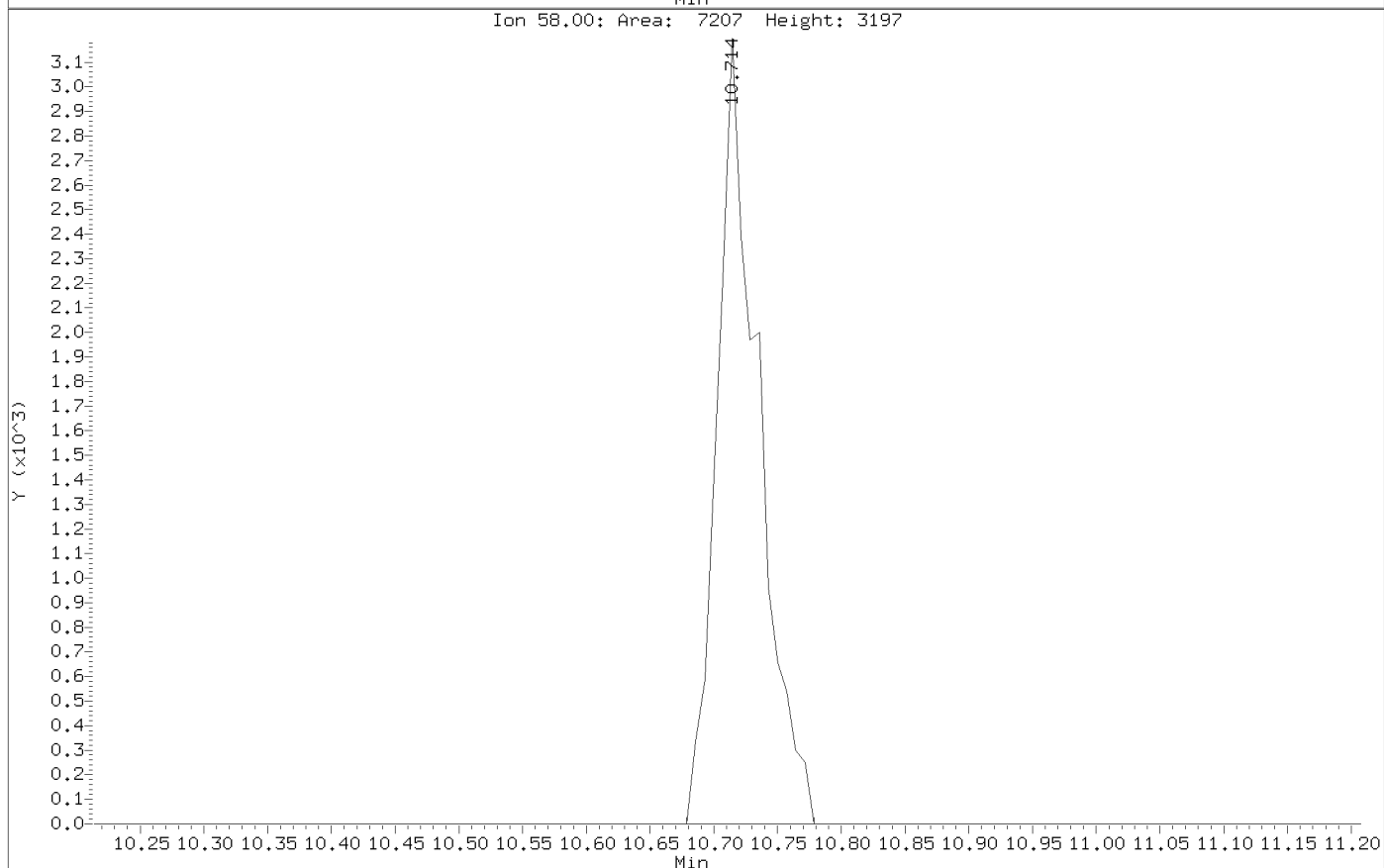
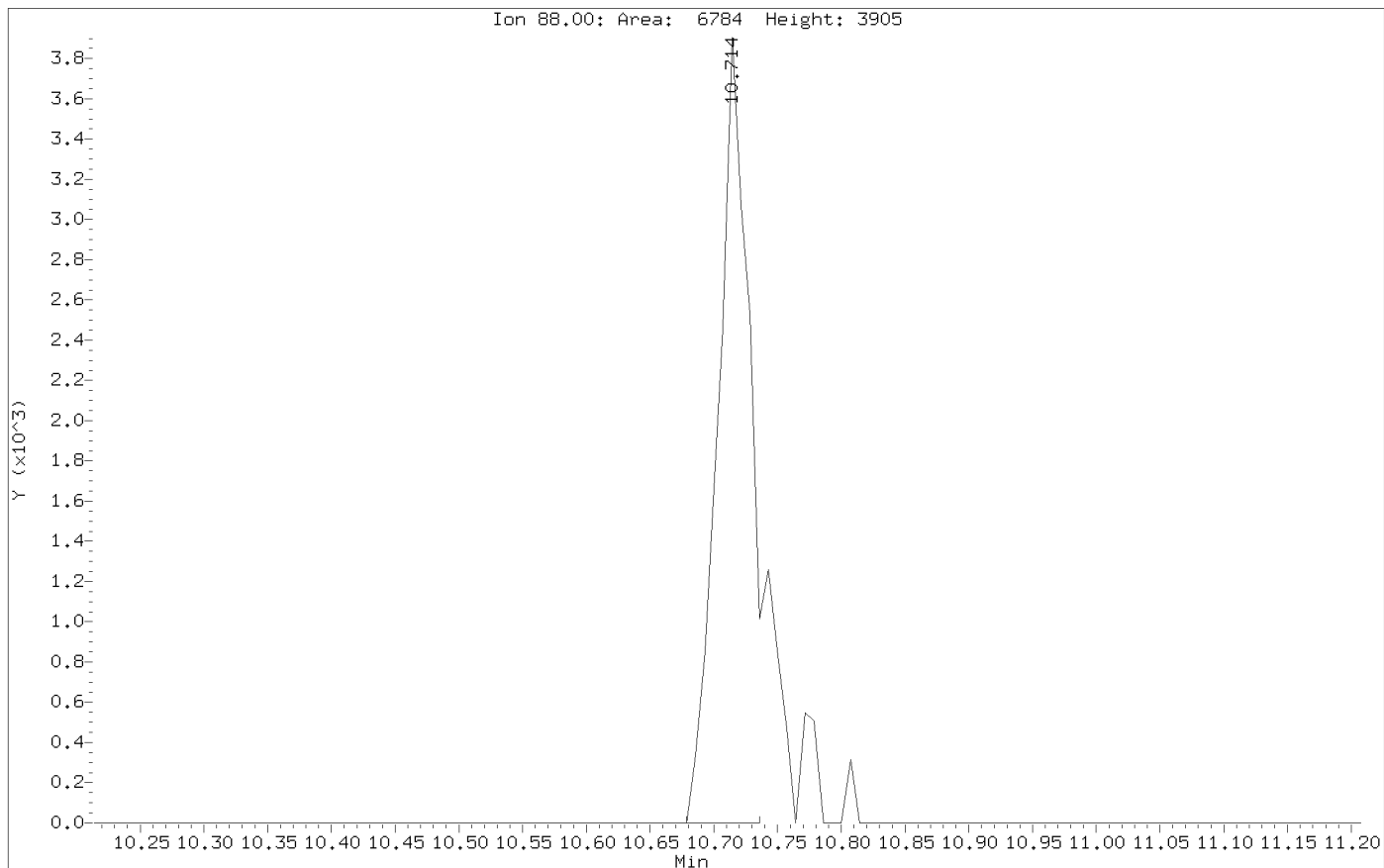
Compound: 1,4-Dioxane  
CAS Number: 123-91-1



Data File: \\target\_server\gg\chem\gcms-p.i\P121015.b\P3836.D  
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Instrument: gcms-p.i  
Client Sample ID:

# BEFORE MANUAL INTEGRATION

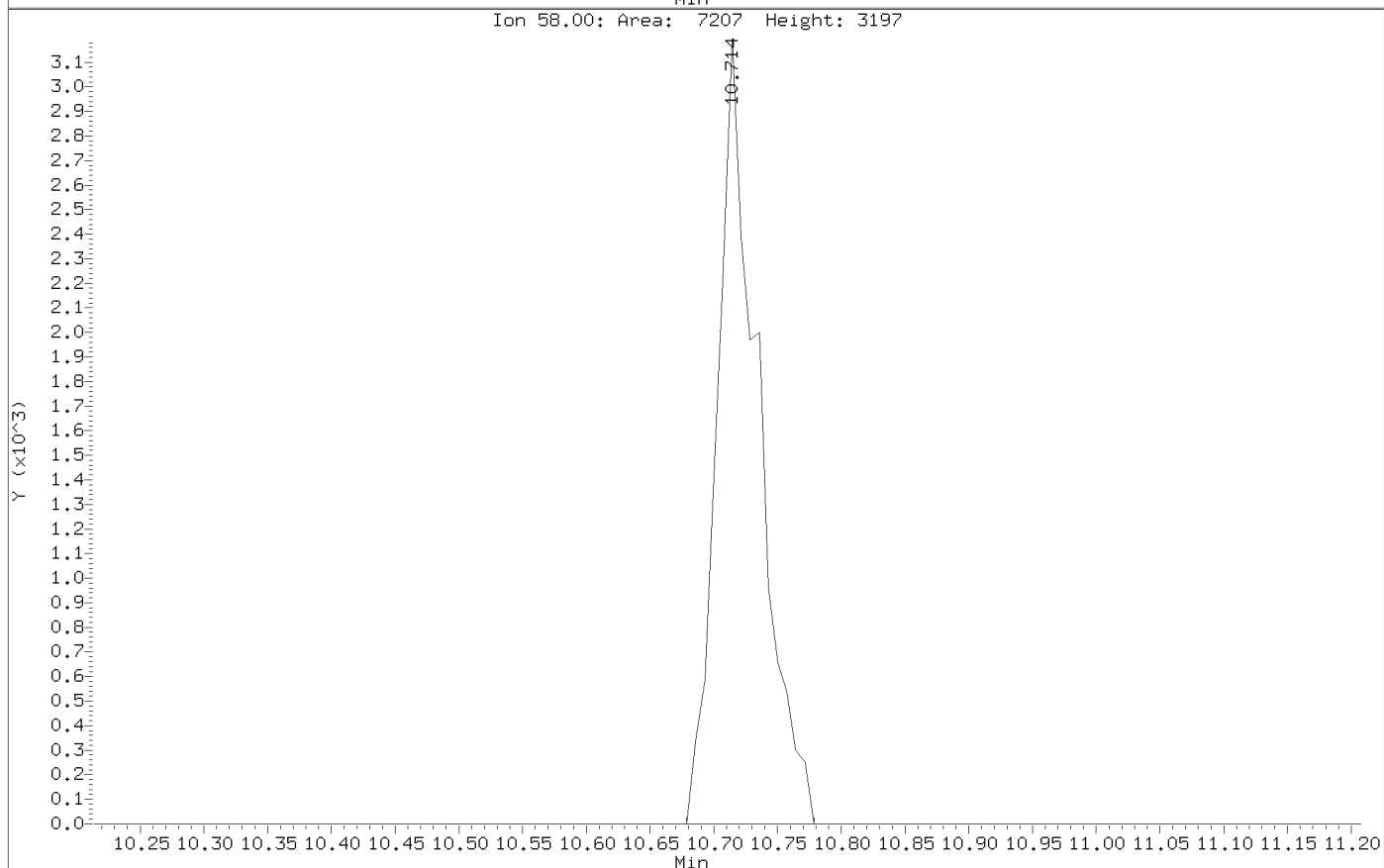
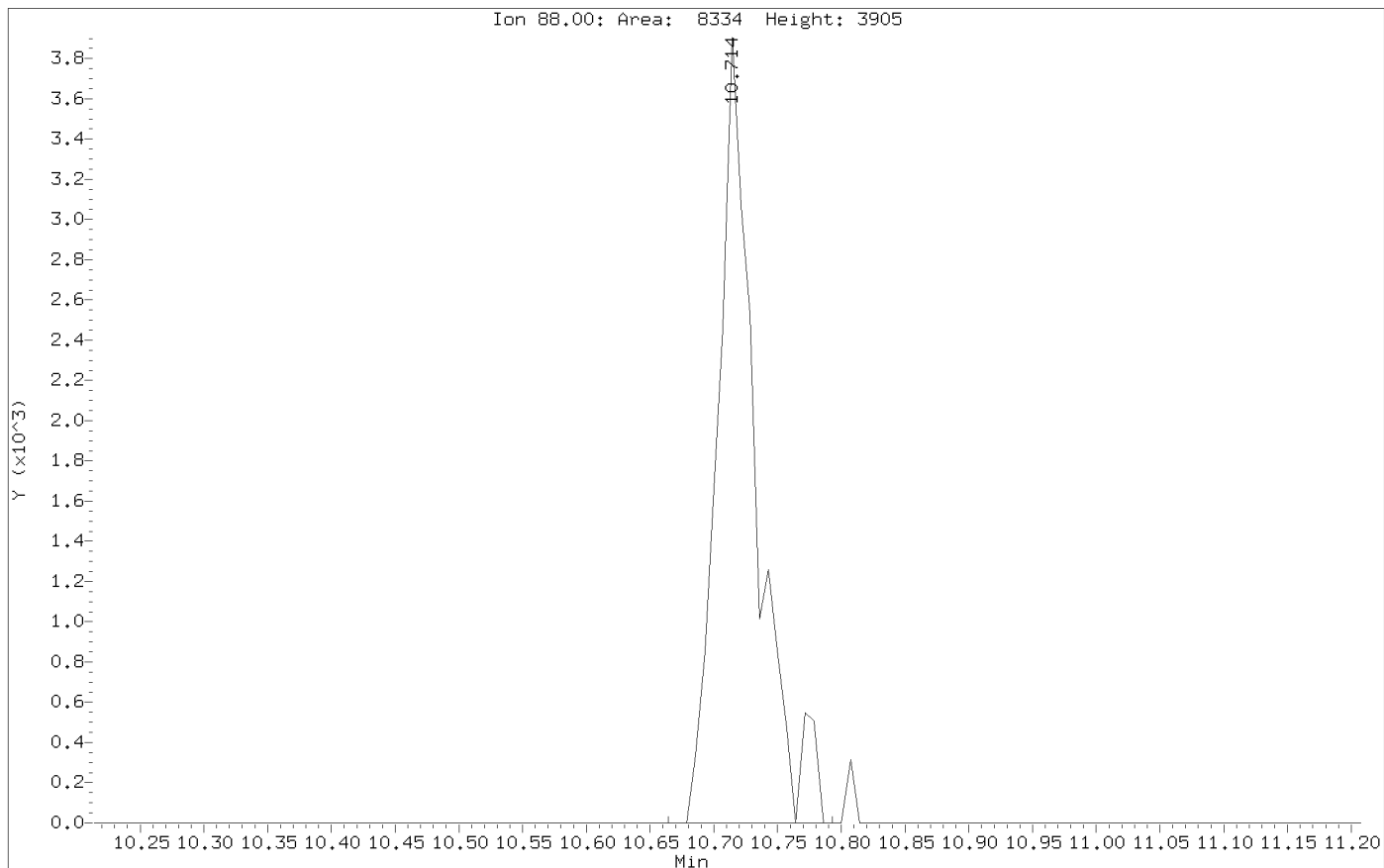
Compound: 1,4-Dioxane  
CAS Number: 123-91-1



Data File: \\target\_server\gg\chem\gcms-p.i\N121015.b\P3836.D  
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Instrument: gcms-p.i  
Client Sample ID:

# AFTER MANUAL INTEGRATION

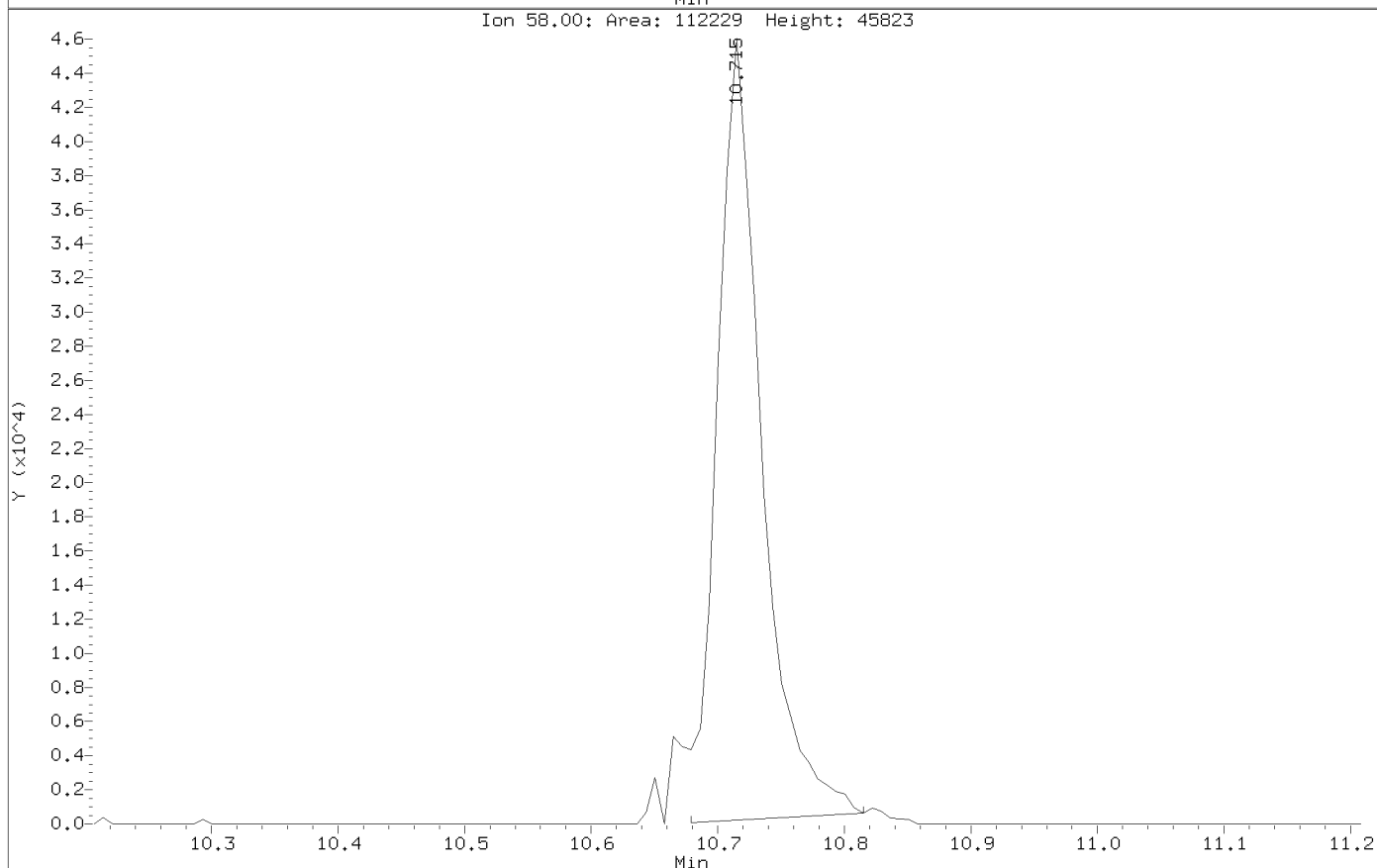
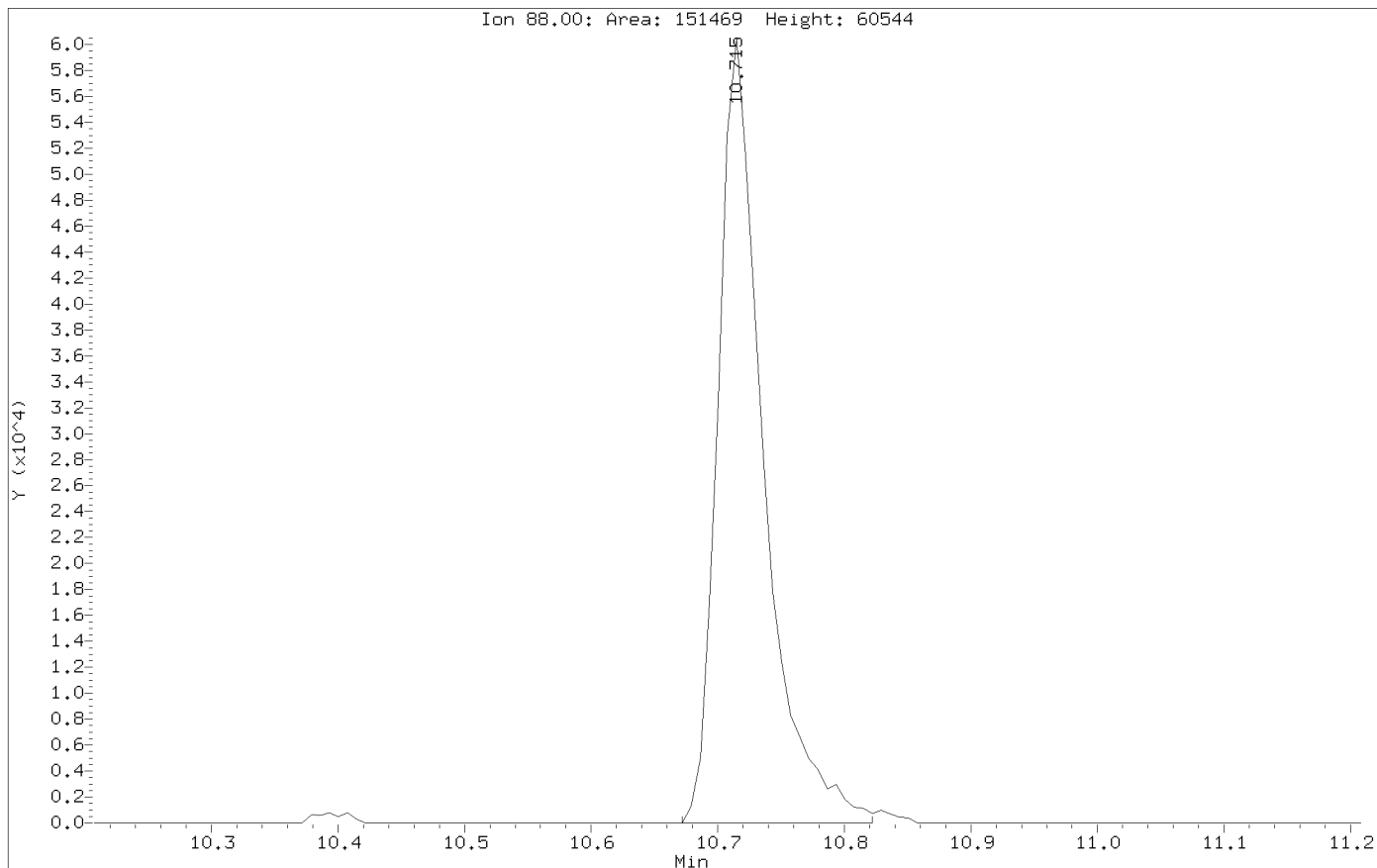
Compound: 1,4-Dioxane  
CAS Number: 123-91-1



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Injection Date: 10-DEC-2015 12:15  
Instrument: gcms-p.i  
Client Sample ID:

Compound: 1,4-Dioxane  
CAS Number: 123-91-1

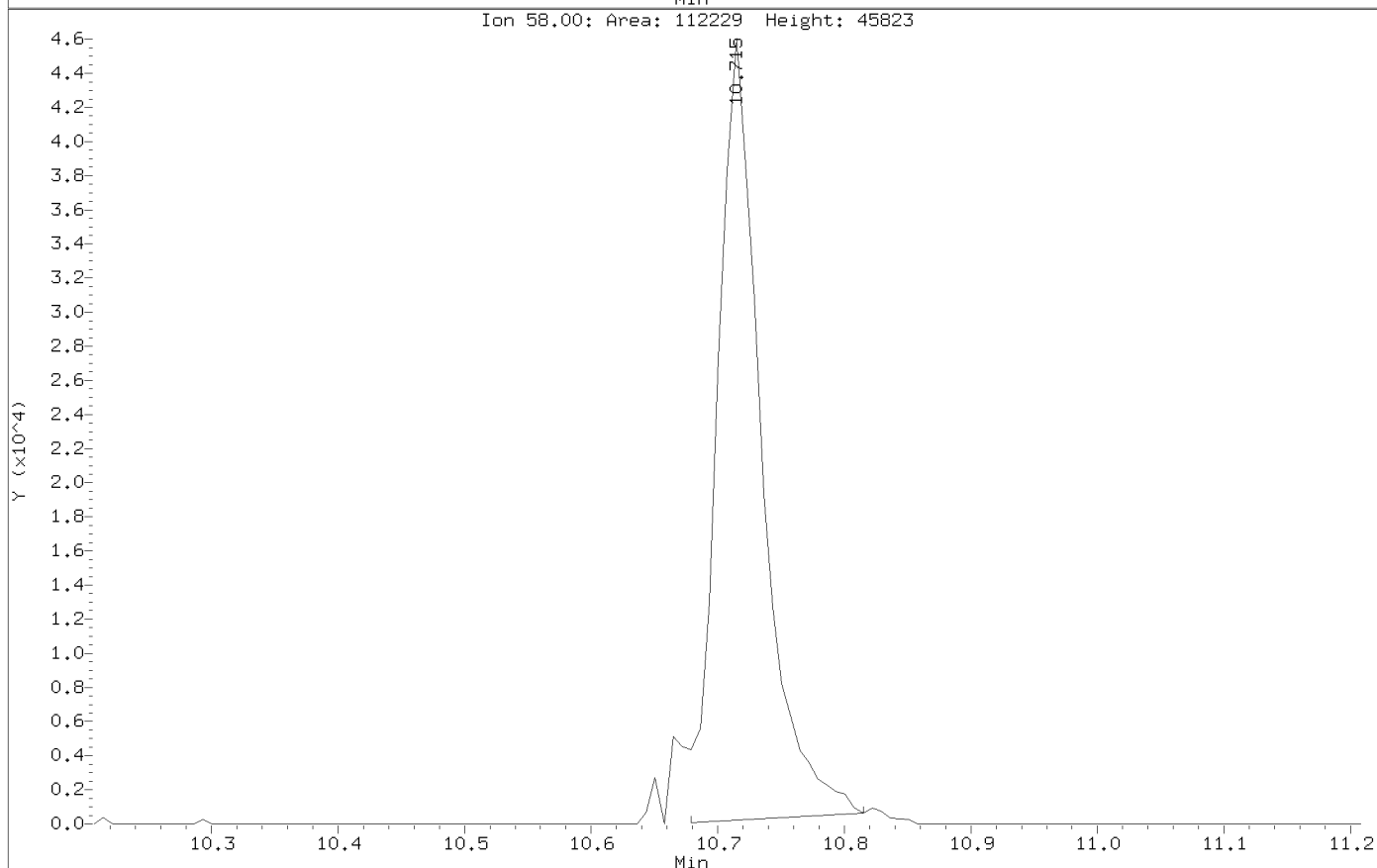
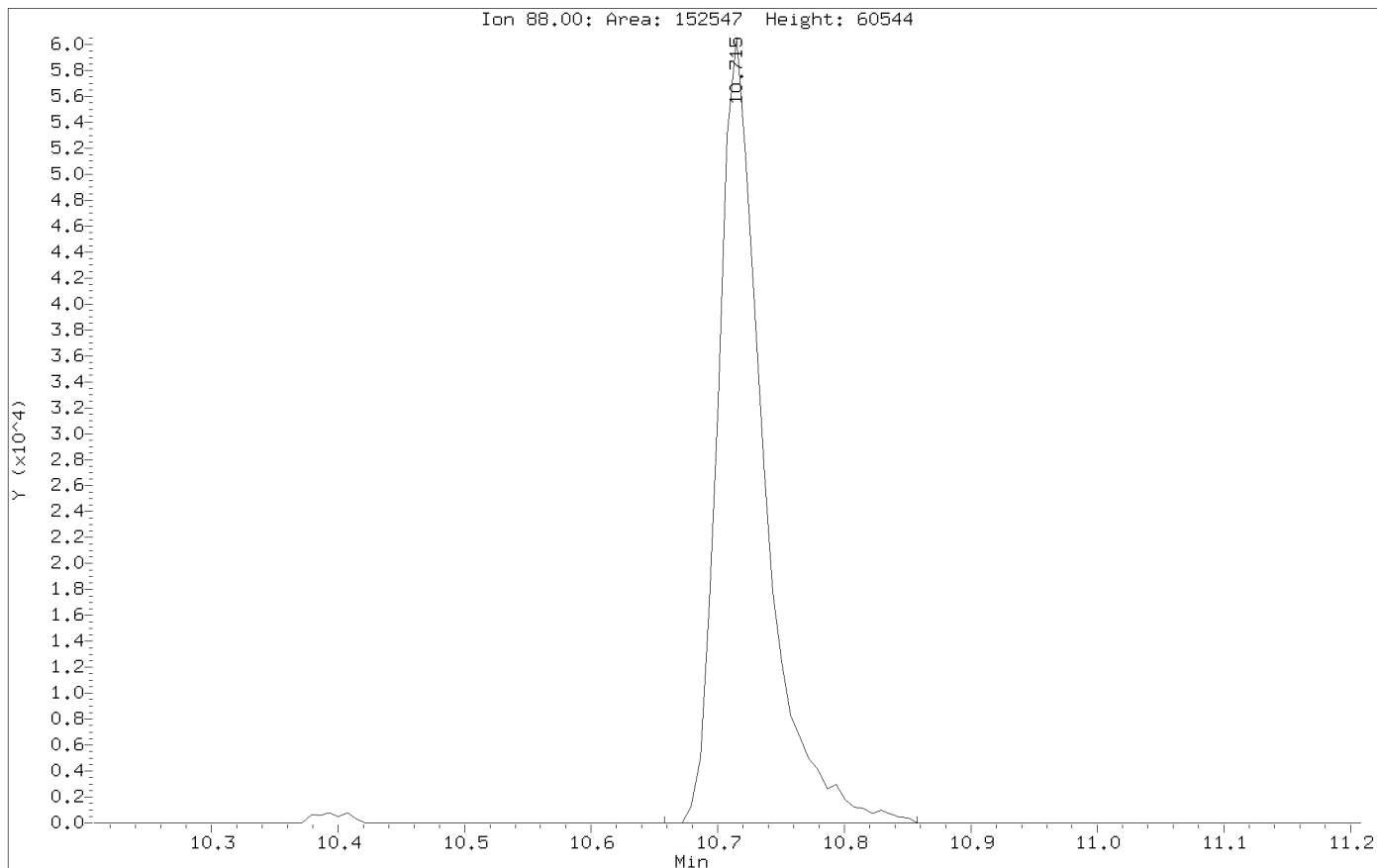
# BEFORE MANUAL INTEGRATION



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Injection Date: 10-DEC-2015 12:15  
Instrument: gcms-p.i  
Client Sample ID:

# AFTER MANUAL INTEGRATION

Compound: 1,4-Dioxane  
CAS Number: 123-91-1

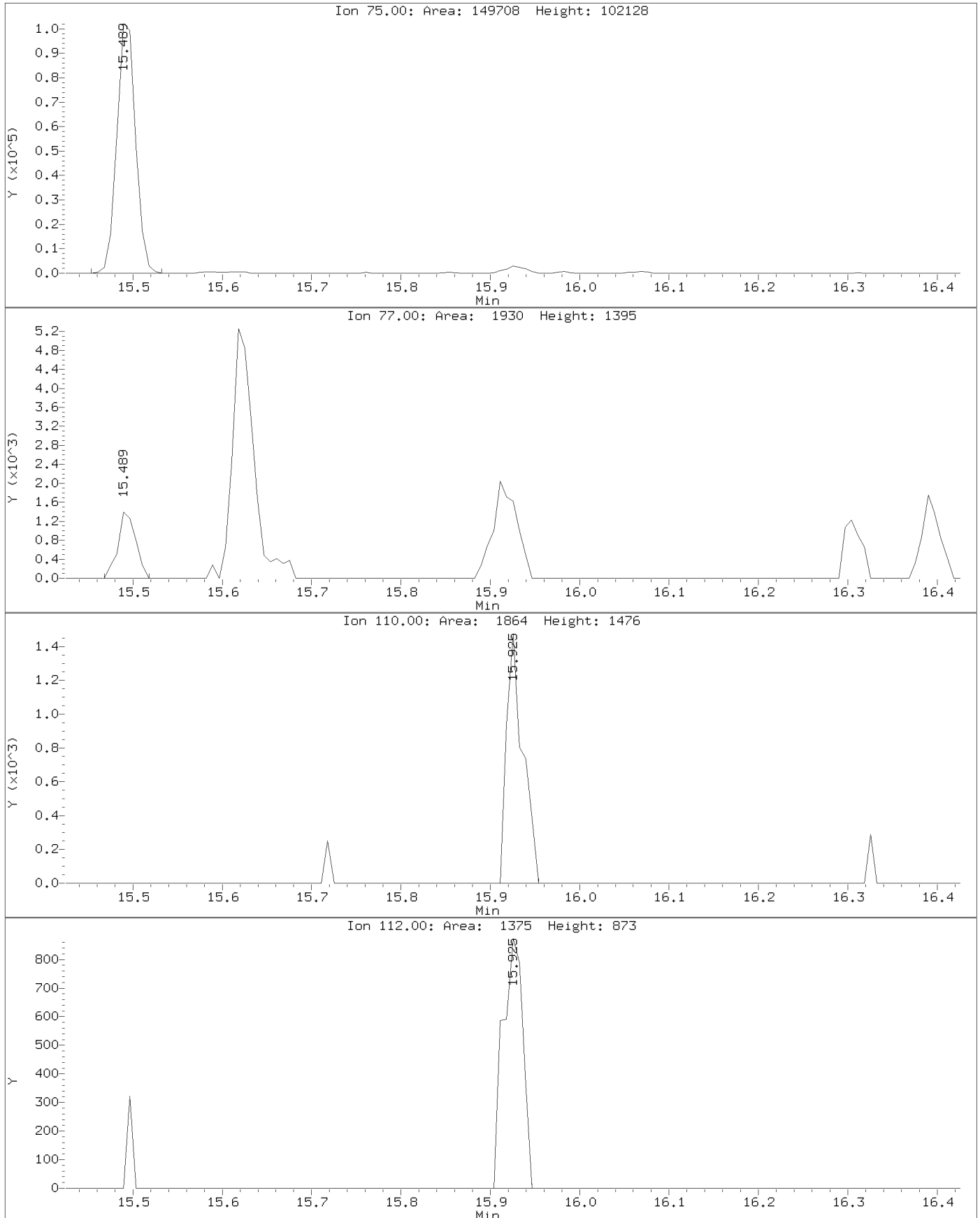




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Instrument: gcms-p.i  
Client Sample ID:

# BEFORE MANUAL INTEGRATION

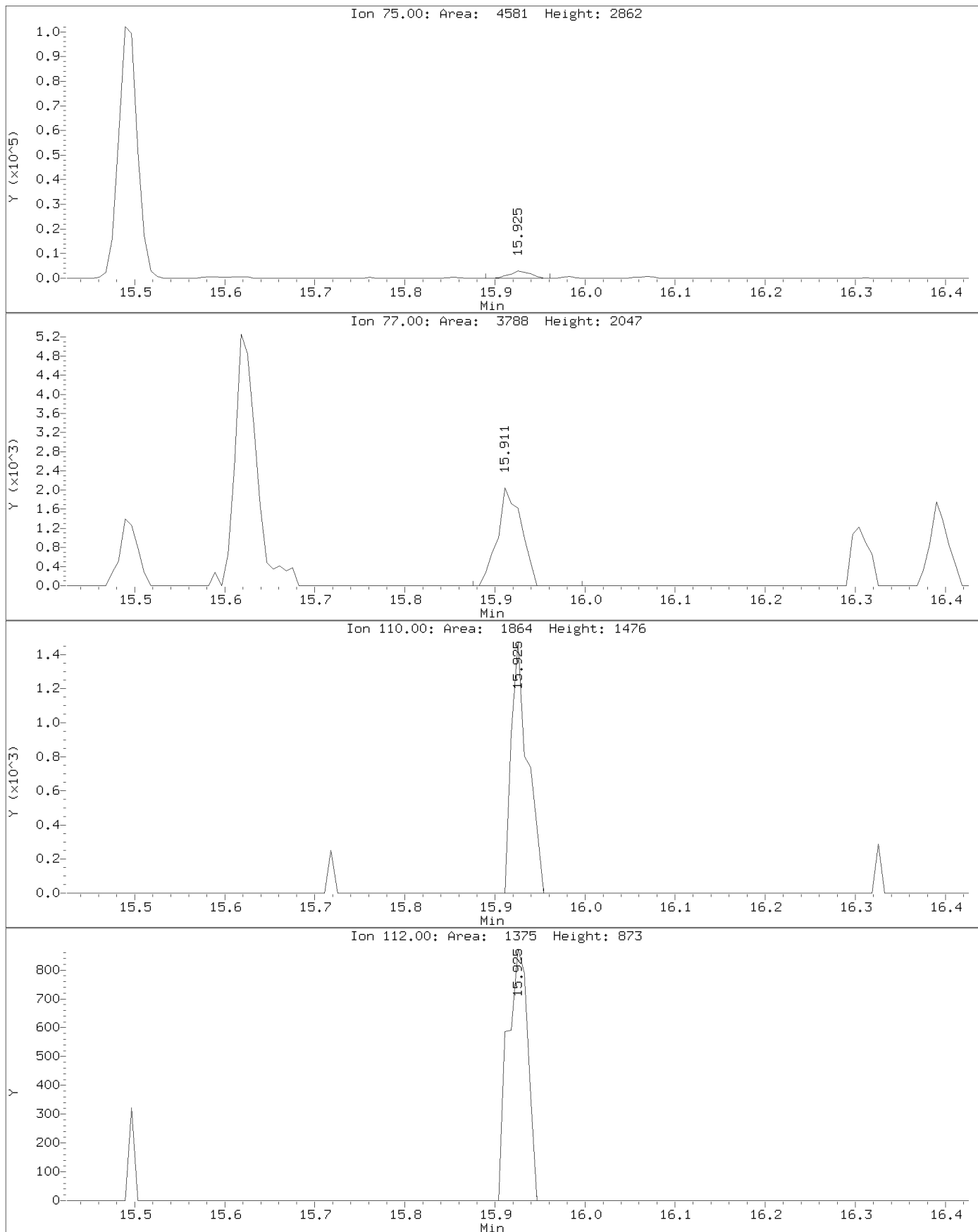
Compound: 1,2,3-Trichloropropane  
CAS Number: 96-18-4



Data File: \\target\_server\gg\chem\gcms-p.i\N121015.b\P3837.D  
Injection Date: 10-DEC-2015 11:48  
Instrument: gcms-p.i  
Client Sample ID:

# AFTER MANUAL INTEGRATION

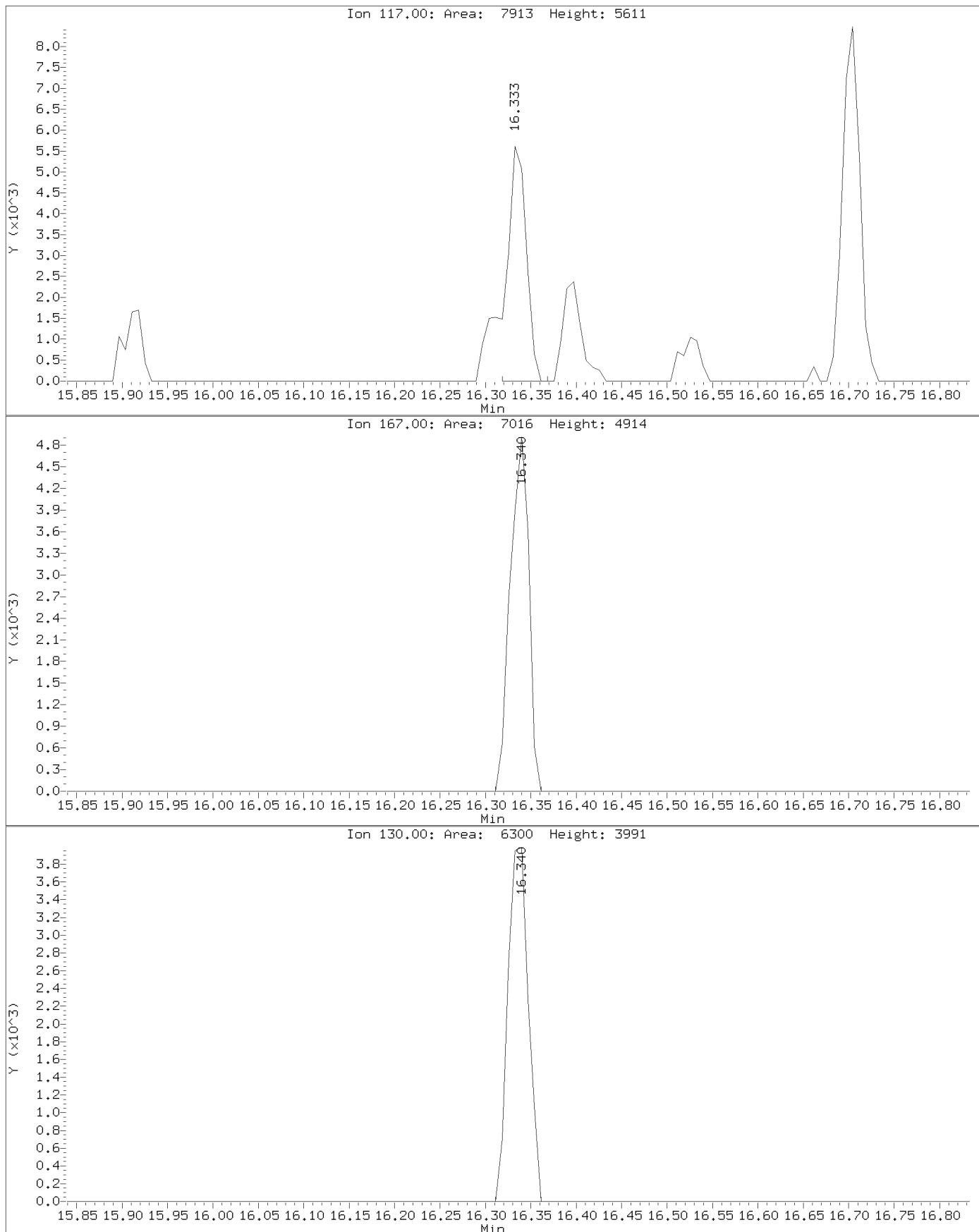
Compound: 1,2,3-Trichloropropane  
CAS Number: 96-18-4



Data File: \\target\_server\gg\chem\gcms-p.i\N121015.b\N3836.D  
Injection Date: 10-DEC-2015 11:22  
Instrument: gcms-p.i  
Client Sample ID:

# BEFORE MANUAL INTEGRATION

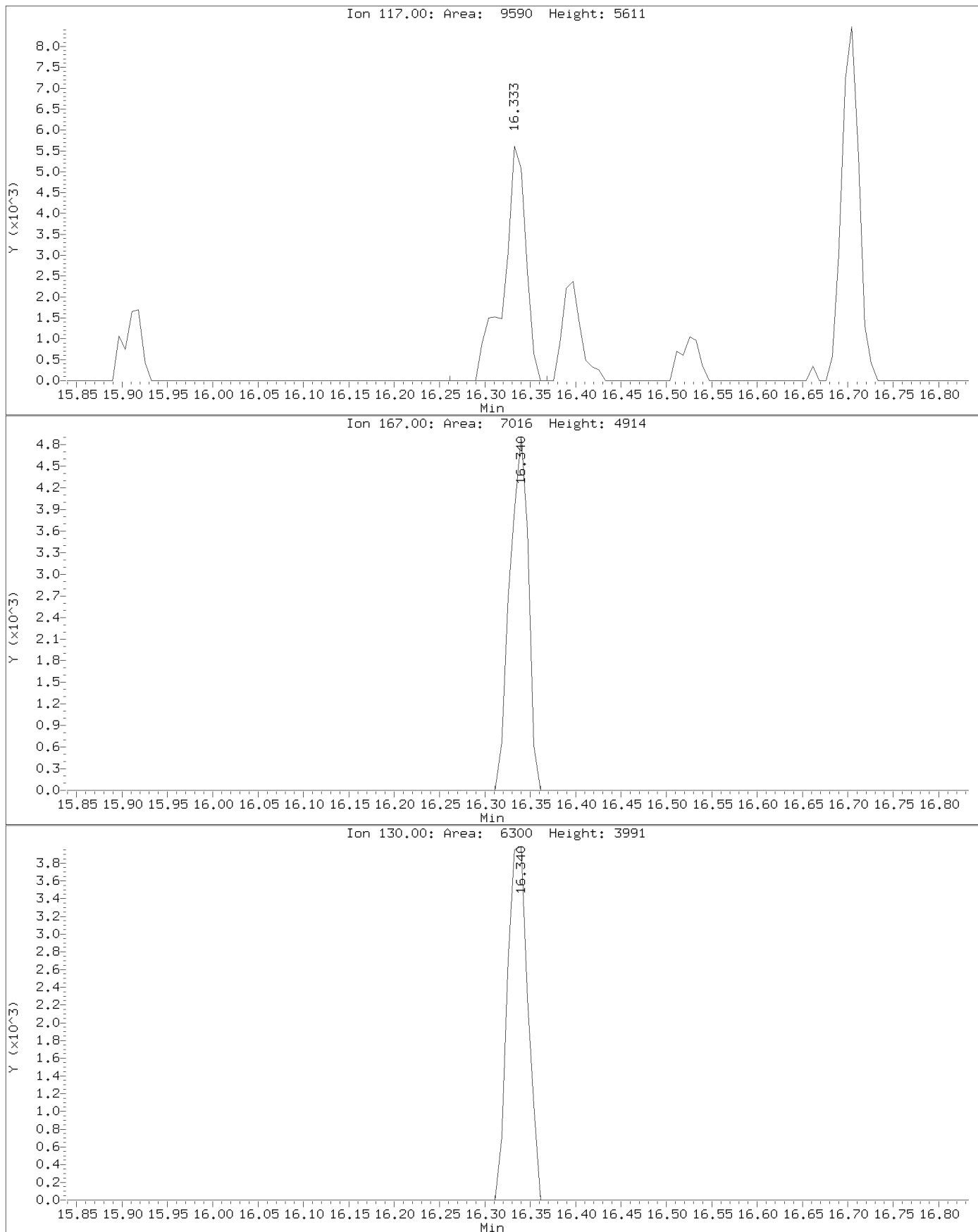
Compound: Pentachloroethane  
CAS Number: 76-01-1



Data File: \\target\_server\gg\chem\gcms-p.i\N121015.b\P3836.D  
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Instrument: gcms-p.i  
Client Sample ID:

# AFTER MANUAL INTEGRATION

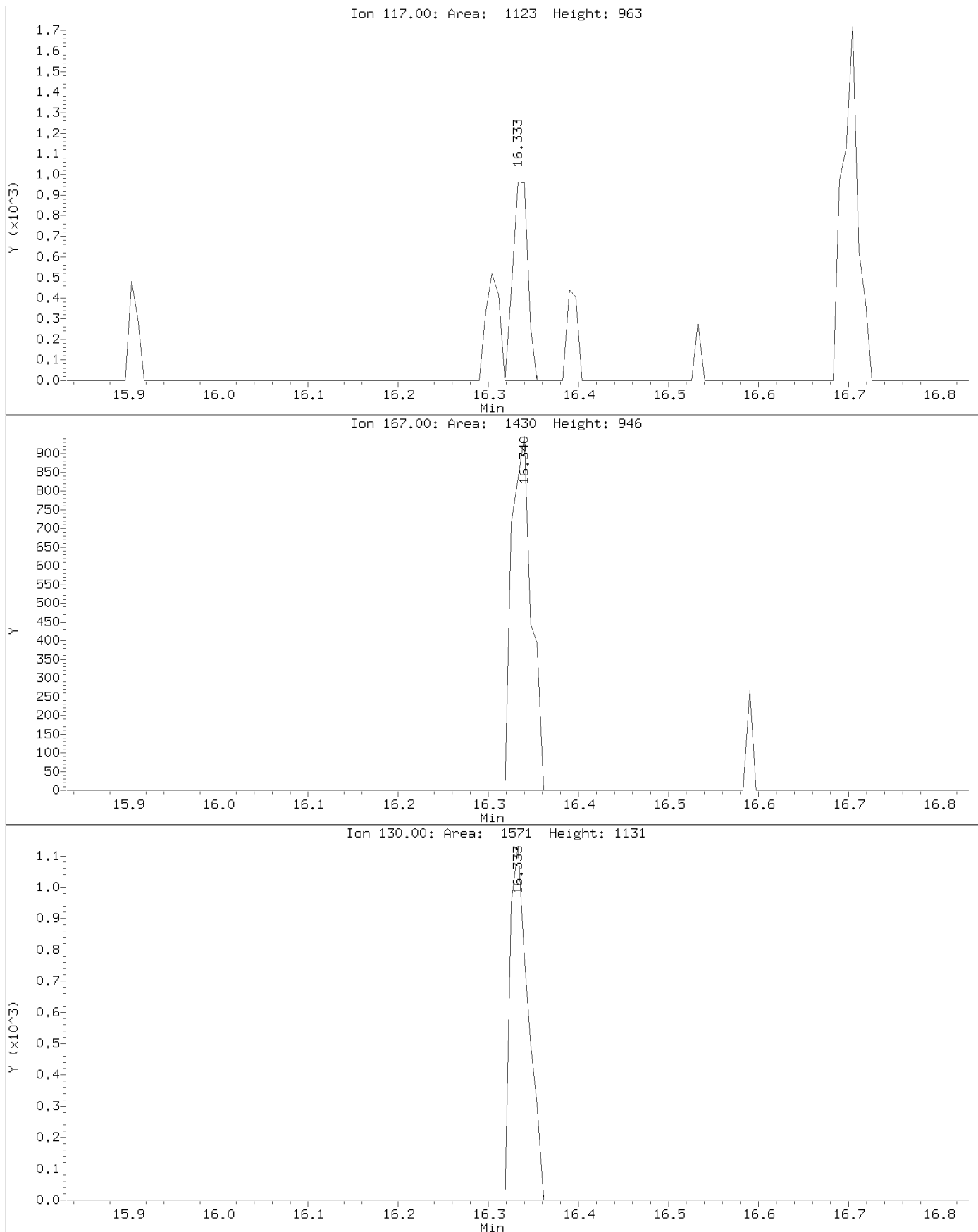
Compound: Pentachloroethane  
CAS Number: 76-01-1



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Instrument: gcms-p.i  
Client Sample ID:

# BEFORE MANUAL INTEGRATION

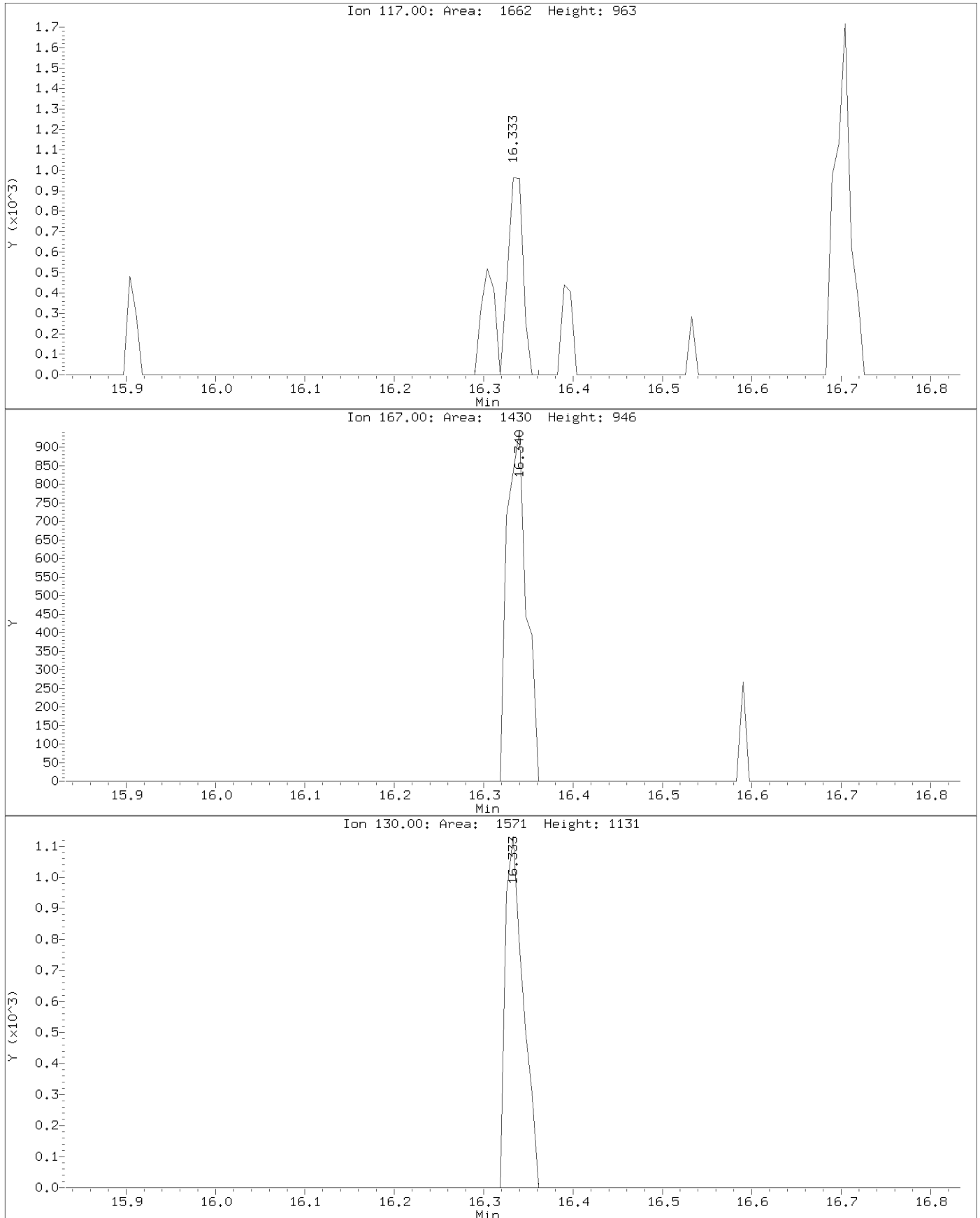
Compound: Pentachloroethane  
CAS Number: 76-01-1



# AFTER MANUAL INTEGRATION

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Instrument: gcms-p.i  
Client Sample ID:

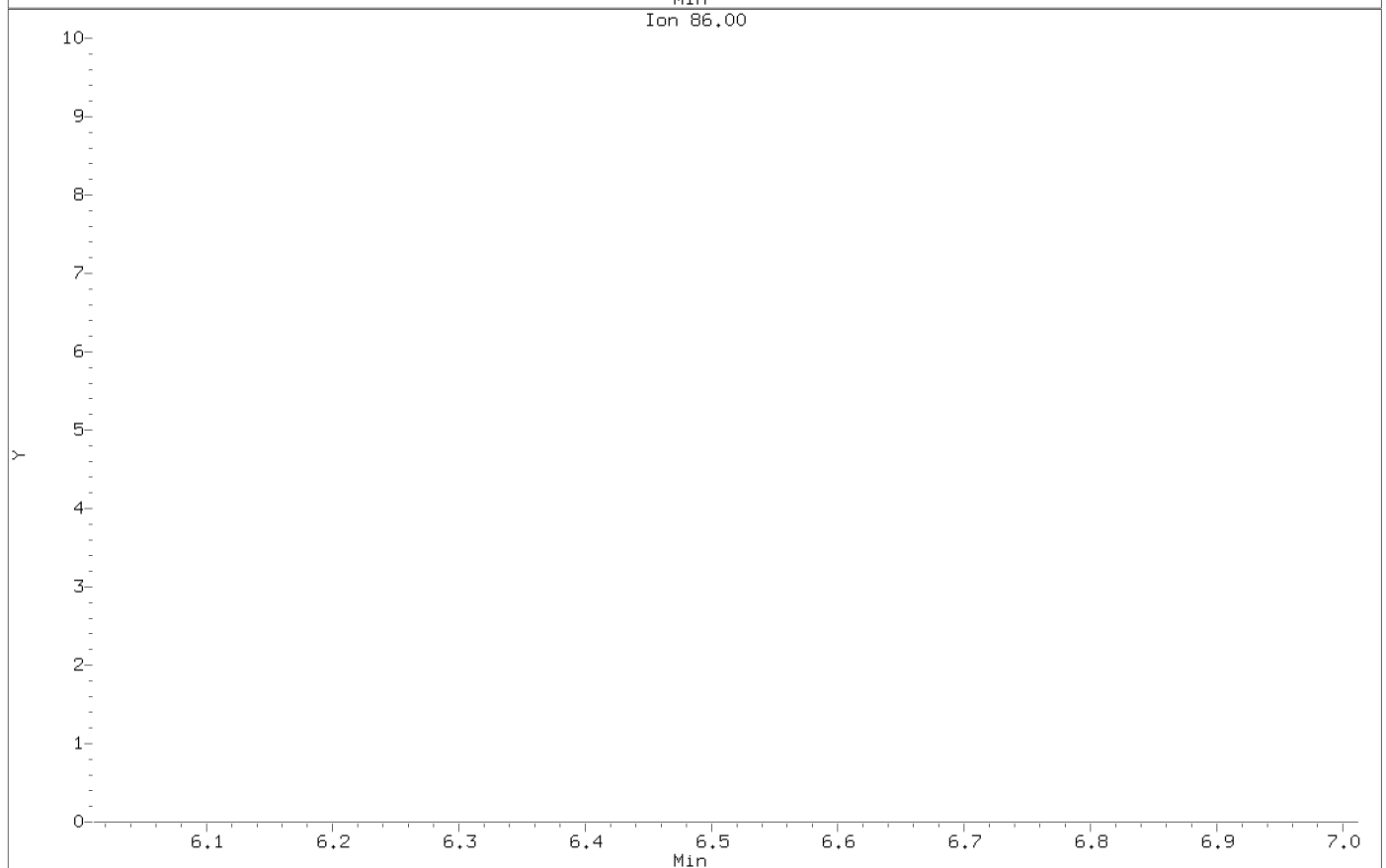
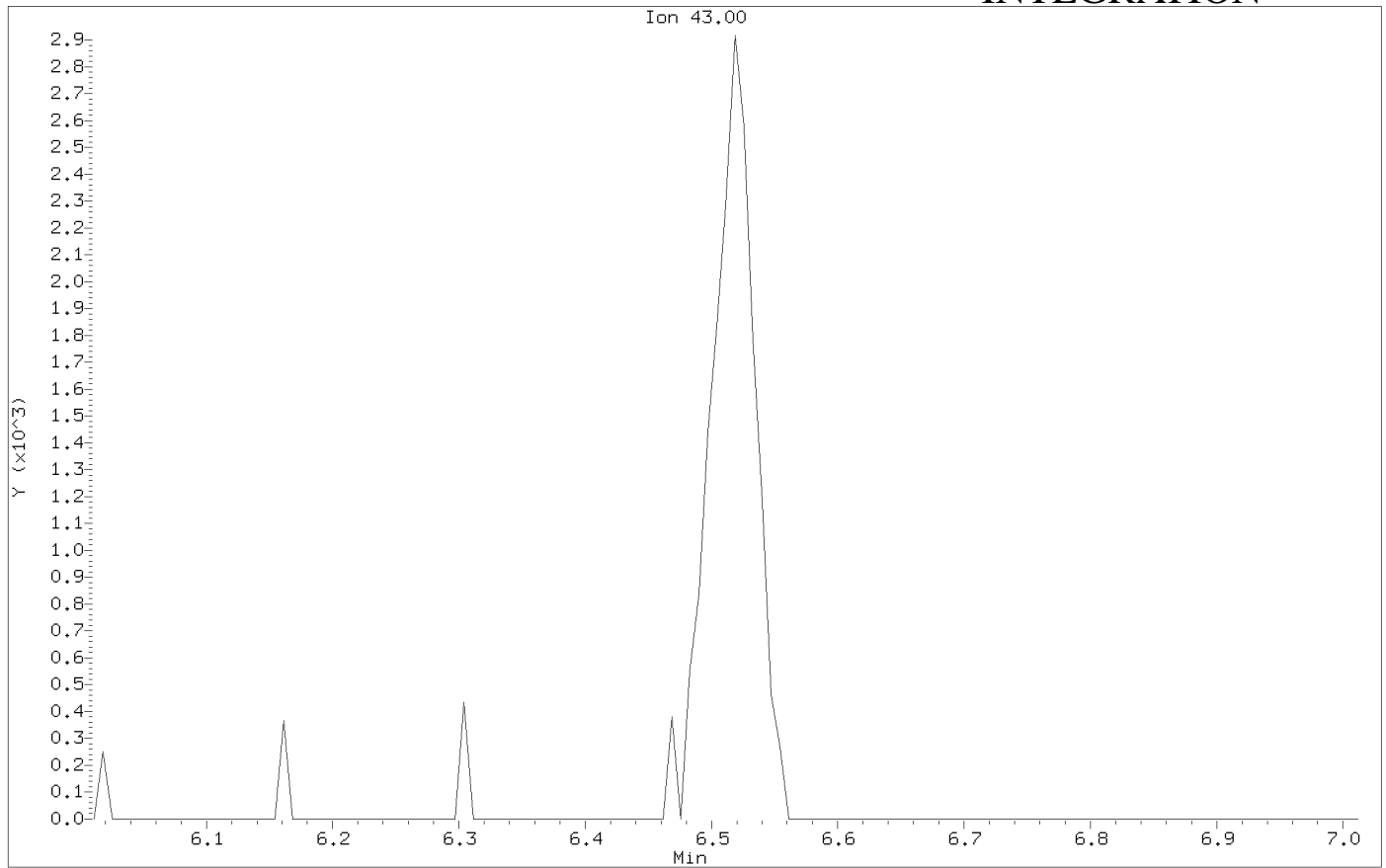
Compound: Pentachloroethane  
CAS Number: 76-01-1



Data File: \\target\_server\gg\chem\gcms-p.i\P121015.b\P3837.D  
Injection Date: 10-DEC-2015 11:48  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Vinyl Acetate  
CAS Number: 108-05-4

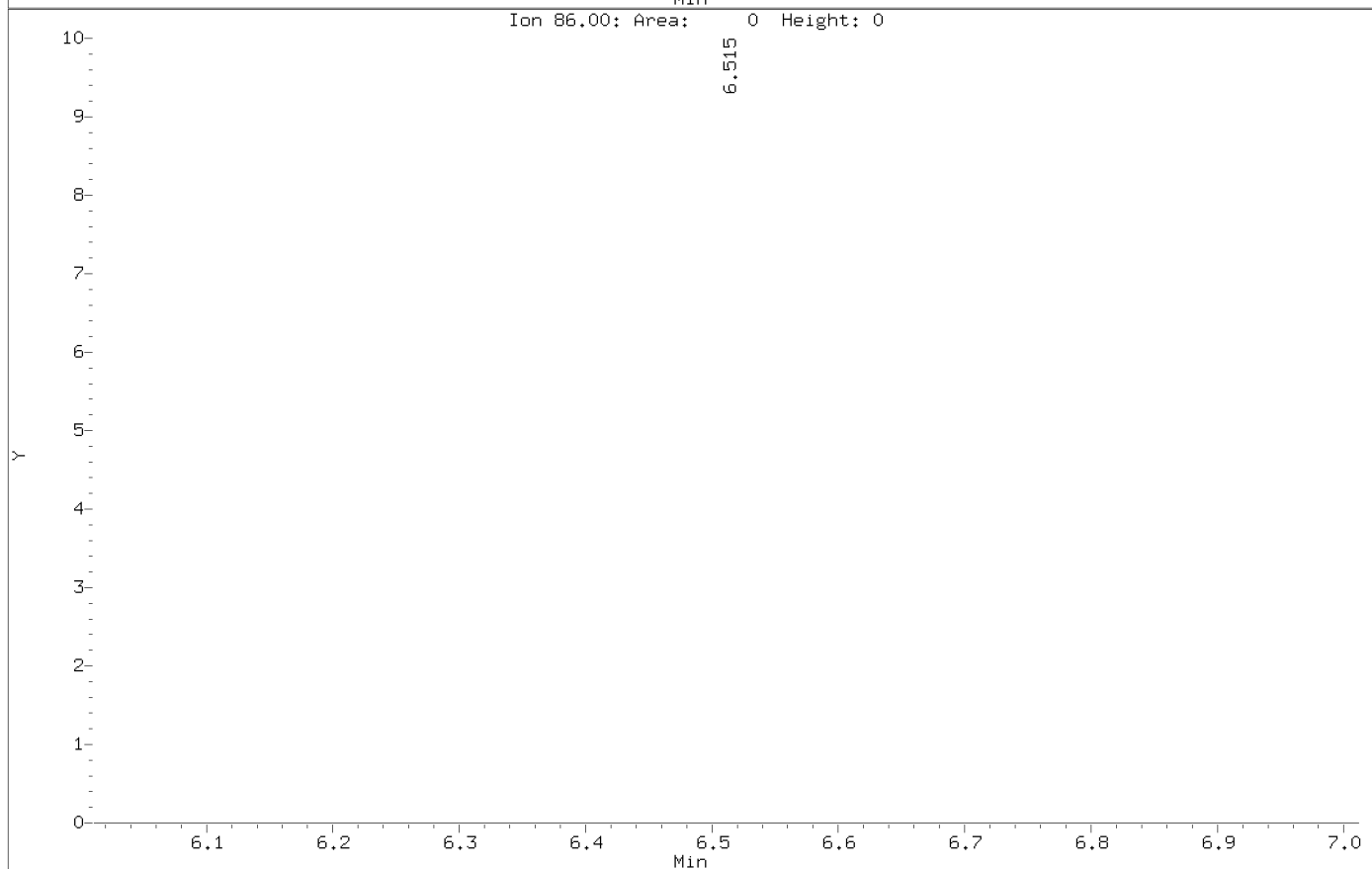
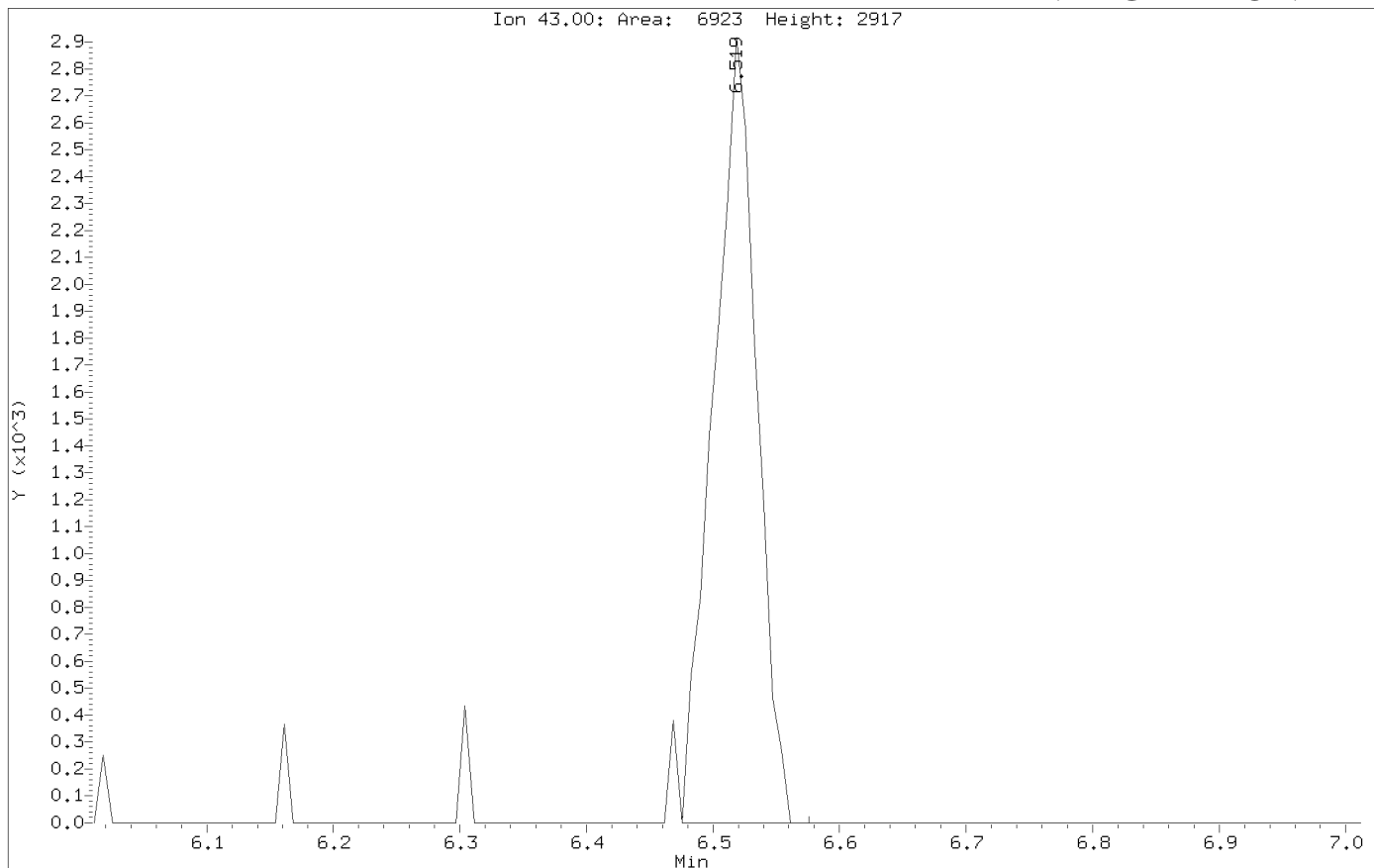
# BEFORE MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gcms-p.i\P121015.b\P3837.D  
Injection Date: 10-DEC-2015 11:48  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Vinyl Acetate  
CAS Number: 108-05-4

## AFTER MANUAL INTEGRATION

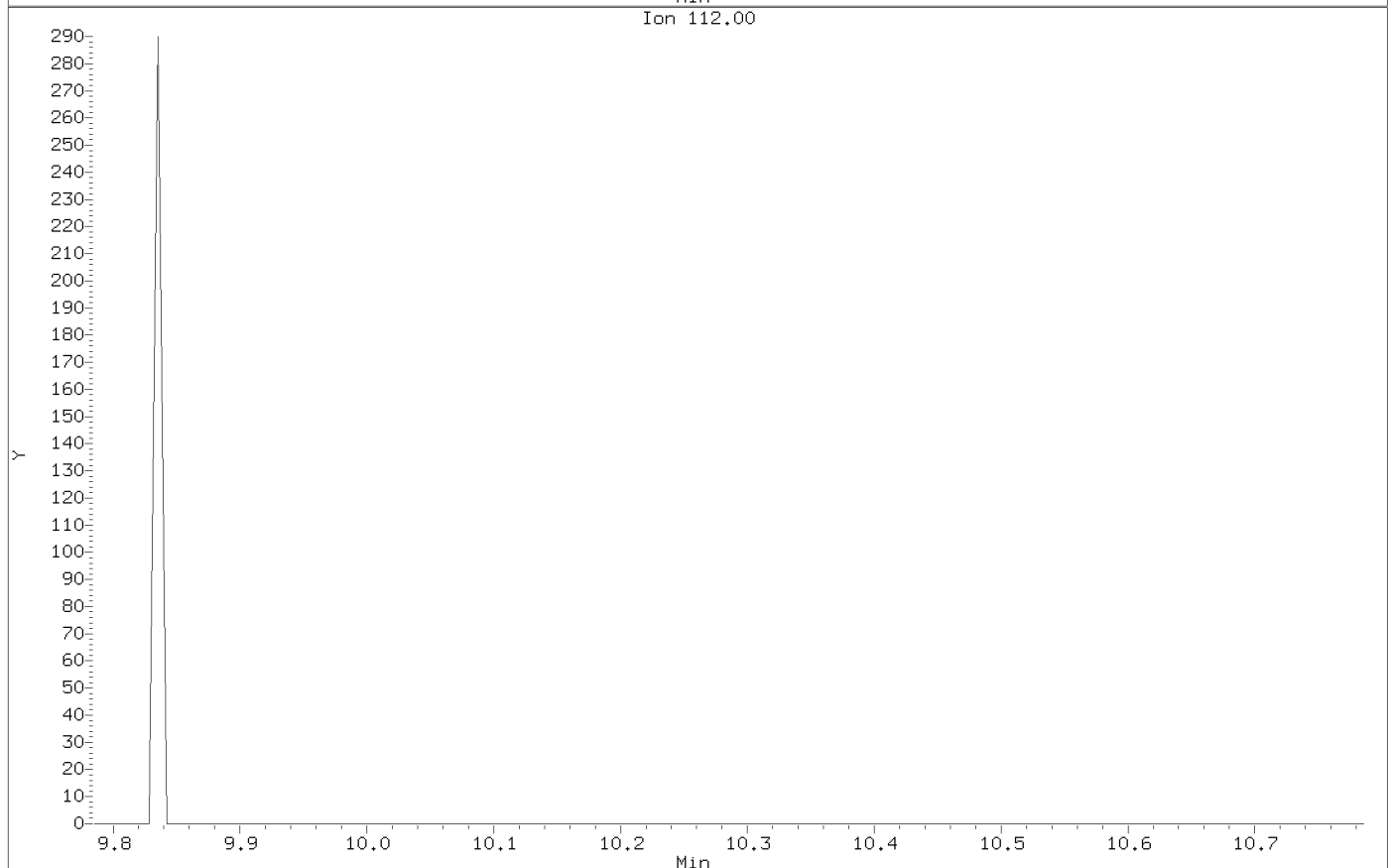
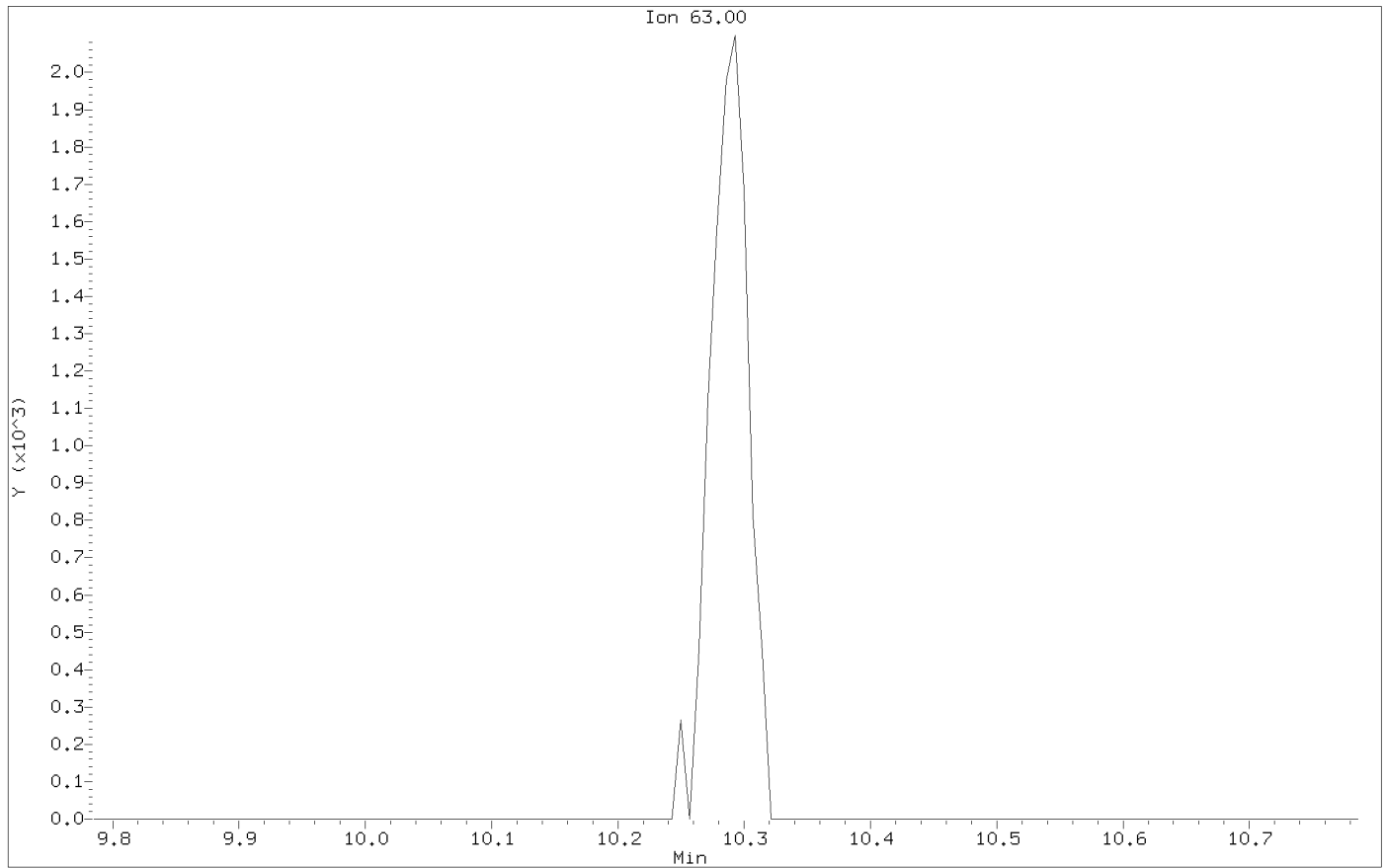




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Injection Date: 10-DEC-2015 11:48  
Instrument: gcms-p.i  
Client Sample ID:

Compound: 1,2-Dichloropropane  
CAS Number: 78-87-5

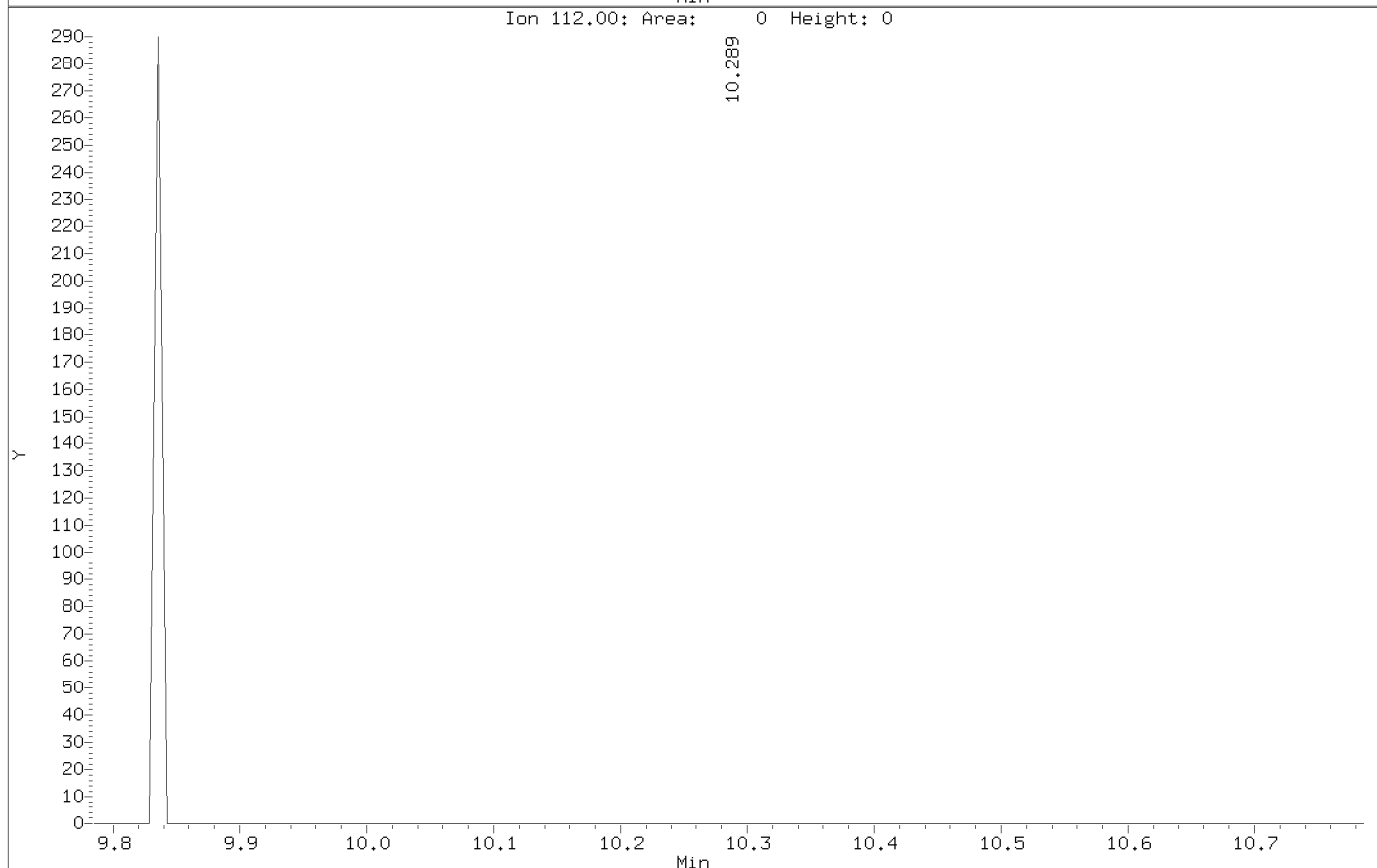
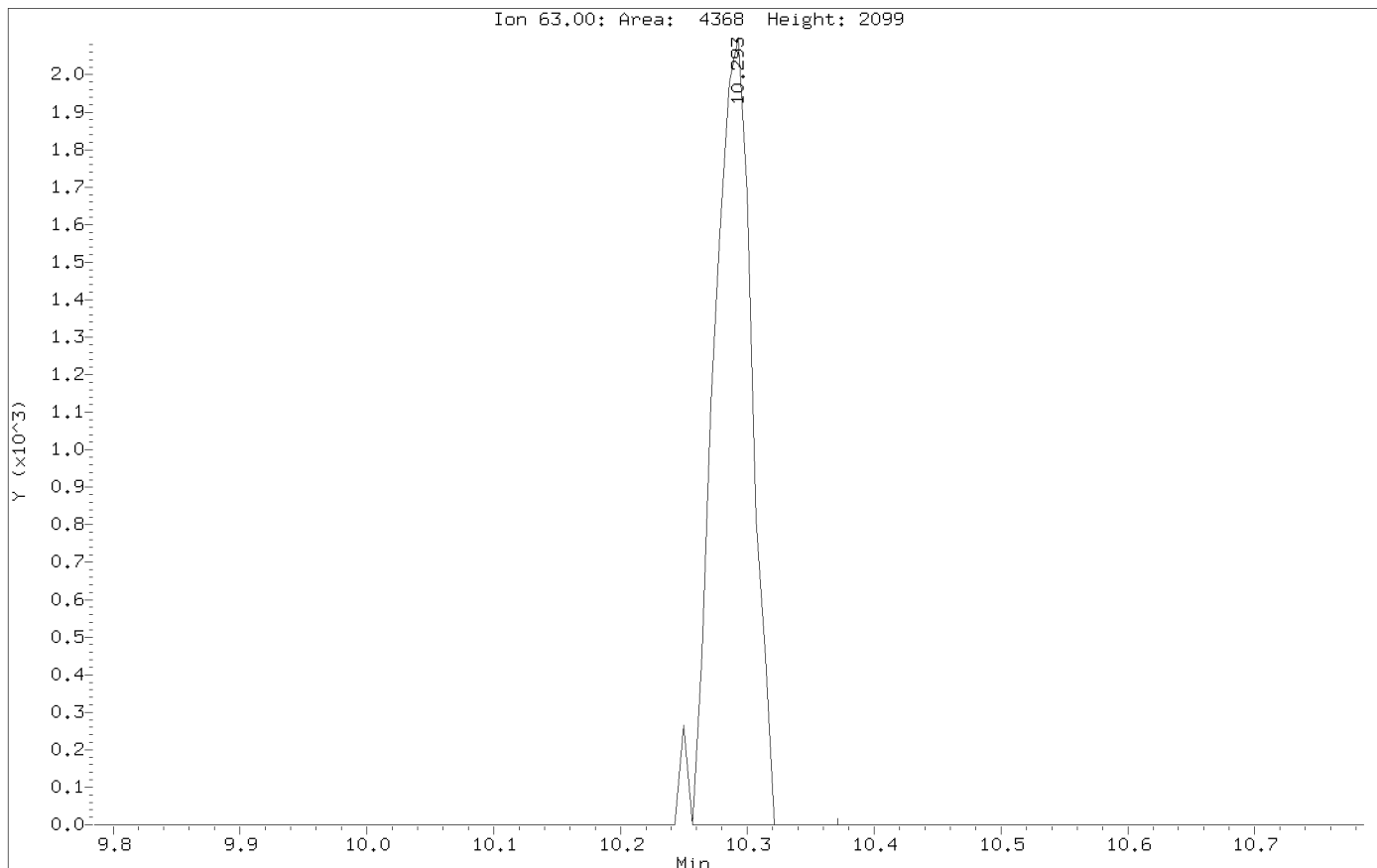
## BEFORE MANUAL INTEGRATION



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Injection Date: 10-DEC-2015 11:48  
Instrument: gcms-p.i  
Client Sample ID:

Compound: 1,2-Dichloropropane  
CAS Number: 78-87-5

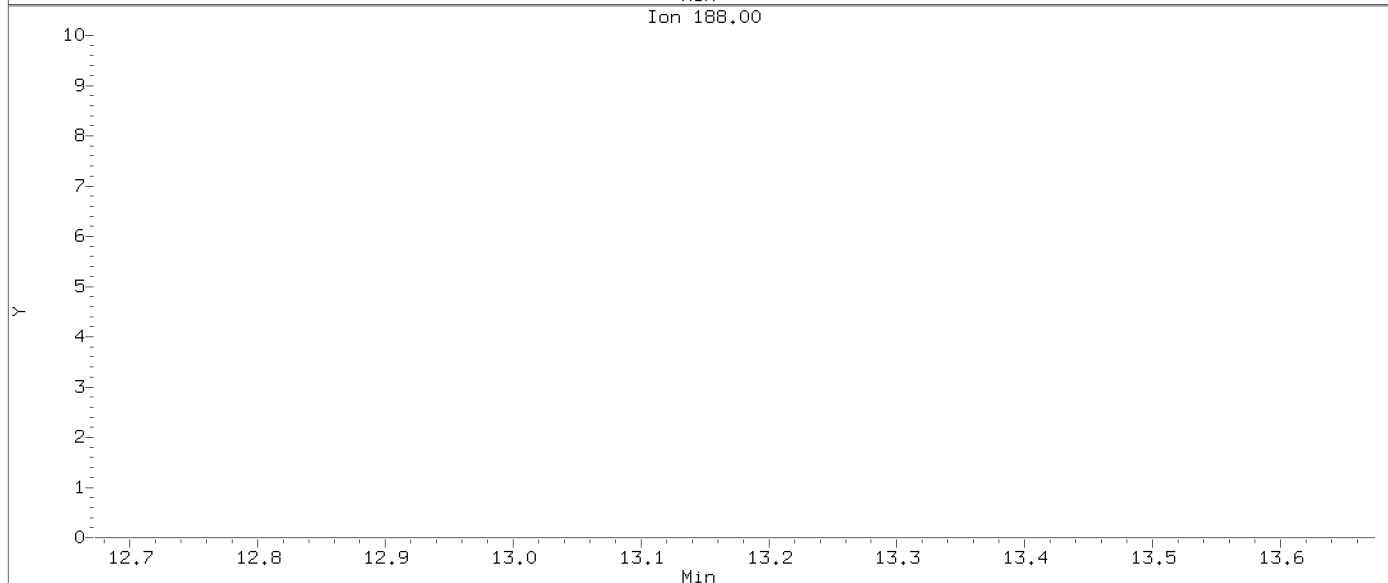
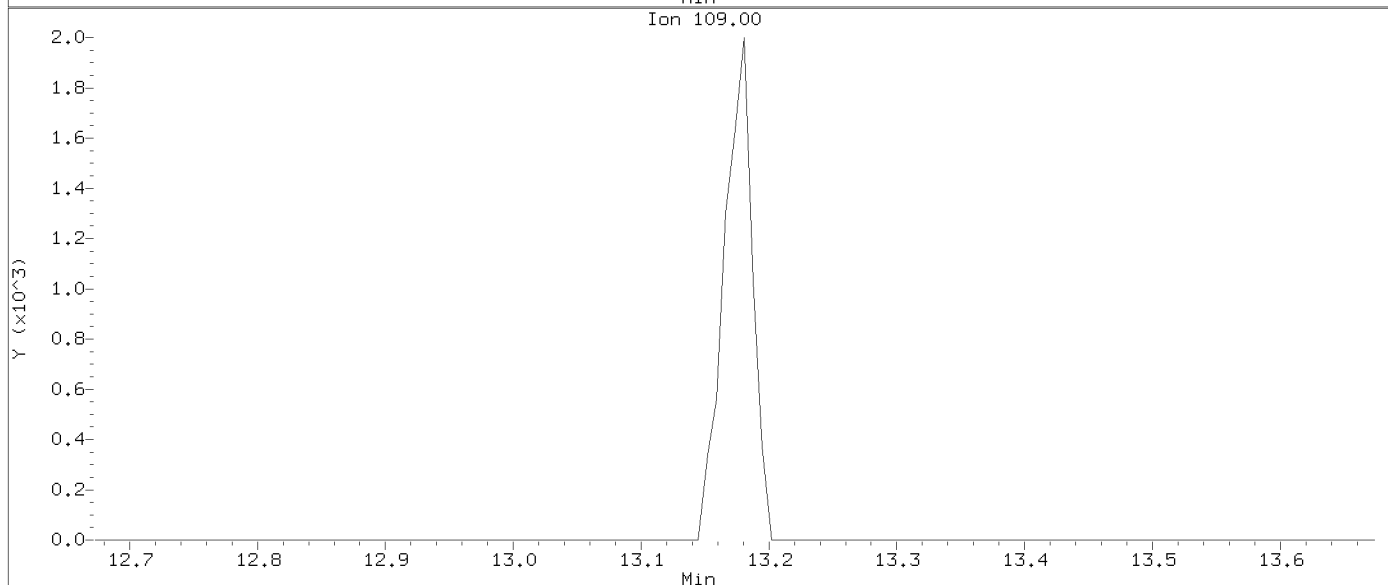
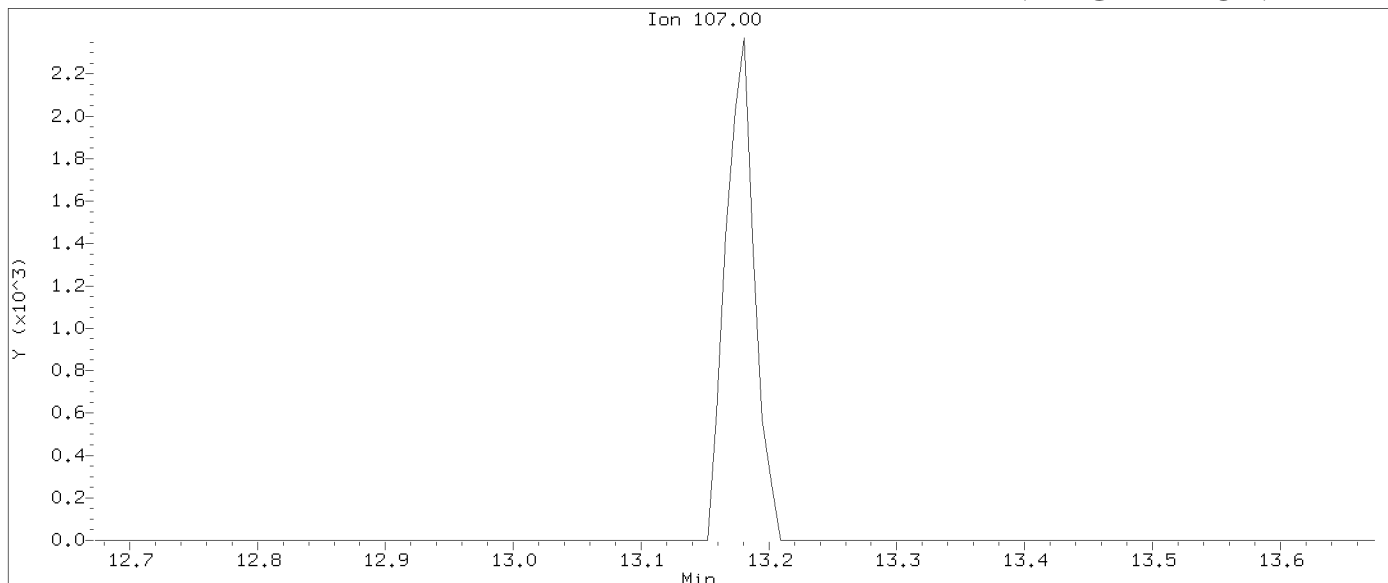
# AFTER MANUAL INTEGRATION



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Injection Date: 10-DEC-2015 11:48  
Instrument: gcms-p.i  
Client Sample ID:

Compound: 1,2-Dibromoethane  
CAS Number: 106-93-4

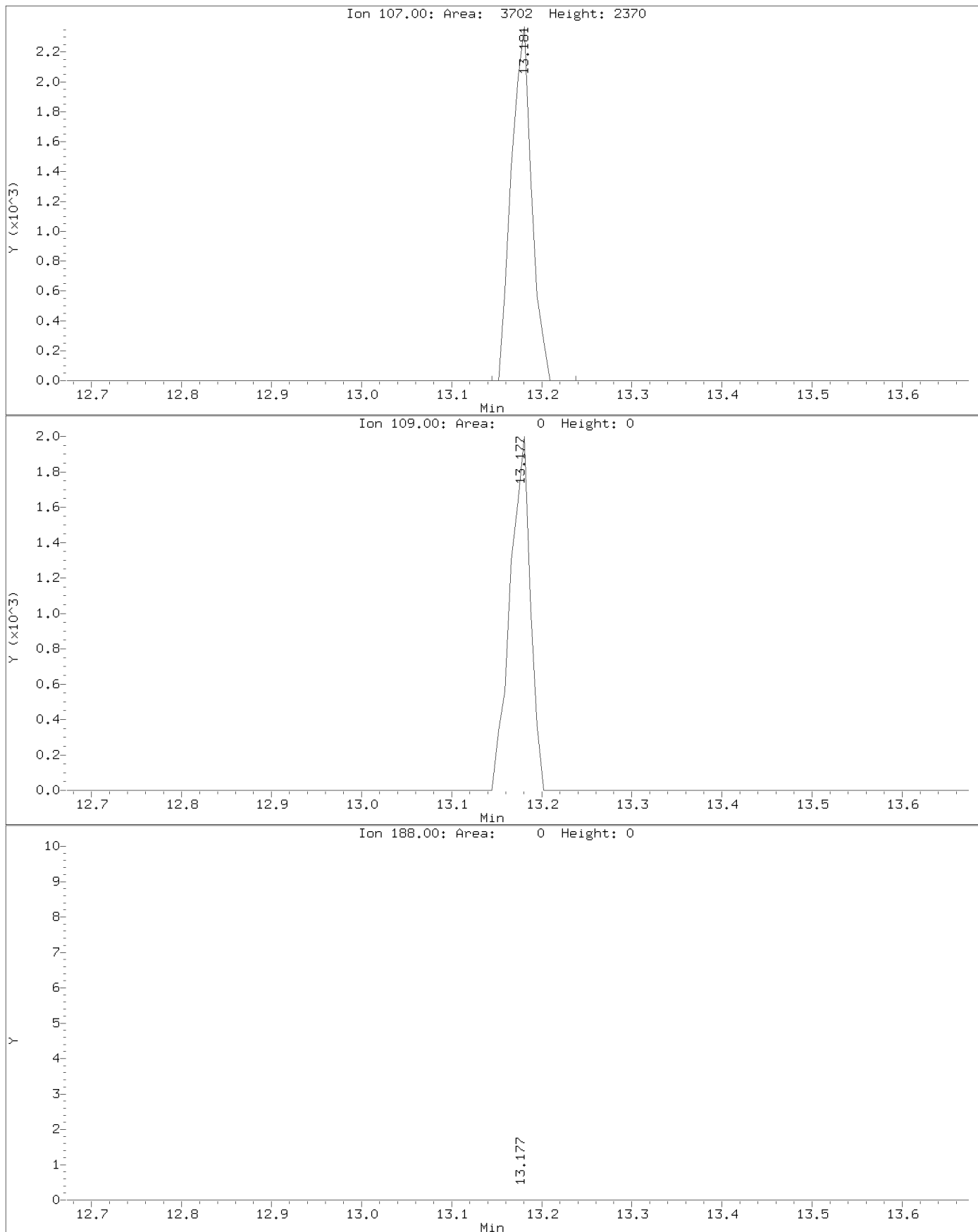
# BEFORE MANUAL INTEGRATION



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Injection Date: 10-DEC-2015 11:48  
Instrument: gcms-p.i  
Client Sample ID:

Compound: 1,2-Dibromoethane  
CAS Number: 106-93-4

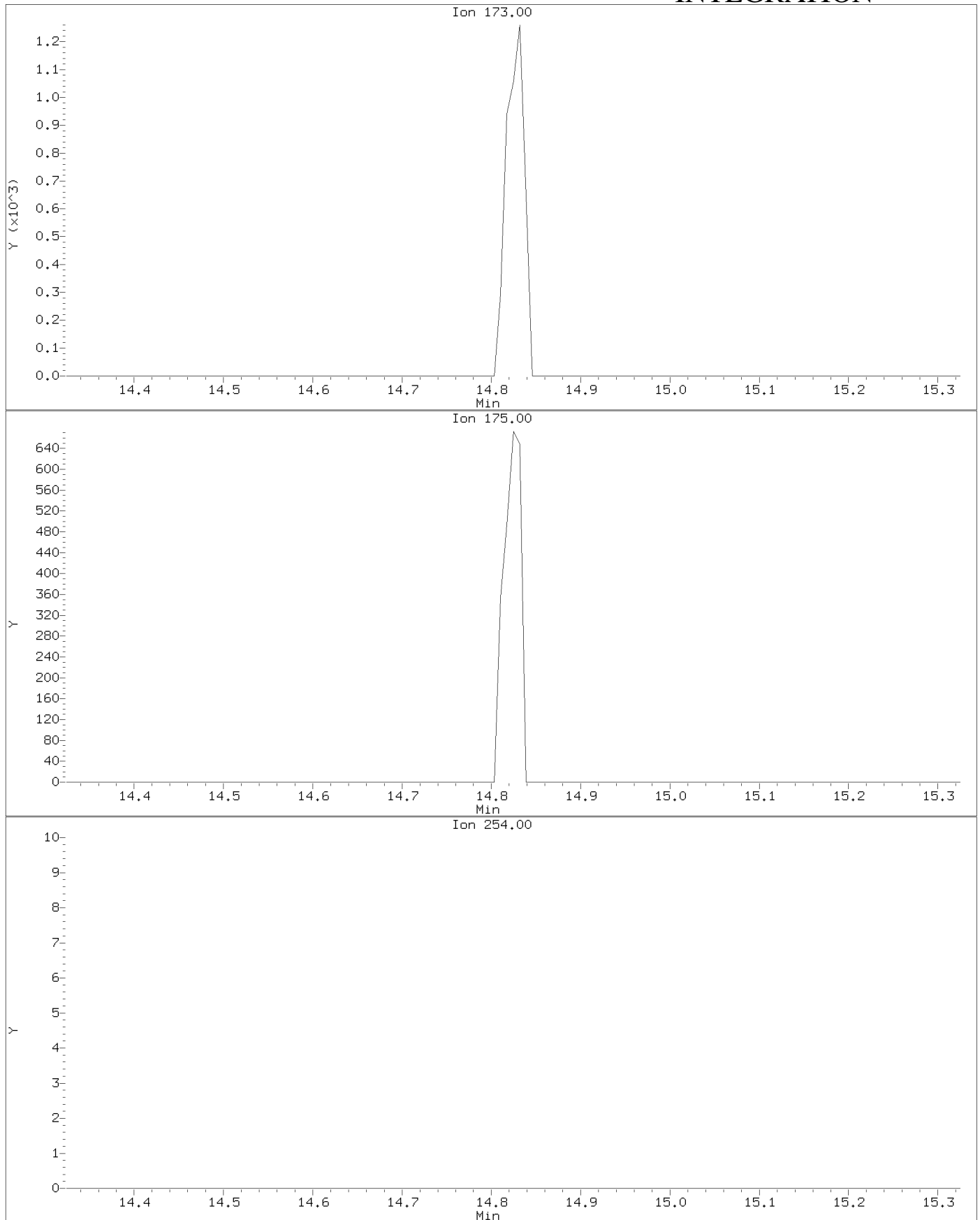
## AFTER MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gcms-p.i\P121015.b\P3837.D  
Injection Date: 10-DEC-2015 11:48  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Bromoform  
CAS Number: 75-25-2

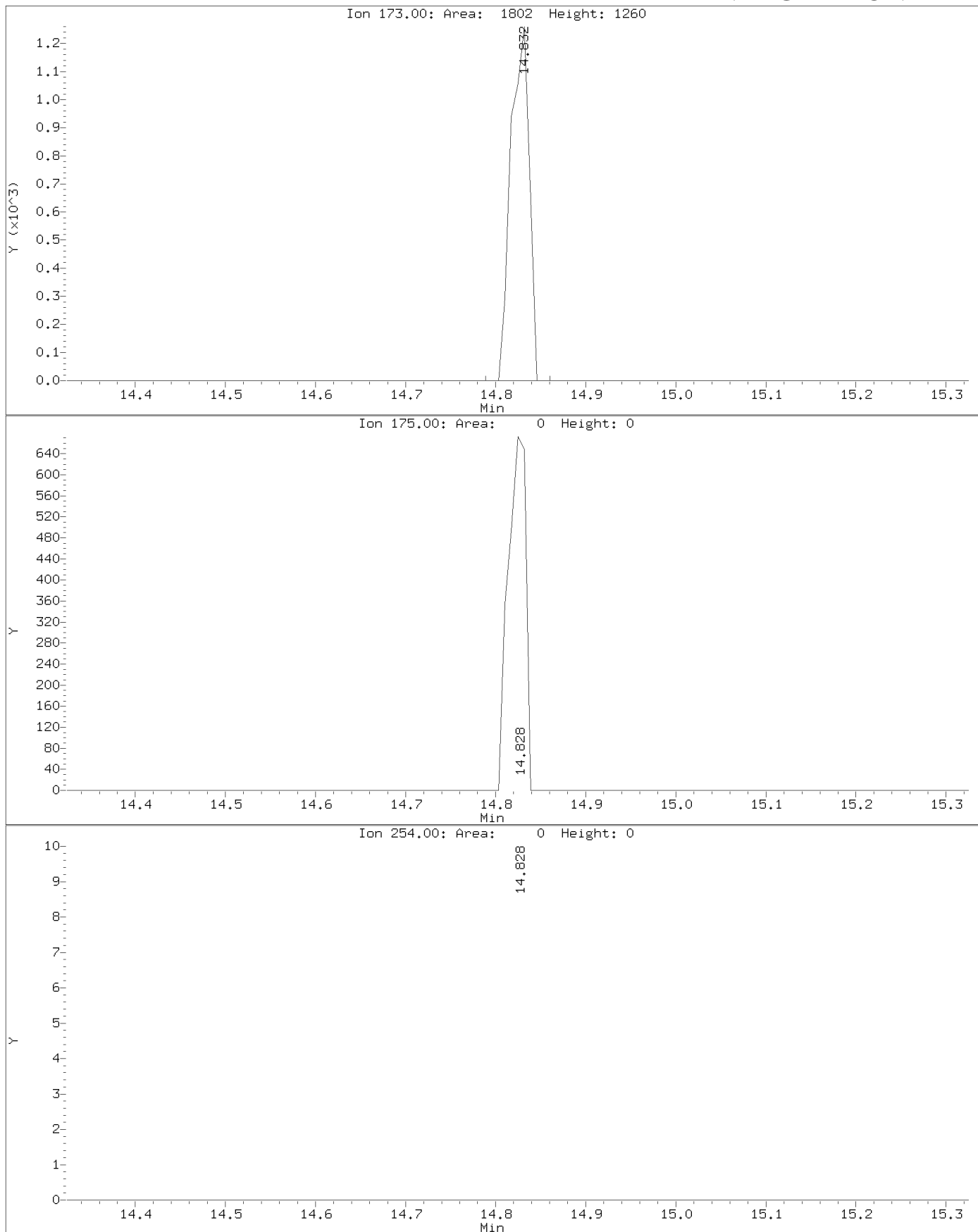
## BEFORE MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gcms-p.i\P121015.b\P3837.D  
Injection Date: 10-DEC-2015 11:48  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Bromoform  
CAS Number: 75-25-2

## AFTER MANUAL INTEGRATION



## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services

**Project :** New Bedford Harbor Superfund Site

**Lab ID :** WG175608-4

**Lab File ID :** P3757.D

**SDG:** SI9749

**Analytical Date:** 12/07/15 09:49

**Instrument ID:** GCMS-P

**Initial Calibration Date(s):** 12/03/15 11:02 12/03/15 13:16

**Column ID:**

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1 Dichlorodifluoromethane	0.71483	0.78235	0.78235	0.010	9.44565	20.00000	Averaged
2 Chloromethane	1.09849	1.12599	1.12599	0.100	2.50332	20.00000	Averaged
3 Vinyl chloride	0.85949	0.95492	0.95492	0.010	11.10356	20.00000	Averaged
4 Bromomethane	0.32062	0.36819	0.36819	0.010	14.83741	20.00000	Averaged
5 Chloroethane	0.45167	0.50336	0.50336	0.010	11.44337	20.00000	Averaged
6 Trichlorofluoromethane	0.76316	0.86690	0.86690	0.010	13.59302	20.00000	Averaged
7 Diethyl Ether	0.56170	0.61863	0.61863	0.010	10.13496	20.00000	Averaged
9 1,1-Dichloroethene	0.54173	0.54299	0.54299	0.100	0.23173	20.00000	Averaged
10 Carbon Disulfide	1.73978	1.74443	1.74443	0.010	0.26725	20.00000	Averaged
14 Methylene Chloride	50.00000	48.08552	0.65896	0.010	-3.82896	20.00000	Linear
15 Acetone	0.28430	0.27572	0.27572	0.010	-3.01739	20.00000	Averaged
17 trans-1,2-Dichloroethene	0.56453	0.58116	0.58116	0.010	2.94460	20.00000	Averaged
19 Methyl tert-butyl ether	1.75531	1.72784	1.72784	0.010	-1.56506	20.00000	Averaged
21 Di-isopropyl ether	2.13370	2.31947	2.31947	0.010	8.70633	20.00000	Averaged
25 1,1-Dichloroethane	1.07595	1.06148	1.06148	0.100	-1.34475	20.00000	Averaged
27 Ethyl tertiary-butyl ether	2.00374	1.72274	1.72274	0.010	-14.02397	20.00000	Averaged
29 cis-1,2-Dichloroethene	0.66966	0.66865	0.66865	0.010	-0.15178	20.00000	Averaged
32 2,2-Dichloropropane	0.82579	0.72057	0.72057	0.010	-12.74201	20.00000	Averaged
33 Bromochloromethane	0.24460	0.26599	0.26599	0.010	8.74484	20.00000	Averaged
34 Chloroform	1.00584	1.00420	1.00420	0.010	-0.16249	20.00000	Averaged
35 Carbon Tetrachloride	50.00000	44.85138	0.33351	0.010	-10.29724	20.00000	Linear
36 Tetrahydrofuran	0.22707	0.20535	0.20535	0.010	-9.56580	20.00000	Averaged
38 1,1,1-Trichloroethane	0.81262	0.82482	0.82482	0.010	1.50173	20.00000	Averaged
39 1,1-Dichloropropene	0.45421	0.45852	0.45852	0.010	0.95052	20.00000	Averaged
40 2-Butanone	0.36476	0.34439	0.34439	0.010	-5.58646	20.00000	Averaged
41 Benzene	1.39314	1.43016	1.43016	0.010	2.65748	20.00000	Averaged
46 Tertiary-amyl methyl ether	1.71213	1.57283	1.57283	0.010	-8.13625	20.00000	Averaged
47 1,2-Dichloroethane	0.48064	0.44841	0.44841	0.010	-6.70574	20.00000	Averaged
48 Trichloroethene	0.32025	0.32448	0.32448	0.010	1.31931	20.00000	Averaged
50 Dibromomethane	0.19437	0.20522	0.20522	0.010	5.57999	20.00000	Averaged
51 1,2-Dichloropropane	0.35102	0.35464	0.35464	0.010	1.03110	20.00000	Averaged
52 Bromodichloromethane	0.42380	0.43174	0.43174	0.010	1.87267	20.00000	Averaged
53 cis-1,3-dichloropropene	0.55153	0.52777	0.52777	0.010	-4.30732	20.00000	Averaged
54 1,4-Dioxane	0.00437	0.00244	0.00244	0.001	-44.23821	20.00000	Averaged *
57 Toluene	0.90201	0.90538	0.90538	0.010	0.37388	20.00000	Averaged
58 4-methyl-2-pentanone	0.38983	0.37959	0.37959	0.010	-2.62902	20.00000	Averaged
59 Tetrachloroethene	50.00000	39.18091	0.29143	0.010	-21.63818	20.00000	Quadratic *
60 trans-1,3-Dichloropropene	0.46554	0.43821	0.43821	0.010	-5.87151	20.00000	Averaged
61 1,1,2-Trichloroethane	0.26638	0.26319	0.26319	0.010	-1.19511	20.00000	Averaged
62 Dibromochloromethane	0.31629	0.31862	0.31862	0.010	0.73682	20.00000	Averaged
63 1,3-Dichloropropane	0.66460	0.63278	0.63278	0.010	-4.78783	20.00000	Averaged

## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services

**Project :** New Bedford Harbor Superfund Site

**Lab ID :** WG175608-4

**Lab File ID :** P3757.D

**SDG:** SI9749

**Analytical Date:** 12/07/15 09:49

**Instrument ID:** GCMS-P

**Initial Calibration Date(s):** 12/03/15 11:02 12/03/15 13:16

**Column ID:**

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
64 1,2-Dibromoethane	0.31001	0.29895	0.29895	0.010	-3.56697	20.00000	Averaged
65 2-Hexanone	0.32358	0.29889	0.29889	0.010	-7.63113	20.00000	Averaged
67 Chlorobenzene	1.01813	1.02720	1.02720	0.300	0.89118	20.00000	Averaged
68 Ethylbenzene	0.57026	0.57610	0.57610	0.010	1.02277	20.00000	Averaged
69 1,1,1,2-Tetrachloroethane	0.31752	0.31360	0.31360	0.010	-1.23327	20.00000	Averaged
71 m+p-Xylenes	0.69037	0.72141	0.72141	0.010	4.49614	20.00000	Averaged
72 o-Xylene	0.67836	0.69676	0.69676	0.010	2.71237	20.00000	Averaged
73 Styrene	1.16349	1.20346	1.20346	0.010	3.43537	20.00000	Averaged
74 Bromoform	50.00000	42.79380	0.20489	0.100	-14.41239	20.00000	Linear
75 Isopropylbenzene	3.14961	3.20894	3.20894	0.010	1.88368	20.00000	Averaged
79 Bromobenzene	0.78679	0.78532	0.78532	0.010	-0.18803	20.00000	Averaged
80 N-Propylbenzene	3.84805	3.90207	3.90207	0.010	1.40380	20.00000	Averaged
81 1,1,2,2-Tetrachloroethane	0.94307	0.90131	0.90131	0.300	-4.42745	20.00000	Averaged
82 1,3,5-Trimethylbenzene	2.68772	2.77366	2.77366	0.010	3.19763	20.00000	Averaged
83 2-Chlorotoluene	2.38108	2.33908	2.33908	0.010	-1.76384	20.00000	Averaged
84 1,2,3-Trichloropropane	0.75234	0.69040	0.69040	0.010	-8.23348	20.00000	Averaged
85 4-Chlorotoluene	2.52612	2.46311	2.46311	0.010	-2.49435	20.00000	Averaged
86 tert-Butylbenzene	2.43839	2.59585	2.59585	0.010	6.45778	20.00000	Averaged
88 1,2,4-Trimethylbenzene	2.68227	2.77039	2.77039	0.010	3.28555	20.00000	Averaged
89 P-Isopropyltoluene	2.75601	2.87204	2.87204	0.010	4.20990	20.00000	Averaged
90 1,3-Dichlorobenzene	1.51375	1.55544	1.55544	0.010	2.75446	20.00000	Averaged
92 1,4-Dichlorobenzene	1.58536	1.58740	1.58740	0.010	0.12868	20.00000	Averaged
93 N-Butylbenzene	2.67688	2.75491	2.75491	0.010	2.91513	20.00000	Averaged
94 sec-Butylbenzene	3.32575	3.41220	3.41220	0.010	2.59953	20.00000	Averaged
95 1,2-Dichlorobenzene	1.46434	1.46123	1.46123	0.010	-0.21227	20.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	50.00000	36.06604	0.13772	0.010	-27.86792	20.00000	Linear *
98 Hexachlorobutadiene	0.32640	0.30844	0.30844	0.010	-5.50116	20.00000	Averaged
99 1,2,4-Trichlorobenzene	0.89497	0.88641	0.88641	0.010	-0.95666	20.00000	Averaged
101 Naphthalene	50.00000	43.74410	1.89728	0.010	-12.51180	20.00000	Linear
102 1,2,3-Trichlorobenzene	0.71923	0.68935	0.68935	0.010	-4.15404	20.00000	Averaged
37 Dibromofluoromethane	0.48501	0.48023	0.48023	0.010	-0.98474	20.00000	Averaged
45 1,2-Dichloroethane-D4	0.62845	0.60145	0.60145	0.010	-4.29619	20.00000	Averaged
55 Toluene-D8	1.17696	1.14796	1.14796	0.010	-2.46373	20.00000	Averaged
76 P-Bromofluorobenzene	0.50345	0.50165	0.50165	0.010	-0.35758	20.00000	Averaged



**Form 7**  
**Calibration Verification Summary**

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab ID :** WG175608-4  
**Lab File ID :** P3757.D  
**Initial Calibration Date(s):** 12/03/15 11:02 12/03/15 13:16

**SDG:** SI9749  
**Analytical Date:** 12/07/15 09:49  
**Instrument ID:** GCMS-P  
**Column ID:**

\* = Compound out of QC criteria

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3757.D  
 Lab Smp Id: WG175608-4  
 Inj Date : 07-DEC-2015 09:49 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175608-4,SI9749  
 Misc Info : WG175608,WG175386-4,SI9749-1  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 08-Dec-2015 09:35 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 1 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: VOA-WS

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG		RT		REL RT	RESPONSE	AMOUNTS		REVIEW CODE
	MASS		EXP RT				CAL-AMT ( ug/l)	ON-COL ( ug/l)	
1 Dichlorodifluoromethane	85		2.165	2.167 (0.250)		292747	50.0000	54.7	
2 Chloromethane	50		2.415	2.424 (0.279)		421334	50.0000	51.2 (M)	M6
3 Vinyl chloride	62		2.501	2.496 (0.289)		357323	50.0000	55.6	
4 Bromomethane	94		2.887	2.889 (0.333)		137772	50.0000	57.4	
5 Chloroethane	64		3.037	3.040 (0.350)		188351	50.0000	55.7	
6 Trichlorofluoromethane	101		3.201	3.204 (0.369)		324387	50.0000	56.8	
7 Diethyl Ether	59		3.580	3.582 (0.413)		231485	50.0000	55.1	
8 Tertiary-butyl alcohol	59		5.253	5.248 (0.606)		58723	250.000	108	
9 1,1-Dichloroethene	96		3.859	3.854 (0.445)		203182	50.0000	50.1	9:28 am, Dec 16, 2015
10 Carbon Disulfide	76		3.909	3.911 (0.451)		652750	50.0000	50.1	
11 Freon-113	151		3.902	3.897 (0.450)		126947	50.0000	52.7	
12 Iodomethane	142		4.066	4.069 (0.469)		184747	50.0000	52.7	
13 Acrolein	56		4.324	4.325 (0.499)		213978	250.000	249	
14 Methylene Chloride	84		4.688	4.691 (0.541)		246577	50.0000	48.1	
15 Acetone	43		4.760	4.762 (0.549)		515856	250.000	242	
16 Isobutyl Alcohol	43		8.920	8.915 (1.029)		119455	1000.00	506	
17 trans-1,2-Dichloroethene	96		4.938	4.933 (0.570)		217464	50.0000	51.5	
18 Allyl Chloride	41		4.524	4.526 (0.522)		409774	50.0000	55.2	
19 Methyl tert-butyl ether	73		5.103	5.098 (0.589)		1293086	100.000	98.4	
20 Acetonitrile	39		5.546	5.541 (0.640)		74570	500.000	454	
21 Di-isopropyl ether	45		5.775	5.777 (0.666)		867923	50.0000	54.4	
22 Chloroprene	53		5.975	5.977 (0.689)		373597	50.0000	53.6	
23 Propionitrile	54		8.562	8.564 (0.988)		381152	500.000	473	

Compounds	QUANT SIG				AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
24 Methacrylonitrile	41	8.598	8.601 (0.992)		1678516	500.000	541	
25 1,1-Dichloroethane	63	6.025	6.020 (0.695)		397198	50.0000	49.3	
26 Acrylonitrile	52	6.132	6.135 (0.707)		426647	250.000	244	
27 Ethyl tertiary-butyl ether	59	6.475	6.477 (0.747)		644633	50.0000	43.0	
28 Vinyl Acetate	43	6.518	6.513 (0.684)		532392	50.0000	47.2	
29 cis-1,2-Dichloroethene	96	7.033	7.028 (0.811)		250202	50.0000	49.9	
M 30 1,2-Dichloroethylene (total)	96				467666	50.0000	101	
31 Methyl Methacrylate	41	10.664	10.666 (1.119)		222254	50.0000	46.9	
32 2,2-Dichloropropane	77	7.219	7.221 (0.833)		269630	50.0000	43.6	
33 Bromochloromethane	128	7.383	7.385 (0.852)		99531	50.0000	54.4	
34 Chloroform	83	7.526	7.528 (0.868)		375763	50.0000	49.9	
35 Carbon Tetrachloride	117	7.747	7.743 (0.813)		218713	50.0000	44.8	
36 Tetrahydrofuran	42	7.790	7.786 (0.899)		384194	250.000	226	
\$ 37 Dibromofluoromethane	113	7.840	7.843 (0.904)		179698	50.0000	49.5	
38 1,1,1-Trichloroethane	97	7.869	7.871 (0.908)		308640	50.0000	50.8	
39 1,1-Dichloropropene	75	8.083	8.086 (0.848)		300692	50.0000	50.5	
40 2-Butanone	43	8.069	8.064 (0.931)		644329	250.000	236	
41 Benzene	78	8.505	8.500 (0.893)		937872	50.0000	51.3	
* 42 Pentafluorobenzene	168	8.670	8.665 (1.000)		374191	50.0000		
43 Cyclohexane	56	7.369	7.371 (0.850)		386986	50.0000	51.0	
44 Ethyl Methacrylate	69	10.664	10.667 (1.119)		163039	50.0000	42.3	
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737 (1.007)		225057	50.0000	47.8	
46 Tertiary-amyl methyl ether	73	8.712	8.715 (1.005)		588537	50.0000	45.9	
47 1,2-Dichloroethane	62	8.848	8.843 (0.929)		294057	50.0000	46.6	
48 Trichloroethene	95	9.456	9.458 (0.992)		212786	50.0000	50.6	
* 49 1,4-Difluorobenzene	114	9.527	9.530 (1.000)		655782	50.0000		
50 Dibromomethane	93	10.128	10.130 (1.063)		134578	50.0000	52.8	
51 1,2-Dichloropropane	63	10.285	10.287 (1.080)		232566	50.0000	50.5	
52 Bromodichloromethane	83	10.392	10.394 (1.091)		283125	50.0000	50.9	
53 cis-1,3-dichloropropene	75	11.372	11.367 (1.194)		346102	50.0000	47.8	
54 1,4-Dioxane	88	10.714	10.709 (1.125)		31988	1000.00	558	
\$ 55 Toluene-D8	98	11.643	11.646 (1.222)		752814	50.0000	48.8	
56 2-Chloroethylvinylether	63	11.293	11.295 (1.185)		81472	50.0000	32.0	
57 Toluene	92	11.722	11.724 (1.230)		593732	50.0000	50.2	
58 4-methyl-2-pentanone	43	12.308	12.311 (1.292)		1244626	250.000	243	
59 Tetrachloroethene	164	12.286	12.289 (0.885)		176278	50.0000	39.2	
60 trans-1,3-Dichloropropene	75	12.358	12.360 (1.297)		287369	50.0000	47.1	
61 1,1,2-Trichloroethane	83	12.594	12.596 (1.322)		172598	50.0000	49.4	
62 Dibromochloromethane	129	12.844	12.846 (0.925)		192728	50.0000	50.4	
63 1,3-Dichloropropane	76	12.987	12.989 (0.935)		382758	50.0000	47.6	
64 1,2-Dibromoethane	107	13.173	13.175 (1.383)		196048	50.0000	48.2	
65 2-Hexanone	43	13.523	13.519 (0.974)		903958	250.000	231	
* 66 Chlorobenzene-D5	117	13.888	13.890 (1.000)		604880	50.0000		
67 Chlorobenzene	112	13.909	13.911 (1.002)		621335	50.0000	50.4	
152 1-Chlorohexane	91	13.895	13.897 (1.000)		342019	50.0000	48.9	
68 Ethylbenzene	106	13.959	13.954 (1.005)		348469	50.0000	50.5	
69 1,1,1,2-Tetrachloroethane	131	14.002	14.004 (1.008)		189691	50.0000	49.4	
M 70 Xylenes (total)	106				1294195	150.000	156	
71 m+p-Xylenes	106	14.152	14.155 (1.019)		872739	100.000	104	
72 o-Xylene	106	14.724	14.726 (1.060)		421456	50.0000	51.4	
73 Styrene	104	14.795	14.798 (1.065)		727949	50.0000	51.7	
74 Bromoform	173	14.824	14.827 (1.067)		123936	50.0000	42.8	
75 Isopropylbenzene	105	15.131	15.134 (0.896)		1064601	50.0000	50.9	
\$ 76 P-Bromofluorobenzene	95	15.496	15.491 (1.626)		328971	50.0000	49.8	

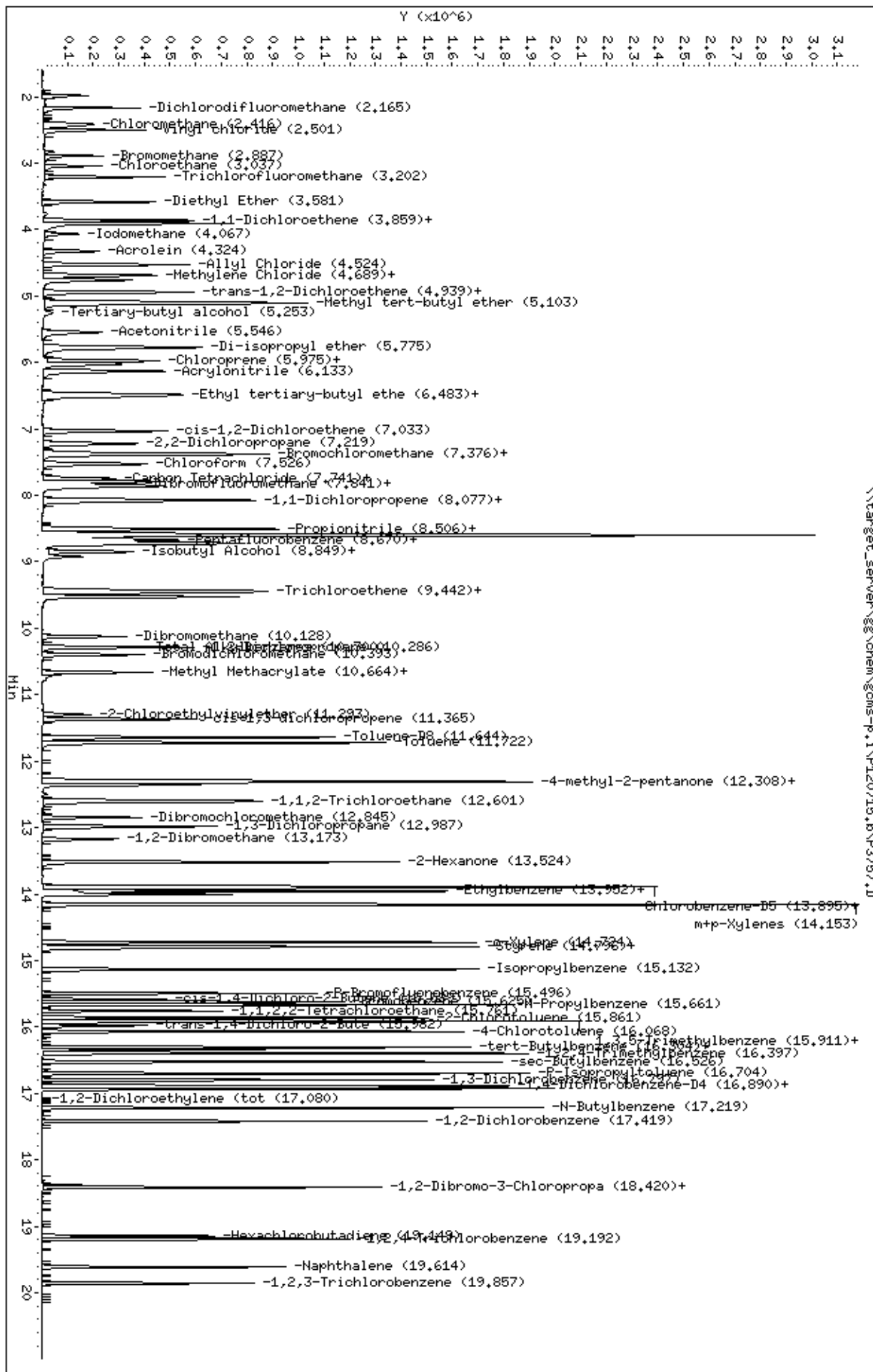
Compounds	QUANT SIG			AMOUNTS				REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.589	15.584	(0.923)	99392	50.0000	42.1	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.985	(0.946)	78961	50.0000	42.8	
79 Bromobenzene	156	15.625	15.627	(0.925)	260537	50.0000	49.9	
80 N-Propylbenzene	91	15.660	15.663	(0.927)	1294554	50.0000	50.7	
81 1,1,2,2-Tetrachloroethane	83	15.760	15.763	(0.933)	299020	50.0000	47.8	
82 1,3,5-Trimethylbenzene	105	15.910	15.913	(0.942)	920192	50.0000	51.6	
83 2-Chlorotoluene	91	15.860	15.856	(0.939)	776015	50.0000	49.1	
84 1,2,3-Trichloropropane	75	15.925	15.927	(0.943)	229048	50.0000	45.9	
85 4-Chlorotoluene	91	16.068	16.070	(0.951)	817164	50.0000	48.8	
86 tert-Butylbenzene	119	16.311	16.306	(0.966)	861203	50.0000	53.2	
87 Pentachloroethane	117	16.339	16.335	(0.967)	161995	50.0000	68.9	
88 1,2,4-Trimethylbenzene	105	16.397	16.392	(0.971)	919109	50.0000	51.6	
89 P-Isopropyltoluene	119	16.704	16.706	(0.989)	952830	50.0000	52.1	
90 1,3-Dichlorobenzene	146	16.797	16.799	(0.994)	516035	50.0000	51.4	
* 91 1,4-Dichlorobenzene-D4	152	16.890	16.885	(1.000)	331761	50.0000		
92 1,4-Dichlorobenzene	146	16.904	16.906	(1.001)	526639	50.0000	50.1	
93 N-Butylbenzene	91	17.219	17.221	(1.019)	913973	50.0000	51.4	
94 sec-Butylbenzene	105	16.525	16.527	(0.978)	1132036	50.0000	51.3	
95 1,2-Dichlorobenzene	146	17.419	17.421	(1.031)	484779	50.0000	49.9	
96 1,2-Dibromo-3-Chloropropane	75	18.391	18.386	(1.089)	45690	50.0000	36.1	
97 1,3,5-Trichlorobenzene	180	18.419	18.422	(1.091)	327104	50.0000	50.9	
98 Hexachlorobutadiene	225	19.149	19.151	(1.134)	102330	50.0000	47.2	
99 1,2,4-Trichlorobenzene	180	19.191	19.194	(1.136)	294076	50.0000	49.5	
100 1,2,3-Trimethylbenzene	105	16.933	16.935	(1.003)	952920	50.0000	54.1	
101 Naphthalene	128	19.613	19.616	(1.161)	629445	50.0000	43.7	
102 1,2,3-Trichlorobenzene	180	19.856	19.858	(1.176)	228700	50.0000	47.9	
103 Methyl Acetate	43	4.953	4.955	(0.571)	216034	50.0000	44.1	
104 Methylcyclohexane	83	9.434	9.429	(1.088)	371434	50.0000	54.0	
M 153 Total Alkylbenzenes	100				6993897	50.0000	362	

QC Flag Legend

M - Compound response manually integrated.

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 Date: 07-DEC-2015 09:49  
 Client ID:  
 Sample Info: M0175608-4.S19749  
 Purge Volume: 5.0  
 Column phase: RTX-VHS

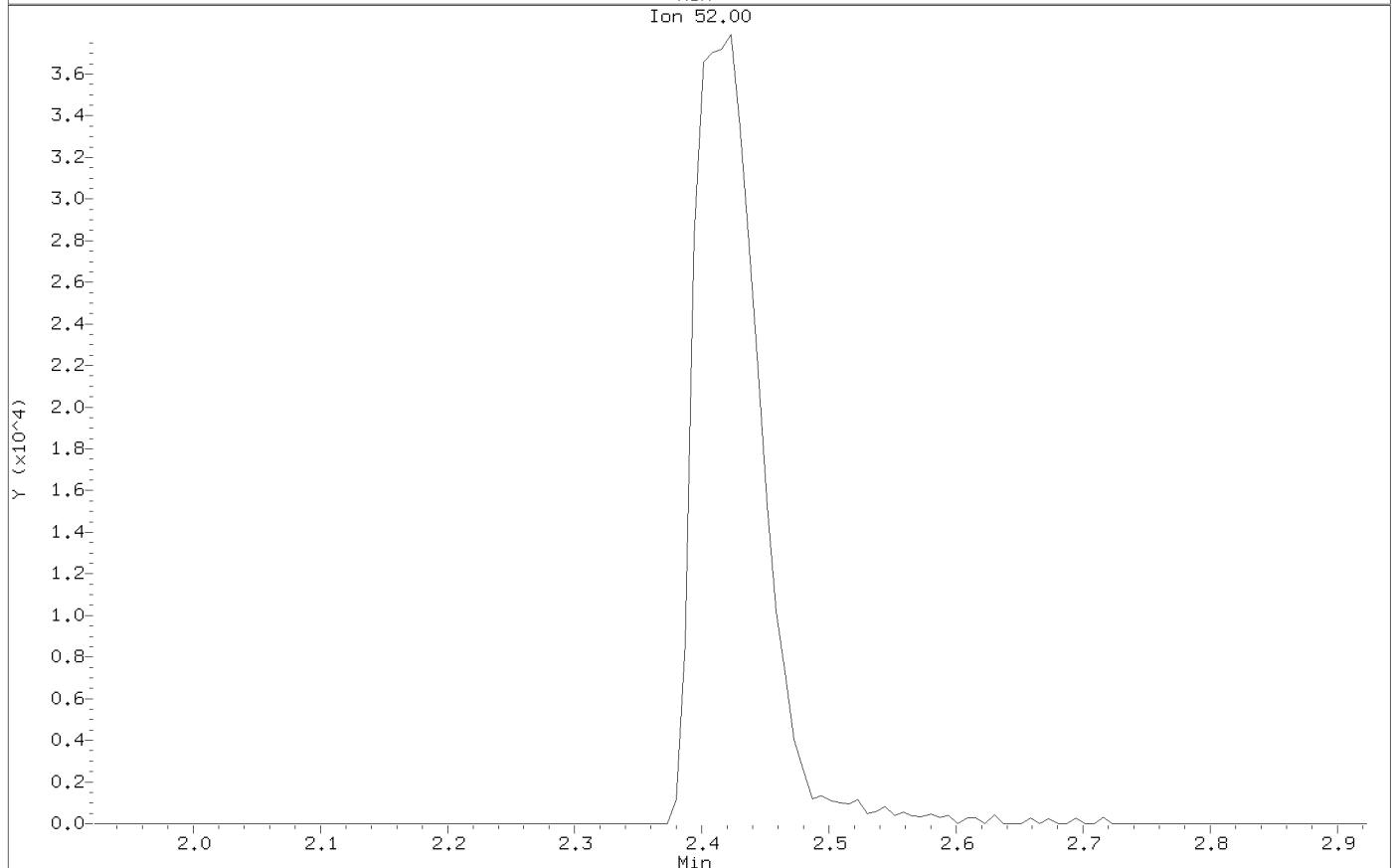
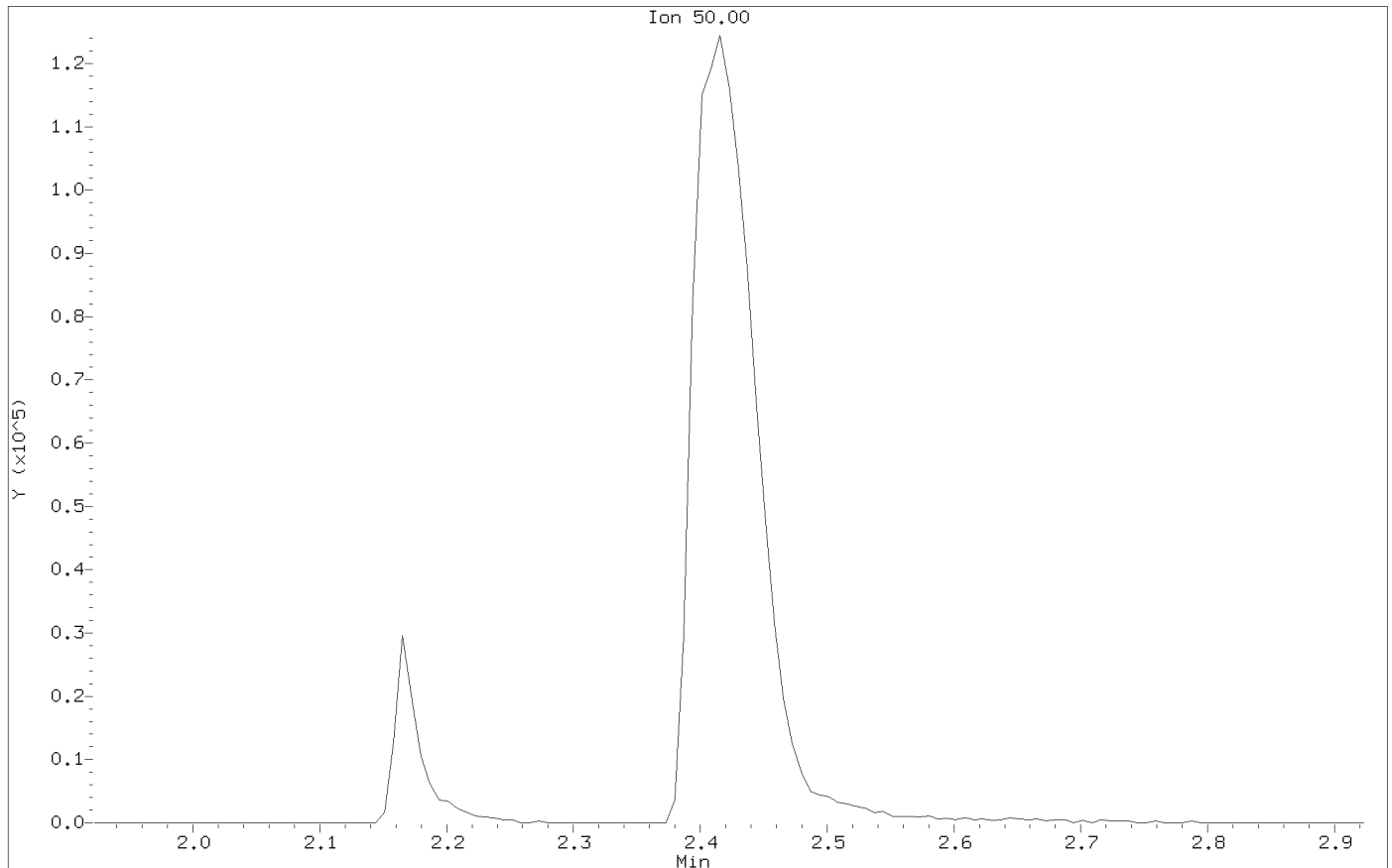
Instrument: goms-p.i  
 Operator: AAB  
 Column diameter: 0.18



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Injection Date: 07-DEC-2015 09:49  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Chloromethane  
CAS Number: 74-87-3

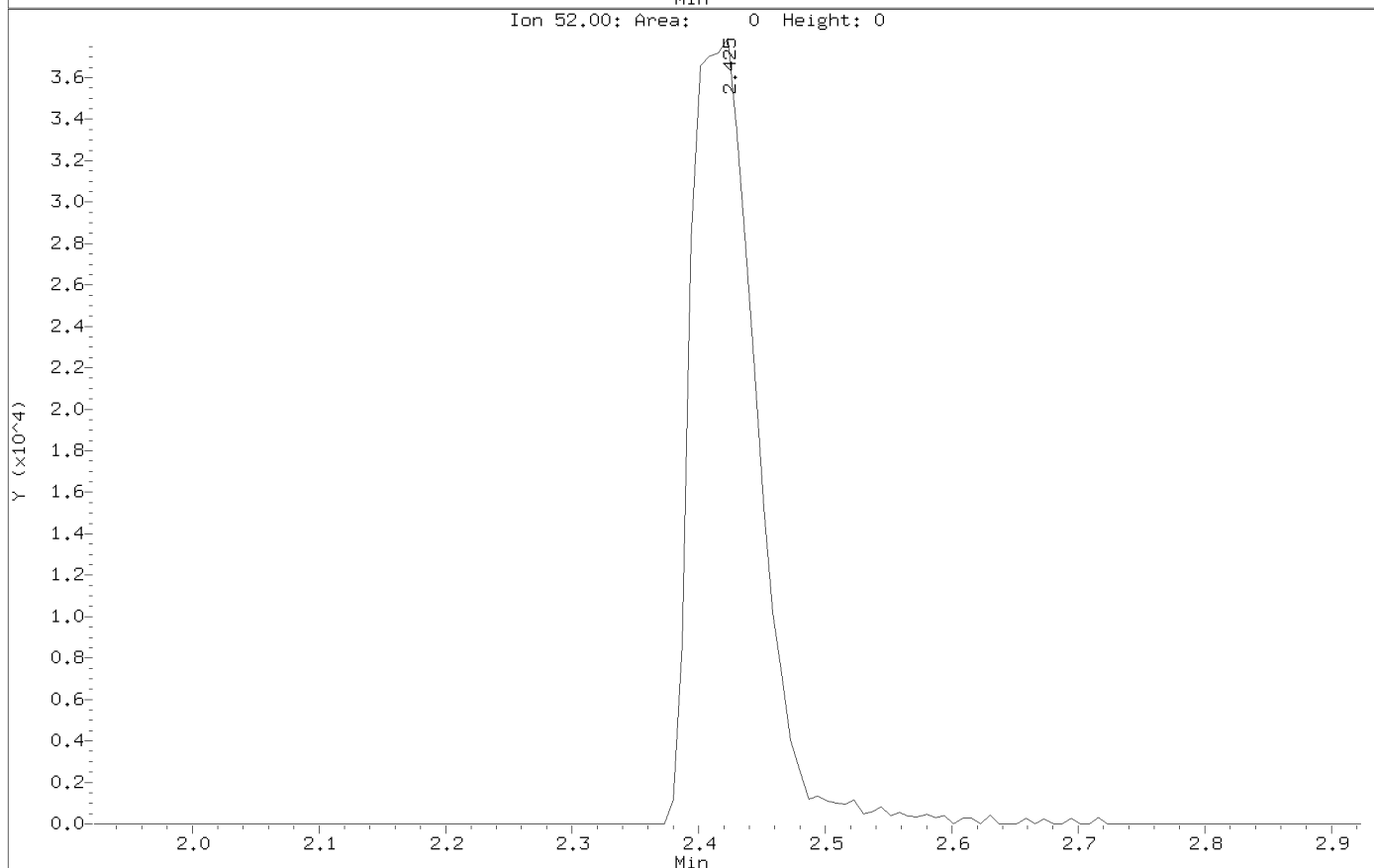
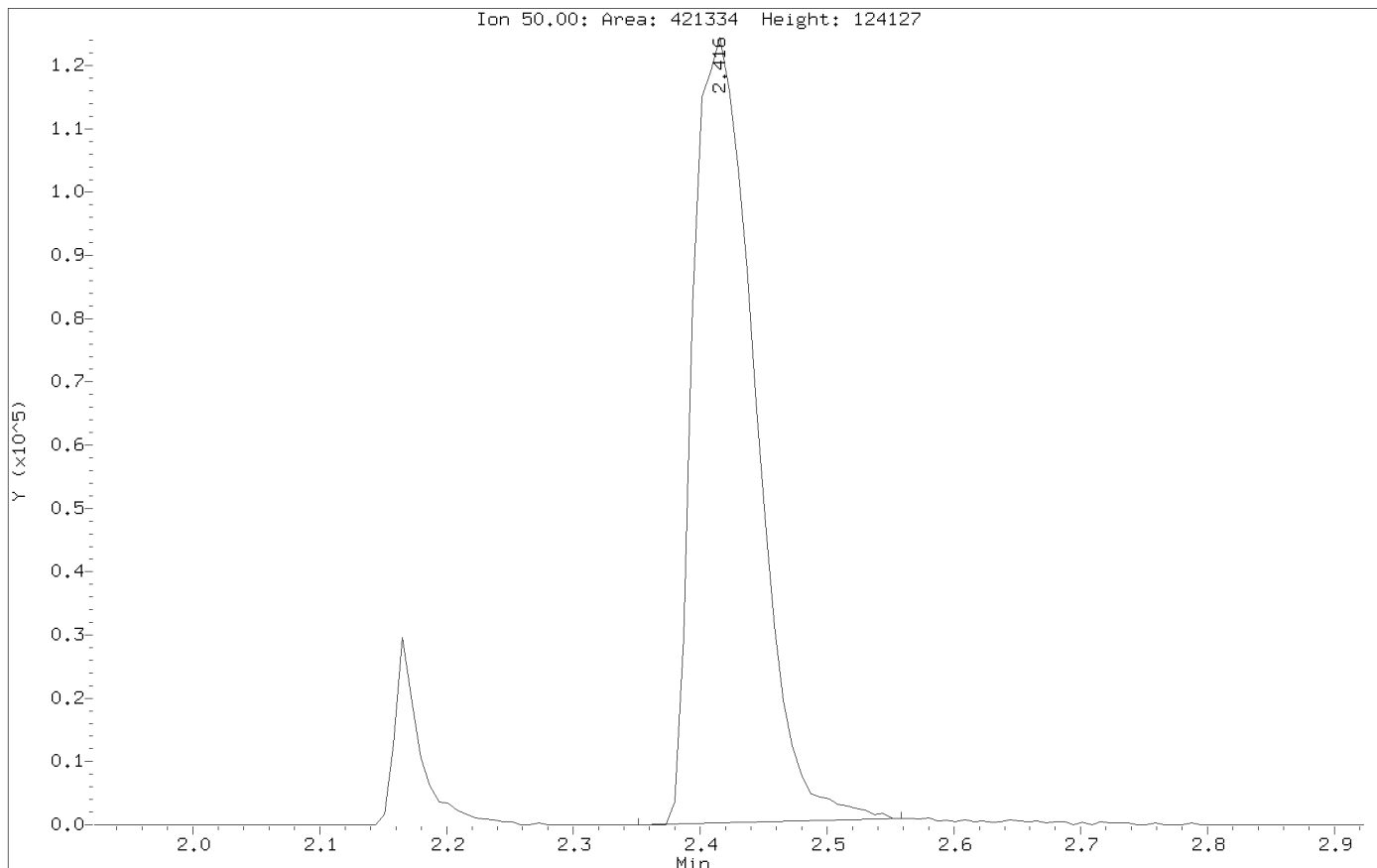
# BEFORE MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gcms-p.i\P120715.b\P3757.D  
Injection Date: 07-DEC-2015 09:49  
Instrument: gcms-p.i  
Client Sample ID:

Compound: Chloromethane  
CAS Number: 74-87-3

## AFTER MANUAL INTEGRATION



## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab ID :** WG175608-8  
**Lab File ID :** P3779.D  
**Initial Calibration Date(s):** 12/03/15 11:02 12/03/15 13:16

**SDG:** SI9749  
**Analytical Date:** 12/07/15 20:33  
**Instrument ID:** GCMS-P  
**Column ID:**

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1 Dichlorodifluoromethane	0.71483	0.70785	0.70785	0.010	-0.97636	50.00000	Averaged
2 Chloromethane	1.09849	0.93590	0.93590	0.100	-14.80136	50.00000	Averaged
3 Vinyl chloride	0.85949	0.88429	0.88429	0.010	2.88547	50.00000	Averaged
4 Bromomethane	0.32062	0.22256	0.22256	0.010	-30.58486	50.00000	Averaged
5 Chloroethane	0.45167	0.50521	0.50521	0.010	11.85482	50.00000	Averaged
6 Trichlorofluoromethane	0.76316	0.86205	0.86205	0.010	12.95718	50.00000	Averaged
7 Diethyl Ether	0.56170	0.60239	0.60239	0.010	7.24364	50.00000	Averaged
9 1,1-Dichloroethene	0.54173	0.51333	0.51333	0.100	-5.24276	50.00000	Averaged
10 Carbon Disulfide	1.73978	1.67929	1.67929	0.010	-3.47711	50.00000	Averaged
14 Methylene Chloride	50.00000	47.39419	0.64954	0.010	-5.21161	50.00000	Linear
15 Acetone	0.28430	0.22949	0.22949	0.010	-19.27843	50.00000	Averaged
17 trans-1,2-Dichloroethene	0.56453	0.55253	0.55253	0.010	-2.12566	50.00000	Averaged
19 Methyl tert-butyl ether	1.75531	1.74466	1.74466	0.010	-0.60711	50.00000	Averaged
21 Di-isopropyl ether	2.13370	2.33036	2.33036	0.010	9.21689	50.00000	Averaged
25 1,1-Dichloroethane	1.07595	1.04450	1.04450	0.100	-2.92371	50.00000	Averaged
27 Ethyl tertiary-butyl ether	2.00374	1.70365	1.70365	0.010	-14.97674	50.00000	Averaged
29 cis-1,2-Dichloroethene	0.66966	0.64949	0.64949	0.010	-3.01229	50.00000	Averaged
32 2,2-Dichloropropane	0.82579	0.50761	0.50761	0.010	-38.53015	50.00000	Averaged
33 Bromochloromethane	0.24460	0.24546	0.24546	0.010	0.35320	50.00000	Averaged
34 Chloroform	1.00584	0.97438	0.97438	0.010	-3.12767	50.00000	Averaged
35 Carbon Tetrachloride	50.00000	44.29586	0.32933	0.010	-11.40828	50.00000	Linear
36 Tetrahydrofuran	0.22707	0.23351	0.23351	0.010	2.83909	50.00000	Averaged
38 1,1,1-Trichloroethane	0.81262	0.82129	0.82129	0.010	1.06700	50.00000	Averaged
39 1,1-Dichloropropene	0.45421	0.45533	0.45533	0.010	0.24769	50.00000	Averaged
40 2-Butanone	0.36476	0.35535	0.35535	0.010	-2.58177	50.00000	Averaged
41 Benzene	1.39314	1.43709	1.43709	0.010	3.15487	50.00000	Averaged
46 Tertiary-amyl methyl ether	1.71213	1.54453	1.54453	0.010	-9.78872	50.00000	Averaged
47 1,2-Dichloroethane	0.48064	0.46533	0.46533	0.010	-3.18553	50.00000	Averaged
48 Trichloroethene	0.32025	0.33321	0.33321	0.010	4.04668	50.00000	Averaged
50 Dibromomethane	0.19437	0.20698	0.20698	0.010	6.48487	50.00000	Averaged
51 1,2-Dichloropropane	0.35102	0.36073	0.36073	0.010	2.76532	50.00000	Averaged
52 Bromodichloromethane	0.42380	0.43644	0.43644	0.010	2.98211	50.00000	Averaged
53 cis-1,3-dichloropropene	0.55153	0.51263	0.51263	0.010	-7.05322	50.00000	Averaged
54 1,4-Dioxane	0.00437	0.00374	0.00374	0.001	-14.48152	50.00000	Averaged
57 Toluene	0.90201	0.90852	0.90852	0.010	0.72183	50.00000	Averaged
58 4-methyl-2-pentanone	0.38983	0.44407	0.44407	0.010	13.91141	50.00000	Averaged
59 Tetrachloroethene	50.00000	51.09155	0.38995	0.010	2.18309	50.00000	Quadratic
60 trans-1,3-Dichloropropene	0.46554	0.41683	0.41683	0.010	-10.46270	50.00000	Averaged
61 1,1,2-Trichloroethane	0.26638	0.26992	0.26992	0.010	1.32990	50.00000	Averaged
62 Dibromochloromethane	0.31629	0.31976	0.31976	0.010	1.09542	50.00000	Averaged
63 1,3-Dichloropropane	0.66460	0.64849	0.64849	0.010	-2.42449	50.00000	Averaged



## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services

**Project :** New Bedford Harbor Superfund Site

**Lab ID :** WG175608-8

**Lab File ID :** P3779.D

**SDG:** SI9749

**Analytical Date:** 12/07/15 20:33

**Instrument ID:** GCMS-P

**Initial Calibration Date(s):** 12/03/15 11:02 12/03/15 13:16

**Column ID:**

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
64 1,2-Dibromoethane	0.31001	0.31997	0.31997	0.010	3.21381	50.00000	Averaged
65 2-Hexanone	0.32358	0.32832	0.32832	0.010	1.46582	50.00000	Averaged
67 Chlorobenzene	1.01813	1.01512	1.01512	0.300	-0.29588	50.00000	Averaged
68 Ethylbenzene	0.57026	0.56624	0.56624	0.010	-0.70517	50.00000	Averaged
69 1,1,1,2-Tetrachloroethane	0.31752	0.30090	0.30090	0.010	-5.23456	50.00000	Averaged
71 m+p-Xylenes	0.69037	0.70882	0.70882	0.010	2.67204	50.00000	Averaged
72 o-Xylene	0.67836	0.68059	0.68059	0.010	0.32900	50.00000	Averaged
73 Styrene	1.16349	1.19336	1.19336	0.010	2.56760	50.00000	Averaged
74 Bromoform	50.00000	43.59708	0.20899	0.100	-12.80584	50.00000	Linear
75 Isopropylbenzene	3.14961	3.10506	3.10506	0.010	-1.41446	50.00000	Averaged
79 Bromobenzene	0.78679	0.76370	0.76370	0.010	-2.93472	50.00000	Averaged
80 N-Propylbenzene	3.84805	3.81779	3.81779	0.010	-0.78632	50.00000	Averaged
81 1,1,2,2-Tetrachloroethane	0.94307	0.92354	0.92354	0.300	-2.07006	50.00000	Averaged
82 1,3,5-Trimethylbenzene	2.68772	2.71357	2.71357	0.010	0.96178	50.00000	Averaged
83 2-Chlorotoluene	2.38108	2.26610	2.26610	0.010	-4.82892	50.00000	Averaged
84 1,2,3-Trichloropropane	0.75234	0.73919	0.73919	0.010	-1.74844	50.00000	Averaged
85 4-Chlorotoluene	2.52612	2.40729	2.40729	0.010	-4.70427	50.00000	Averaged
86 tert-Butylbenzene	2.43839	2.33417	2.33417	0.010	-4.27395	50.00000	Averaged
88 1,2,4-Trimethylbenzene	2.68227	2.72150	2.72150	0.010	1.46265	50.00000	Averaged
89 P-Isopropyltoluene	2.75601	2.81781	2.81781	0.010	2.24239	50.00000	Averaged
90 1,3-Dichlorobenzene	1.51375	1.50411	1.50411	0.010	-0.63658	50.00000	Averaged
92 1,4-Dichlorobenzene	1.58536	1.55483	1.55483	0.010	-1.92574	50.00000	Averaged
93 N-Butylbenzene	2.67688	2.64954	2.64954	0.010	-1.02118	50.00000	Averaged
94 sec-Butylbenzene	3.32575	3.34495	3.34495	0.010	0.57733	50.00000	Averaged
95 1,2-Dichlorobenzene	1.46434	1.44314	1.44314	0.010	-1.44729	50.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	50.00000	38.06247	0.14571	0.010	-23.87507	50.00000	Linear
98 Hexachlorobutadiene	0.32640	0.30779	0.30779	0.010	-5.70303	50.00000	Averaged
99 1,2,4-Trichlorobenzene	0.89497	0.86502	0.86502	0.010	-3.34652	50.00000	Averaged
101 Naphthalene	50.00000	45.42780	1.97178	0.010	-9.14439	50.00000	Linear
102 1,2,3-Trichlorobenzene	0.71923	0.73211	0.73211	0.010	1.79115	50.00000	Averaged
37 Dibromofluoromethane	0.48501	0.47530	0.47530	0.010	-2.00211	50.00000	Averaged
45 1,2-Dichloroethane-D4	0.62845	0.62713	0.62713	0.010	-0.20976	50.00000	Averaged
55 Toluene-D8	1.17696	1.19514	1.19514	0.010	1.54422	50.00000	Averaged
76 P-Bromofluorobenzene	0.50345	0.50500	0.50500	0.010	0.30850	50.00000	Averaged

**Form 7**  
**Calibration Verification Summary**

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab ID :** WG175608-8  
**Lab File ID :** P3779.D  
**Initial Calibration Date(s):** 12/03/15 11:02 12/03/15 13:16

**SDG:** SI9749  
**Analytical Date:** 12/07/15 20:33  
**Instrument ID:** GCMS-P  
**Column ID:**

\* = Compound out of QC criteria

Data File: \\target\_server\gg\chem\gcms-p.i\P120715.b\P3779.D  
 Report Date: 16-Dec-2015 08:42

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3779.D  
 Lab Smp Id: WG175608-8  
 Inj Date : 07-DEC-2015 20:33 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175608-8,SI9749  
 Misc Info : WG175608,WG175386-4,SI9749-1  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 16-Dec-2015 08:42 gcms-p.i Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 23 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

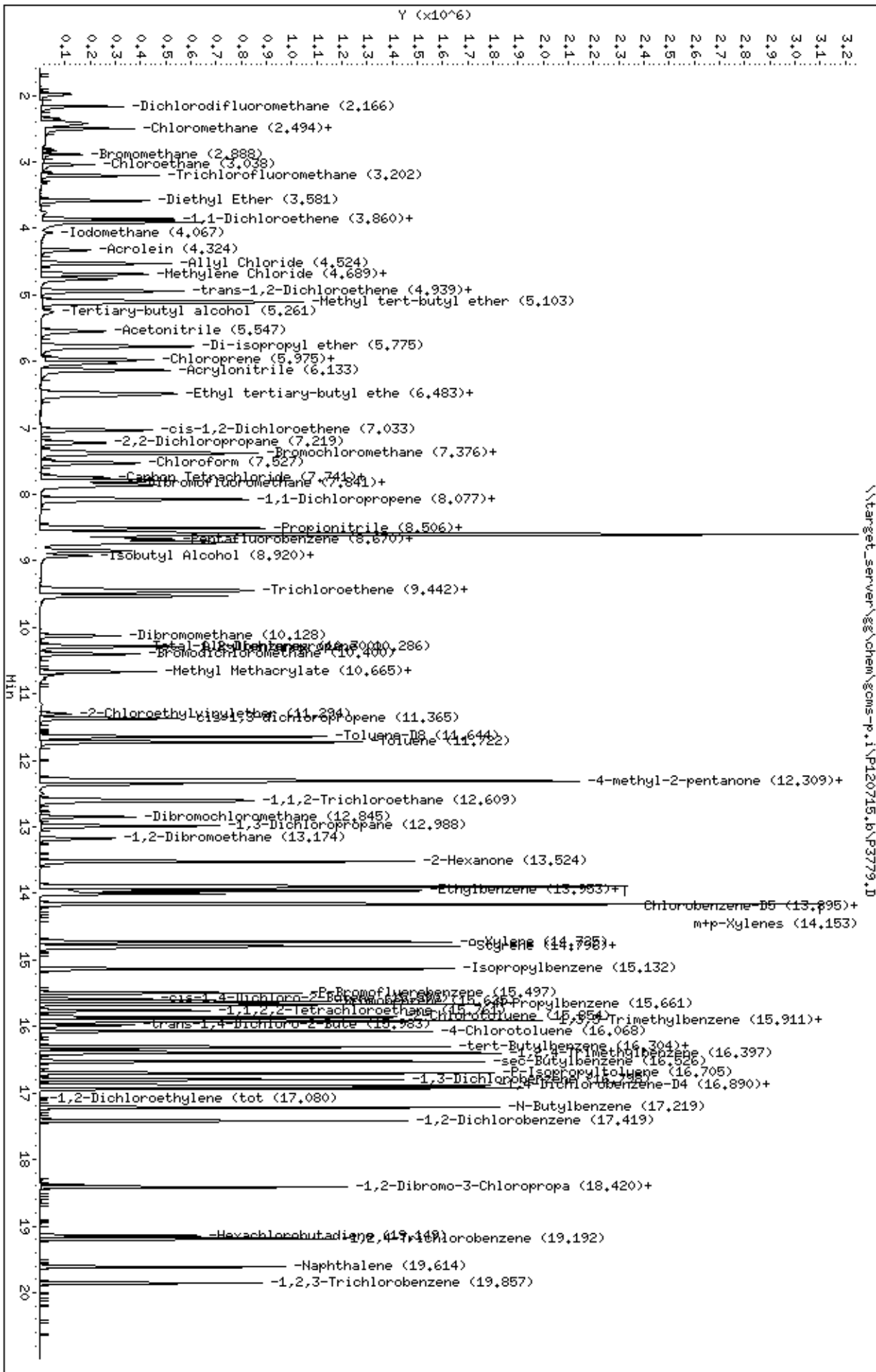
Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS		REVIEW CODE
							CAL-AMT ( ug/l)	ON-COL ( ug/l)	
1 Dichlorodifluoromethane	85		2.165	2.167 (0.250)		258842	50.0000	49.5	
2 Chloromethane	50		2.422	2.424 (0.279)		342234	50.0000	42.6	
3 Vinyl chloride	62		2.494	2.496 (0.288)		323362	50.0000	51.4	
4 Bromomethane	94		2.887	2.889 (0.333)		81383	50.0000	34.7	
5 Chloroethane	64		3.037	3.040 (0.350)		184744	50.0000	55.9	
6 Trichlorofluoromethane	101		3.202	3.204 (0.369)		315230	50.0000	56.5	
7 Diethyl Ether	59		3.580	3.582 (0.413)		220278	50.0000	53.6	
8 Tertiary-butyl alcohol	59		5.260	5.248 (0.607)		80700	250.000	149	
9 1,1-Dichloroethene	96		3.859	3.854 (0.445)		187713	50.0000	47.4	
10 Carbon Disulfide	76		3.909	3.911 (0.451)		614073	50.0000	48.3	
11 Freon-113	151		3.902	3.897 (0.450)		115283	50.0000	49.0	
12 Iodomethane	142		4.066	4.069 (0.469)		83523	50.0000	24.3	
13 Acrolein	56		4.324	4.325 (0.499)		188954	250.000	225	
14 Methylene Chloride	84		4.688	4.691 (0.541)		237522	50.0000	47.4	
15 Acetone	43		4.760	4.762 (0.549)		419591	250.000	202	
16 Isobutyl Alcohol	43		8.920	8.915 (1.029)		149963	1000.00	650	
17 trans-1,2-Dichloroethene	96		4.939	4.933 (0.570)		202048	50.0000	48.9	
18 Allyl Chloride	41		4.524	4.526 (0.522)		371002	50.0000	51.1	
19 Methyl tert-butyl ether	73		5.103	5.098 (0.589)		1275955	100.000	99.4	
20 Acetonitrile	39		5.546	5.541 (0.640)		80098	500.000	500	
21 Di-isopropyl ether	45		5.775	5.777 (0.666)		852154	50.0000	54.6	
22 Chloroprene	53		5.975	5.977 (0.689)		359445	50.0000	52.8	
23 Propionitrile	54		8.570	8.564 (0.988)		428900	500.000	544	
24 Methacrylonitrile	41		8.598	8.601 (0.992)		1831896	500.000	604	

Compounds	QUANT SIG				AMOUNTS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	
25 1,1-Dichloroethane	63	6.025	6.020	(0.695)	381946	50.0000	48.5
26 Acrylonitrile	52	6.132	6.135	(0.707)	451097	250.0000	264
27 Ethyl tertiary-butyl ether	59	6.482	6.477	(0.748)	622981	50.0000	42.5
28 Vinyl Acetate	43	6.518	6.513	(0.684)	507314	50.0000	47.4
29 cis-1,2-Dichloroethene	96	7.033	7.028	(0.811)	237503	50.0000	48.5
M 30 1,2-Dichloroethylene (total)	96				439551	50.0000	(a)
31 Methyl Methacrylate	41	10.664	10.666	(1.119)	242376	50.0000	53.9
32 2,2-Dichloropropane	77	7.226	7.221	(0.833)	185621	50.0000	30.7
33 Bromochloromethane	128	7.383	7.385	(0.852)	89760	50.0000	50.2
34 Chloroform	83	7.526	7.528	(0.868)	356305	50.0000	48.4
35 Carbon Tetrachloride	117	7.741	7.743	(0.812)	204930	50.0000	44.3
36 Tetrahydrofuran	42	7.791	7.786	(0.899)	426951	250.0000	257
\$ 37 Dibromofluoromethane	113	7.841	7.843	(0.904)	173804	50.0000	49.0
38 1,1,1-Trichloroethane	97	7.869	7.871	(0.908)	300324	50.0000	50.5
39 1,1-Dichloropropene	75	8.084	8.086	(0.848)	283339	50.0000	50.1
40 2-Butanone	43	8.069	8.064	(0.931)	649704	250.0000	244
41 Benzene	78	8.505	8.500	(0.893)	894255	50.0000	51.6
* 42 Pentafluorobenzene	168	8.670	8.665	(1.000)	365675	50.0000	
43 Cyclohexane	56	7.369	7.371	(0.850)	374228	50.0000	50.5
44 Ethyl Methacrylate	69	10.664	10.667	(1.119)	170612	50.0000	46.5
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.007)	229326	50.0000	49.9
46 Tertiary-amyl methyl ether	73	8.713	8.715	(1.005)	564797	50.0000	45.1
47 1,2-Dichloroethane	62	8.848	8.843	(0.929)	289558	50.0000	48.4
48 Trichloroethene	95	9.463	9.458	(0.993)	207347	50.0000	52.0
* 49 1,4-Difluorobenzene	114	9.528	9.530	(1.000)	622269	50.0000	
50 Dibromomethane	93	10.128	10.130	(1.063)	128795	50.0000	53.2
51 1,2-Dichloropropane	63	10.285	10.287	(1.080)	224469	50.0000	51.4
52 Bromodichloromethane	83	10.400	10.394	(1.092)	271582	50.0000	51.5
53 cis-1,3-dichloropropene	75	11.372	11.367	(1.194)	318991	50.0000	46.5
54 1,4-Dioxane	88	10.707	10.709	(1.124)	46551	1000.0000	855
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	743696	50.0000	50.8
56 2-Chloroethylvinylether	63	11.293	11.295	(1.185)	53655	50.0000	22.2
57 Toluene	92	11.722	11.724	(1.230)	565343	50.0000	50.4
58 4-methyl-2-pentanone	43	12.308	12.311	(1.292)	1381641	250.0000	285
59 Tetrachloroethene	164	12.287	12.289	(0.885)	228635	50.0000	51.1
60 trans-1,3-Dichloropropene	75	12.358	12.360	(1.297)	259383	50.0000	44.8
61 1,1,2-Trichloroethane	83	12.594	12.596	(1.322)	167963	50.0000	50.7
62 Dibromochloromethane	129	12.844	12.846	(0.925)	187481	50.0000	50.5
63 1,3-Dichloropropane	76	12.987	12.989	(0.935)	380226	50.0000	48.8
64 1,2-Dibromoethane	107	13.173	13.175	(1.383)	199110	50.0000	51.6
65 2-Hexanone	43	13.523	13.519	(0.974)	962524	250.0000	254
* 66 Chlorobenzene-D5	117	13.888	13.890	(1.000)	586325	50.0000	
67 Chlorobenzene	112	13.909	13.911	(1.002)	595189	50.0000	49.8
152 1-Chlorohexane	91	13.895	13.897	(1.000)	315689	50.0000	46.5
68 Ethylbenzene	106	13.959	13.954	(1.005)	332002	50.0000	49.6
69 1,1,1,2-Tetrachloroethane	131	14.002	14.004	(1.008)	176423	50.0000	47.4
M 70 Xylenes (total)	106				1230248	150.0000	(a)
71 m+p-Xylenes	106	14.152	14.155	(1.019)	831200	100.0000	103
72 o-Xylene	106	14.724	14.726	(1.060)	399048	50.0000	50.2
73 Styrene	104	14.796	14.798	(1.065)	699699	50.0000	51.3
74 Bromoform	173	14.824	14.827	(1.067)	122536	50.0000	43.6
75 Isopropylbenzene	105	15.132	15.134	(0.896)	1006608	50.0000	49.3
\$ 76 P-Bromofluorobenzene	95	15.496	15.491	(1.626)	314246	50.0000	50.2
77 cis-1,4-Dichloro-2-Butene	53	15.589	15.584	(0.923)	90934	50.0000	39.6

Compounds	QUANT SIG			AMOUNTS				REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.985	(0.946)	74608	50.0000	41.4	
79 Bromobenzene	156	15.625	15.627	(0.925)	247580	50.0000	48.5	
80 N-Propylbenzene	91	15.661	15.663	(0.927)	1237663	50.0000	49.6	
81 1,1,2,2-Tetrachloroethane	83	15.761	15.763	(0.933)	299397	50.0000	49.0	
82 1,3,5-Trimethylbenzene	105	15.911	15.913	(0.942)	879692	50.0000	50.5	
83 2-Chlorotoluene	91	15.854	15.856	(0.939)	734630	50.0000	47.6	
84 1,2,3-Trichloropropane	75	15.925	15.927	(0.943)	239633	50.0000	49.1	
85 4-Chlorotoluene	91	16.068	16.070	(0.951)	780401	50.0000	47.6	
86 tert-Butylbenzene	119	16.304	16.306	(0.965)	756699	50.0000	47.9	
87 Pentachloroethane	117	16.332	16.335	(0.967)	62305	50.0000	27.1	
88 1,2,4-Trimethylbenzene	105	16.397	16.392	(0.971)	882264	50.0000	50.7	
89 P-Isopropyltoluene	119	16.704	16.706	(0.989)	913487	50.0000	51.1	
90 1,3-Dichlorobenzene	146	16.797	16.799	(0.994)	487607	50.0000	49.7	
* 91 1,4-Dichlorobenzene-D4	152	16.890	16.885	(1.000)	324183	50.0000		
92 1,4-Dichlorobenzene	146	16.904	16.906	(1.001)	504051	50.0000	49.0	
93 N-Butylbenzene	91	17.219	17.221	(1.019)	858937	50.0000	49.5	
94 sec-Butylbenzene	105	16.525	16.527	(0.978)	1084376	50.0000	50.3	
95 1,2-Dichlorobenzene	146	17.419	17.421	(1.031)	467843	50.0000	49.3	
96 1,2-Dibromo-3-Chloropropane	75	18.384	18.386	(1.088)	47237	50.0000	38.1	
97 1,3,5-Trichlorobenzene	180	18.420	18.422	(1.091)	308336	50.0000	49.1	
98 Hexachlorobutadiene	225	19.149	19.151	(1.134)	99779	50.0000	47.1	
99 1,2,4-Trichlorobenzene	180	19.192	19.194	(1.136)	280425	50.0000	48.3	
100 1,2,3-Trimethylbenzene	105	16.933	16.935	(1.003)	917267	50.0000	53.3	
101 Naphthalene	128	19.613	19.616	(1.161)	639216	50.0000	45.4	
102 1,2,3-Trichlorobenzene	180	19.856	19.858	(1.176)	237338	50.0000	50.9	
103 Methyl Acetate	43	4.953	4.955	(0.571)	238709	50.0000	49.9	
104 Methylcyclohexane	83	9.435	9.429	(1.088)	353406	50.0000	52.6	
M 153 Total Alkylbenzenes	100				6613118	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount  
 Below Limit Of Quantitation(BLOQ).



## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab ID :** WG175915-5  
**Lab File ID :** P3844.D  
**Initial Calibration Date(s):** 12/10/15 10:28 12/10/15 15:51

**SDG:** SI9749  
**Analytical Date:** 12/11/15 07:29  
**Instrument ID:** GCMS-P  
**Column ID:**

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1 Dichlorodifluoromethane	0.66081	0.70836	0.70836	0.010	7.19641	20.00000	Averaged
2 Chloromethane	1.14201	1.08027	1.08027	0.100	-5.40653	20.00000	Averaged
3 Vinyl chloride	0.95521	0.95332	0.95332	0.010	-0.19777	20.00000	Averaged
4 Bromomethane	0.32480	0.33462	0.33462	0.010	3.02427	20.00000	Averaged
5 Chloroethane	0.54282	0.53946	0.53946	0.010	-0.61780	20.00000	Averaged
6 Trichlorofluoromethane	0.93221	0.91901	0.91901	0.010	-1.41580	20.00000	Averaged
7 Diethyl Ether	0.64802	0.64072	0.64072	0.010	-1.12567	20.00000	Averaged
9 1,1-Dichloroethene	0.55686	0.54184	0.54184	0.100	-2.69688	20.00000	Averaged
10 Carbon Disulfide	1.99733	2.05889	2.05889	0.010	3.08214	20.00000	Averaged
14 Methylene Chloride	0.73291	0.66842	0.66842	0.010	-8.79956	20.00000	Averaged
15 Acetone	0.30005	0.24231	0.24231	0.010	-19.24152	20.00000	Averaged
17 trans-1,2-Dichloroethene	0.60714	0.58098	0.58098	0.010	-4.30760	20.00000	Averaged
19 Methyl tert-butyl ether	1.75433	1.69145	1.69145	0.010	-3.58440	20.00000	Averaged
21 Di-isopropyl ether	2.42195	2.37244	2.37244	0.010	-2.04423	20.00000	Averaged
25 1,1-Dichloroethane	1.13504	1.11376	1.11376	0.100	-1.87481	20.00000	Averaged
27 Ethyl tertiary-butyl ether	1.64394	1.51353	1.51353	0.010	-7.93269	20.00000	Averaged
29 cis-1,2-Dichloroethene	0.70705	0.67204	0.67204	0.010	-4.95132	20.00000	Averaged
32 2,2-Dichloropropane	0.64815	0.67409	0.67409	0.010	4.00163	20.00000	Averaged
33 Bromochloromethane	0.26767	0.28345	0.28345	0.010	5.89582	20.00000	Averaged
34 Chloroform	1.02800	1.01938	1.01938	0.010	-0.83899	20.00000	Averaged
35 Carbon Tetrachloride	0.32503	0.33445	0.33445	0.010	2.89950	20.00000	Averaged
36 Tetrahydrofuran	0.24308	0.24038	0.24038	0.010	-1.11224	20.00000	Averaged
38 1,1,1-Trichloroethane	0.81165	0.82365	0.82365	0.010	1.47769	20.00000	Averaged
39 1,1-Dichloropropene	0.46660	0.48226	0.48226	0.010	3.35766	20.00000	Averaged
40 2-Butanone	0.38166	0.35579	0.35579	0.010	-6.77912	20.00000	Averaged
41 Benzene	1.47621	1.47886	1.47886	0.010	0.17942	20.00000	Averaged
46 Tertiary-amyl methyl ether	50.00000	43.32708	1.39809	0.010	-13.34584	20.00000	Linear
47 1,2-Dichloroethane	0.49526	0.49230	0.49230	0.010	-0.59913	20.00000	Averaged
48 Trichloroethene	0.34137	0.34308	0.34308	0.010	0.50308	20.00000	Averaged
50 Dibromomethane	0.20797	0.20743	0.20743	0.010	-0.25642	20.00000	Averaged
51 1,2-Dichloropropane	0.37573	0.36765	0.36765	0.010	-2.15155	20.00000	Averaged
52 Bromodichloromethane	0.44662	0.45562	0.45562	0.010	2.01678	20.00000	Averaged
53 cis-1,3-dichloropropene	50.00000	47.14640	0.54659	0.010	-5.70720	20.00000	Linear
54 1,4-Dioxane	0.00553	0.00283	0.00283	0.001	-48.76456	20.00000	Averaged
57 Toluene	0.93488	0.95621	0.95621	0.010	2.28155	20.00000	Averaged
58 4-methyl-2-pentanone	0.41829	0.44181	0.44181	0.010	5.62296	20.00000	Averaged
59 Tetrachloroethene	0.31154	0.27042	0.27042	0.010	-13.19998	20.00000	Averaged
60 trans-1,3-Dichloropropene	50.00000	46.38330	0.44338	0.010	-7.23340	20.00000	Linear
61 1,1,2-Trichloroethane	0.28222	0.28377	0.28377	0.010	0.55201	20.00000	Averaged
62 Dibromochloromethane	0.31660	0.32182	0.32182	0.010	1.64777	20.00000	Averaged
63 1,3-Dichloropropane	0.65179	0.64147	0.64147	0.010	-1.58384	20.00000	Averaged

\*

## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab ID :** WG175915-5  
**Lab File ID :** P3844.D  
**Initial Calibration Date(s):** 12/10/15 10:28 12/10/15 15:51

**SDG:** SI9749  
**Analytical Date:** 12/11/15 07:29  
**Instrument ID:** GCMS-P  
**Column ID:**

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
64 1,2-Dibromoethane	0.31986	0.31777	0.31777	0.010	-0.65403	20.00000	Averaged
65 2-Hexanone	0.31640	0.31498	0.31498	0.010	-0.45151	20.00000	Averaged
67 Chlorobenzene	1.06636	1.03497	1.03497	0.300	-2.94399	20.00000	Averaged
68 Ethylbenzene	0.58365	0.56522	0.56522	0.010	-3.15863	20.00000	Averaged
69 1,1,1,2-Tetrachloroethane	50.00000	46.68084	0.30625	0.010	-6.63831	20.00000	Linear
71 m+p-Xylenes	0.70962	0.72137	0.72137	0.010	1.65590	20.00000	Averaged
72 o-Xylene	0.68952	0.68819	0.68819	0.010	-0.19280	20.00000	Averaged
73 Styrene	1.15779	1.19612	1.19612	0.010	3.31052	20.00000	Averaged
74 Bromoform	50.00000	45.61973	0.21618	0.100	-8.76055	20.00000	Linear
75 Isopropylbenzene	3.11633	3.11576	3.11576	0.010	-0.01819	20.00000	Averaged
79 Bromobenzene	0.81186	0.77223	0.77223	0.010	-4.88124	20.00000	Averaged
80 N-Propylbenzene	3.82008	3.86047	3.86047	0.010	1.05732	20.00000	Averaged
81 1,1,2,2-Tetrachloroethane	0.91549	0.90704	0.90704	0.300	-0.92332	20.00000	Averaged
82 1,3,5-Trimethylbenzene	2.68191	2.72488	2.72488	0.010	1.60249	20.00000	Averaged
83 2-Chlorotoluene	2.32492	2.28331	2.28331	0.010	-1.78993	20.00000	Averaged
84 1,2,3-Trichloropropane	0.74824	0.71461	0.71461	0.010	-4.49398	20.00000	Averaged
85 4-Chlorotoluene	2.48405	2.43459	2.43459	0.010	-1.99125	20.00000	Averaged
86 tert-Butylbenzene	2.48468	2.55879	2.55879	0.010	2.98276	20.00000	Averaged
88 1,2,4-Trimethylbenzene	2.67446	2.68741	2.68741	0.010	0.48426	20.00000	Averaged
89 P-Isopropyltoluene	2.75844	2.85897	2.85897	0.010	3.64458	20.00000	Averaged
90 1,3-Dichlorobenzene	1.55078	1.49340	1.49340	0.010	-3.69993	20.00000	Averaged
92 1,4-Dichlorobenzene	1.64380	1.56487	1.56487	0.010	-4.80198	20.00000	Averaged
93 N-Butylbenzene	2.67775	2.71682	2.71682	0.010	1.45904	20.00000	Averaged
94 sec-Butylbenzene	3.28958	3.31826	3.31826	0.010	0.87207	20.00000	Averaged
95 1,2-Dichlorobenzene	1.46424	1.43028	1.43028	0.010	-2.31895	20.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	0.15349	0.14140	0.14140	0.010	-7.87560	20.00000	Averaged
98 Hexachlorobutadiene	0.34423	0.29553	0.29553	0.010	-14.14580	20.00000	Averaged
99 1,2,4-Trichlorobenzene	0.87863	0.83638	0.83638	0.010	-4.80817	20.00000	Averaged
101 Naphthalene	50.00000	44.62713	1.77825	0.010	-10.74573	20.00000	Linear
102 1,2,3-Trichlorobenzene	0.70268	0.65777	0.65777	0.010	-6.39206	20.00000	Averaged
37 Dibromofluoromethane	0.48378	0.48120	0.48120	0.010	-0.53322	20.00000	Averaged
45 1,2-Dichloroethane-D4	0.64665	0.63623	0.63623	0.010	-1.61054	20.00000	Averaged
55 Toluene-D8	1.18762	1.19978	1.19978	0.010	1.02433	20.00000	Averaged
76 P-Bromofluorobenzene	0.50480	0.52003	0.52003	0.010	3.01648	20.00000	Averaged



**Form 7**  
**Calibration Verification Summary**

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab ID :** WG175915-5  
**Lab File ID :** P3844.D  
**Initial Calibration Date(s):** 12/10/15 10:28 12/10/15 15:51

**SDG:** SI9749  
**Analytical Date:** 12/11/15 07:29  
**Instrument ID:** GCMS-P  
**Column ID:**

\* = Compound out of QC criteria

Data File: \\target\_server\gg\chem\gcms-p.i\P121115.b\P3844.D  
 Report Date: 20-Jan-2016 10:13

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121115.b\P3844.D  
 Lab Smp Id: WG175915-5  
 Inj Date : 11-DEC-2015 07:29 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175915-5,SI9749  
 Misc Info : WG175915,WG176143-4,SI9749-6  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121115.b\P826A21.m  
 Meth Date : 20-Jan-2016 10:07 gcms-p.i Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:48 Cal File: P3837.D  
 Als bottle: 1 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS		REVIEW CODE
							CAL-AMT ( ug/l)	ON-COL ( ug/l)	
1 Dichlorodifluoromethane	85		2.167	2.168	(0.250)	252377	50.0000	53.6	
2 Chloromethane	50		2.424	2.418	(0.280)	384881	50.0000	47.3	
3 Vinyl chloride	62		2.495	2.497	(0.288)	339650	50.0000	49.9	
4 Bromomethane	94		2.888	2.883	(0.333)	119220	50.0000	51.5	
5 Chloroethane	64		3.039	3.040	(0.351)	192201	50.0000	49.7	
6 Trichlorofluoromethane	101		3.203	3.205	(0.370)	327428	50.0000	49.3	
7 Diethyl Ether	59		3.582	3.583	(0.413)	228278	50.0000	49.4	
8 Tertiary-butyl alcohol	59		5.254	5.257	(0.606)	55563	250.000	202	
9 1,1-Dichloroethene	96		3.853	3.855	(0.445)	193047	50.0000	48.6	
10 Carbon Disulfide	76		3.911	3.912	(0.451)	733544	50.0000	51.5	
11 Freon-113	151		3.903	3.898	(0.451)	134764	50.0000	53.7	
12 Iodomethane	142		4.068	4.062	(0.470)	137541	50.0000	43.0	
13 Acrolein	56		4.325	4.327	(0.499)	228711	250.000	249	
14 Methylene Chloride	84		4.683	4.684	(0.540)	238146	50.0000	45.6	
15 Acetone	43		4.754	4.756	(0.549)	431658	250.000	202	
16 Isobutyl Alcohol	43		8.921	8.916	(1.030)	119089	1000.00	891	
17 trans-1,2-Dichloroethene	96		4.933	4.934	(0.569)	206994	50.0000	47.8	
18 Allyl Chloride	41		4.525	4.520	(0.522)	413648	50.0000	51.1	
19 Methyl tert-butyl ether	73		5.097	5.099	(0.588)	1205266	100.000	96.4	
20 Acetonitrile	39		5.548	5.542	(0.640)	77325	500.000	467	
21 Di-isopropyl ether	45		5.776	5.771	(0.667)	845257	50.0000	49.0	
22 Chloroprene	53		5.969	5.971	(0.689)	380922	50.0000	51.9	
23 Propionitrile	54		8.564	8.566	(0.988)	413386	500.000	491	
24 Methacrylonitrile	41		8.600	8.601	(0.993)	1842093	500.000	506	

Compounds	QUANT SIG				AMOUNTS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	
25 1,1-Dichloroethane	63	6.019	6.021	(0.695)	396813	50.0000	49.1
26 Acrylonitrile	52	6.127	6.128	(0.707)	451299	250.0000	240
27 Ethyl tertiary-butyl ether	59	6.477	6.478	(0.748)	539243	50.0000	46.0
28 Vinyl Acetate	43	6.512	6.515	(0.683)	522491	50.0000	45.7
29 cis-1,2-Dichloroethene	96	7.027	7.029	(0.811)	239436	50.0000	47.5
M 30 1,2-Dichloroethylene (total)	96				446430	50.0000	(a)
31 Methyl Methacrylate	41	10.665	10.660	(1.119)	229963	50.0000	49.3
32 2,2-Dichloropropane	77	7.220	7.222	(0.833)	240166	50.0000	52.0
33 Bromochloromethane	128	7.385	7.386	(0.852)	100988	50.0000	52.9
34 Chloroform	83	7.520	7.522	(0.868)	363185	50.0000	49.6
35 Carbon Tetrachloride	117	7.742	7.744	(0.812)	204720	50.0000	51.4
36 Tetrahydrofuran	42	7.785	7.786	(0.899)	428216	250.0000	247
\$ 37 Dibromofluoromethane	113	7.842	7.844	(0.905)	171443	50.0000	49.7
38 1,1,1-Trichloroethane	97	7.871	7.865	(0.908)	293450	50.0000	50.7
39 1,1-Dichloropropene	75	8.085	8.080	(0.848)	295196	50.0000	51.7
40 2-Butanone	43	8.064	8.065	(0.931)	633810	250.0000	233
41 Benzene	78	8.500	8.501	(0.892)	905217	50.0000	50.1
* 42 Pentafluorobenzene	168	8.664	8.666	(1.000)	356282	50.0000	
43 Cyclohexane	56	7.370	7.372	(0.851)	426657	50.0000	52.8
44 Ethyl Methacrylate	69	10.665	10.668	(1.119)	163827	50.0000	45.2
\$ 45 1,2-Dichloroethane-D4	65	8.736	8.737	(1.008)	226679	50.0000	49.2
46 Tertiary-amyl methyl ether	73	8.714	8.715	(1.006)	498116	50.0000	43.3
47 1,2-Dichloroethane	62	8.843	8.844	(0.928)	301337	50.0000	49.7
48 Trichloroethene	95	9.457	9.459	(0.993)	210004	50.0000	50.2
* 49 1,4-Difluorobenzene	114	9.529	9.523	(1.000)	612105	50.0000	
50 Dibromomethane	93	10.129	10.124	(1.063)	126972	50.0000	49.9
51 1,2-Dichloropropane	63	10.287	10.288	(1.080)	225039	50.0000	48.9
52 Bromodichloromethane	83	10.394	10.395	(1.091)	278889	50.0000	51.0
53 cis-1,3-dichloropropene	75	11.366	11.368	(1.193)	334568	50.0000	47.1
54 1,4-Dioxane	88	10.708	10.710	(1.124)	34683	1000.00	512
\$ 55 Toluene-D8	98	11.645	11.646	(1.222)	734392	50.0000	50.5
56 2-Chloroethylvinylether	63	11.295	11.296	(1.185)	94250	50.0000	58.8
57 Toluene	92	11.723	11.718	(1.230)	585303	50.0000	51.1
58 4-methyl-2-pentanone	43	12.310	12.311	(1.292)	1352184	250.0000	264
59 Tetrachloroethene	164	12.288	12.290	(0.885)	160220	50.0000	43.4
60 trans-1,3-Dichloropropene	75	12.360	12.355	(1.297)	271394	50.0000	46.4
61 1,1,2-Trichloroethane	83	12.588	12.590	(1.321)	173699	50.0000	50.3
62 Dibromochloromethane	129	12.846	12.847	(0.925)	190673	50.0000	50.8
63 1,3-Dichloropropane	76	12.989	12.983	(0.935)	380063	50.0000	49.2
64 1,2-Dibromoethane	107	13.174	13.176	(1.383)	194508	50.0000	49.7
65 2-Hexanone	43	13.518	13.519	(0.973)	933102	250.0000	249
* 66 Chlorobenzene-D5	117	13.889	13.891	(1.000)	592491	50.0000	
67 Chlorobenzene	112	13.911	13.912	(1.002)	613209	50.0000	48.5
152 1-Chlorohexane	91	13.896	13.891	(1.000)	333895	50.0000	50.0
68 Ethylbenzene	106	13.954	13.955	(1.005)	334885	50.0000	48.4
69 1,1,1,2-Tetrachloroethane	131	14.004	14.006	(1.008)	181450	50.0000	46.7
M 70 Xylenes (total)	106				1262551	150.0000	(a)
71 m+p-Xylenes	106	14.154	14.155	(1.019)	854807	100.0000	102
72 o-Xylene	106	14.726	14.720	(1.060)	407744	50.0000	49.9
73 Styrene	104	14.797	14.791	(1.065)	708688	50.0000	51.6
74 Bromoform	173	14.826	14.828	(1.067)	128084	50.0000	45.6
75 Isopropylbenzene	105	15.133	15.135	(0.896)	1030903	50.0000	50.0
\$ 76 P-Bromofluorobenzene	95	15.490	15.492	(1.626)	318312	50.0000	51.5
77 cis-1,4-Dichloro-2-Butene	53	15.583	15.585	(0.923)	100130	50.0000	44.3

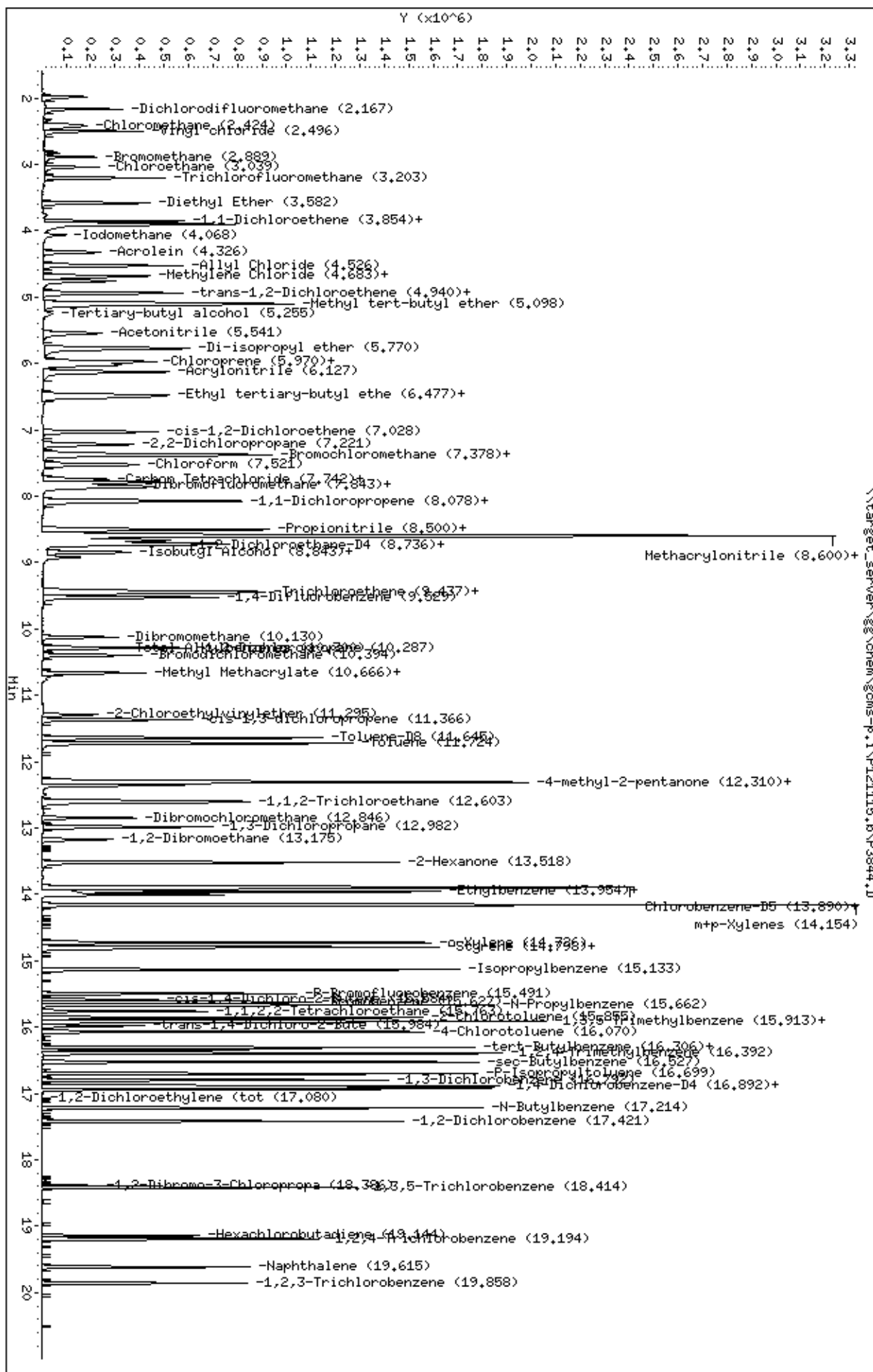
Compounds	QUANT SIG			REL RT	RESPONSE	AMOUNTS		REVIEW CODE
	MASS	RT	EXP RT			CAL-AMT ( ug/l)	ON-COL ( ug/l)	
78 trans-1,4-Dichloro-2-Butene	53	15.984	15.979	(0.947)	83433	50.0000	47.5	
79 Bromobenzene	156	15.626	15.621	(0.925)	255505	50.0000	47.6	
80 N-Propylbenzene	91	15.662	15.664	(0.928)	1277303	50.0000	50.5	
81 1,1,2,2-Tetrachloroethane	83	15.762	15.756	(0.934)	300110	50.0000	49.5	
82 1,3,5-Trimethylbenzene	105	15.912	15.907	(0.942)	901574	50.0000	50.8	
83 2-Chlorotoluene	91	15.855	15.857	(0.939)	755472	50.0000	49.1	
84 1,2,3-Trichloropropane	75	15.926	15.928	(0.943)	236442	50.0000	47.8	
85 4-Chlorotoluene	91	16.069	16.064	(0.952)	805524	50.0000	49.0	
86 tert-Butylbenzene	119	16.305	16.307	(0.966)	846620	50.0000	51.5	
87 Pentachloroethane	117	16.334	16.335	(0.967)	162453	50.0000	49.0	
88 1,2,4-Trimethylbenzene	105	16.391	16.393	(0.971)	889175	50.0000	50.2	
89 P-Isopropyltoluene	119	16.706	16.700	(0.989)	945940	50.0000	51.8	
90 1,3-Dichlorobenzene	146	16.798	16.793	(0.995)	494116	50.0000	48.2	
* 91 1,4-Dichlorobenzene-D4	152	16.884	16.886	(1.000)	330867	50.0000		
92 1,4-Dichlorobenzene	146	16.906	16.907	(1.001)	517763	50.0000	47.6	
93 N-Butylbenzene	91	17.213	17.215	(1.019)	898907	50.0000	50.7	
94 sec-Butylbenzene	105	16.527	16.528	(0.979)	1097904	50.0000	50.4	
95 1,2-Dichlorobenzene	146	17.420	17.422	(1.032)	473234	50.0000	48.8	
96 1,2-Dibromo-3-Chloropropane	75	18.385	18.387	(1.089)	46786	50.0000	46.1	
97 1,3,5-Trichlorobenzene	180	18.414	18.416	(1.091)	320573	50.0000	46.0	
98 Hexachlorobutadiene	225	19.150	19.145	(1.134)	97782	50.0000	42.9	
99 1,2,4-Trichlorobenzene	180	19.193	19.195	(1.137)	276731	50.0000	47.6	
100 1,2,3-Trimethylbenzene	105	16.934	16.929	(1.003)	933712	50.0000	49.8	
101 Naphthalene	128	19.615	19.610	(1.162)	588363	50.0000	44.6	
102 1,2,3-Trichlorobenzene	180	19.858	19.859	(1.176)	217634	50.0000	46.8	
103 Methyl Acetate	43	4.947	4.949	(0.571)	233260	50.0000	45.9	
104 Methylcyclohexane	83	9.436	9.430	(1.089)	377512	50.0000	53.4	
M 153 Total Alkylbenzenes	100				6857423	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount  
 Below Limit Of Quantitation(BLOQ).

Data File: \\target\_server\chem\goms-p.i\P121115.b\3844.D  
 Date: 11-DEC-2015 07:29  
 Client ID:  
 Sample Info: M0175915-5, S19749  
 Purge Volume: 5.0  
 Column phase: RTX-VHS

Instrument: goms-p.i  
 Operator: AAB  
 Column diameter: 0.18



## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab ID :** WG175915-6  
**Lab File ID :** P3862.D  
**Initial Calibration Date(s):** 12/10/15 10:28 12/10/15 15:51

**SDG:** SI9749  
**Analytical Date:** 12/11/15 16:37  
**Instrument ID:** GCMS-P  
**Column ID:**

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1 Dichlorodifluoromethane	0.66081	0.61601	0.61601	0.010	-6.77940	50.00000	Averaged
2 Chloromethane	1.14201	0.97097	0.97097	0.100	-14.97769	50.00000	Averaged
3 Vinyl chloride	0.95521	0.92108	0.92108	0.010	-3.57233	50.00000	Averaged
4 Bromomethane	0.32480	0.27574	0.27574	0.010	-15.10312	50.00000	Averaged
5 Chloroethane	0.54282	0.54806	0.54806	0.010	0.96671	50.00000	Averaged
6 Trichlorofluoromethane	0.93221	0.91931	0.91931	0.010	-1.38399	50.00000	Averaged
7 Diethyl Ether	0.64802	0.60076	0.60076	0.010	-7.29305	50.00000	Averaged
9 1,1-Dichloroethene	0.55686	0.51894	0.51894	0.100	-6.80868	50.00000	Averaged
10 Carbon Disulfide	1.99733	1.92988	1.92988	0.010	-3.37694	50.00000	Averaged
14 Methylene Chloride	0.73291	0.66773	0.66773	0.010	-8.89368	50.00000	Averaged
15 Acetone	0.30005	0.23995	0.23995	0.010	-20.03014	50.00000	Averaged
17 trans-1,2-Dichloroethene	0.60714	0.55528	0.55528	0.010	-8.54149	50.00000	Averaged
19 Methyl tert-butyl ether	1.75433	1.47149	1.47149	0.010	-16.12268	50.00000	Averaged
21 Di-isopropyl ether	2.42195	2.33951	2.33951	0.010	-3.40392	50.00000	Averaged
25 1,1-Dichloroethane	1.13504	1.08646	1.08646	0.100	-4.27974	50.00000	Averaged
27 Ethyl tertiary-butyl ether	1.64394	1.16391	1.16391	0.010	-29.19977	50.00000	Averaged
29 cis-1,2-Dichloroethene	0.70705	0.67111	0.67111	0.010	-5.08346	50.00000	Averaged
32 2,2-Dichloropropane	0.64815	0.38062	0.38062	0.010	-41.27667	50.00000	Averaged
33 Bromochloromethane	0.26767	0.26502	0.26502	0.010	-0.99013	50.00000	Averaged
34 Chloroform	1.02800	0.99618	0.99618	0.010	-3.09536	50.00000	Averaged
35 Carbon Tetrachloride	0.32503	0.30645	0.30645	0.010	-5.71449	50.00000	Averaged
36 Tetrahydrofuran	0.24308	0.26305	0.26305	0.010	8.21427	50.00000	Averaged
38 1,1,1-Trichloroethane	0.81165	0.75075	0.75075	0.010	-7.50292	50.00000	Averaged
39 1,1-Dichloropropene	0.46660	0.47436	0.47436	0.010	1.66349	50.00000	Averaged
40 2-Butanone	0.38166	0.38252	0.38252	0.010	0.22279	50.00000	Averaged
41 Benzene	1.47621	1.47132	1.47132	0.010	-0.33120	50.00000	Averaged
46 Tertiary-amyl methyl ether	50.00000	35.30679	1.12355	0.010	-29.38642	50.00000	Linear
47 1,2-Dichloroethane	0.49526	0.50193	0.50193	0.010	1.34698	50.00000	Averaged
48 Trichloroethene	0.34137	0.33933	0.33933	0.010	-0.59830	50.00000	Averaged
50 Dibromomethane	0.20797	0.21181	0.21181	0.010	1.84942	50.00000	Averaged
51 1,2-Dichloropropane	0.37573	0.37983	0.37983	0.010	1.09117	50.00000	Averaged
52 Bromodichloromethane	0.44662	0.45140	0.45140	0.010	1.07164	50.00000	Averaged
53 cis-1,3-dichloropropene	50.00000	42.50856	0.48970	0.010	-14.98289	50.00000	Linear
54 1,4-Dioxane	0.00553	0.00335	0.00335	0.001	-39.36467	50.00000	Averaged
57 Toluene	0.93488	0.93828	0.93828	0.010	0.36296	50.00000	Averaged
58 4-methyl-2-pentanone	0.41829	0.48299	0.48299	0.010	15.46785	50.00000	Averaged
59 Tetrachloroethene	0.31154	0.28947	0.28947	0.010	-7.08437	50.00000	Averaged
60 trans-1,3-Dichloropropene	50.00000	40.35658	0.38185	0.010	-19.28683	50.00000	Linear
61 1,1,2-Trichloroethane	0.28222	0.28780	0.28780	0.010	1.97994	50.00000	Averaged
62 Dibromochloromethane	0.31660	0.32042	0.32042	0.010	1.20552	50.00000	Averaged
63 1,3-Dichloropropane	0.65179	0.65897	0.65897	0.010	1.10167	50.00000	Averaged

## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab ID :** WG175915-6  
**Lab File ID :** P3862.D  
**Initial Calibration Date(s):** 12/10/15 10:28 12/10/15 15:51  
**SDG:** SI9749  
**Analytical Date:** 12/11/15 16:37  
**Instrument ID:** GCMS-P  
**Column ID:**

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
64 1,2-Dibromoethane	0.31986	0.31680	0.31680	0.010	-0.95559	50.00000	Averaged
65 2-Hexanone	0.31640	0.35097	0.35097	0.010	10.92339	50.00000	Averaged
67 Chlorobenzene	1.06636	1.03802	1.03802	0.300	-2.65750	50.00000	Averaged
68 Ethylbenzene	0.58365	0.57785	0.57785	0.010	-0.99379	50.00000	Averaged
69 1,1,1,2-Tetrachloroethane	50.00000	45.54327	0.29858	0.010	-8.91345	50.00000	Linear
71 m+p-Xylenes	0.70962	0.73163	0.73163	0.010	3.10227	50.00000	Averaged
72 o-Xylene	0.68952	0.68411	0.68411	0.010	-0.78458	50.00000	Averaged
73 Styrene	1.15779	1.22711	1.22711	0.010	5.98740	50.00000	Averaged
74 Bromoform	50.00000	44.39931	0.21005	0.100	-11.20138	50.00000	Linear
75 Isopropylbenzene	3.11633	3.08382	3.08382	0.010	-1.04325	50.00000	Averaged
79 Bromobenzene	0.81186	0.76759	0.76759	0.010	-5.45263	50.00000	Averaged
80 N-Propylbenzene	3.82008	3.88398	3.88398	0.010	1.67274	50.00000	Averaged
81 1,1,2,2-Tetrachloroethane	0.91549	0.97476	0.97476	0.300	6.47399	50.00000	Averaged
82 1,3,5-Trimethylbenzene	2.68191	2.73709	2.73709	0.010	2.05765	50.00000	Averaged
83 2-Chlorotoluene	2.32492	2.25641	2.25641	0.010	-2.94697	50.00000	Averaged
84 1,2,3-Trichloropropane	0.74824	0.73621	0.73621	0.010	-1.60825	50.00000	Averaged
85 4-Chlorotoluene	2.48405	2.43618	2.43618	0.010	-1.92719	50.00000	Averaged
86 tert-Butylbenzene	2.48468	2.47921	2.47921	0.010	-0.22022	50.00000	Averaged
88 1,2,4-Trimethylbenzene	2.67446	2.68588	2.68588	0.010	0.42711	50.00000	Averaged
89 P-Isopropyltoluene	2.75844	2.81174	2.81174	0.010	1.93209	50.00000	Averaged
90 1,3-Dichlorobenzene	1.55078	1.46918	1.46918	0.010	-5.26166	50.00000	Averaged
92 1,4-Dichlorobenzene	1.64380	1.56392	1.56392	0.010	-4.85933	50.00000	Averaged
93 N-Butylbenzene	2.67775	2.68016	2.68016	0.010	0.08983	50.00000	Averaged
94 sec-Butylbenzene	3.28958	3.32831	3.32831	0.010	1.17749	50.00000	Averaged
95 1,2-Dichlorobenzene	1.46424	1.42591	1.42591	0.010	-2.61803	50.00000	Averaged
96 1,2-Dibromo-3-Chloropropane	0.15349	0.13489	0.13489	0.010	-12.12266	50.00000	Averaged
98 Hexachlorobutadiene	0.34423	0.27081	0.27081	0.010	-21.32667	50.00000	Averaged
99 1,2,4-Trichlorobenzene	0.87863	0.79566	0.79566	0.010	-9.44326	50.00000	Averaged
101 Naphthalene	50.00000	44.17258	1.75940	0.010	-11.65484	50.00000	Linear
102 1,2,3-Trichlorobenzene	0.70268	0.64504	0.64504	0.010	-8.20342	50.00000	Averaged
37 Dibromofluoromethane	0.48378	0.47702	0.47702	0.010	-1.39710	50.00000	Averaged
45 1,2-Dichloroethane-D4	0.64665	0.65449	0.65449	0.010	1.21242	50.00000	Averaged
55 Toluene-D8	1.18762	1.22292	1.22292	0.010	2.97246	50.00000	Averaged
76 P-Bromofluorobenzene	0.50480	0.50936	0.50936	0.010	0.90240	50.00000	Averaged

**Form 7**  
**Calibration Verification Summary**

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Lab ID :** WG175915-6  
**Lab File ID :** P3862.D  
**Initial Calibration Date(s):** 12/10/15 10:28 12/10/15 15:51

**SDG:** SI9749  
**Analytical Date:** 12/11/15 16:37  
**Instrument ID:** GCMS-P  
**Column ID:**

\* = Compound out of QC criteria



Data File: \\target\_server\gg\chem\gcms-p.i\P121115.b\P3862.D  
 Report Date: 21-Jan-2016 11:25

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121115.b\P3862.D  
 Lab Smp Id: WG175915-6  
 Inj Date : 11-DEC-2015 16:37 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175915-6,SI9749  
 Misc Info : WG175915,WG176143-4,SI9749-6  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121115.b\P826A21.m  
 Meth Date : 21-Jan-2016 11:25 gcms-p.i Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:48 Cal File: P3837.D  
 Als bottle: 19 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	AMOUNTS		REVIEW CODE
							CAL-AMT ( ug/l)	ON-COL ( ug/l)	
1 Dichlorodifluoromethane	85		2.165	2.168 (0.250)		212195	50.0000	46.6	
2 Chloromethane	50		2.415	2.418 (0.279)		334466	50.0000	42.5	
3 Vinyl chloride	62		2.501	2.497 (0.289)		317283	50.0000	48.2	
4 Bromomethane	94		2.887	2.883 (0.333)		94985	50.0000	42.4	
5 Chloroethane	64		3.037	3.040 (0.350)		188790	50.0000	50.5	
6 Trichlorofluoromethane	101		3.201	3.205 (0.369)		316672	50.0000	49.3	
7 Diethyl Ether	59		3.587	3.583 (0.414)		206941	50.0000	46.4	
8 Tertiary-butyl alcohol	59		5.260	5.257 (0.607)		46098	250.000	173	
9 1,1-Dichloroethene	96		3.859	3.855 (0.445)		178758	50.0000	46.6	
10 Carbon Disulfide	76		3.909	3.912 (0.451)		664779	50.0000	48.3	
11 Freon-113	151		3.902	3.898 (0.450)		116485	50.0000	48.0	
12 Iodomethane	142		4.066	4.062 (0.469)		121869	50.0000	39.1	
13 Acrolein	56		4.324	4.327 (0.499)		206013	250.000	232	
14 Methylene Chloride	84		4.688	4.684 (0.541)		230011	50.0000	45.6	
15 Acetone	43		4.760	4.756 (0.549)		413268	250.000	200	
16 Isobutyl Alcohol	43		8.920	8.916 (1.029)		116461	1000.00	902	
17 trans-1,2-Dichloroethene	96		4.938	4.934 (0.570)		191275	50.0000	45.7	
18 Allyl Chloride	41		4.524	4.520 (0.522)		365807	50.0000	46.7	
19 Methyl tert-butyl ether	73		5.103	5.099 (0.589)		1013757	100.000	83.9	
20 Acetonitrile	39		5.546	5.542 (0.640)		84320	500.000	527	
21 Di-isopropyl ether	45		5.782	5.771 (0.667)		805883	50.0000	48.3	
22 Chloroprene	53		5.975	5.971 (0.689)		363577	50.0000	51.2	
23 Propionitrile	54		8.570	8.566 (0.988)		435134	500.000	534	
24 Methacrylonitrile	41		8.598	8.601 (0.992)		1925905	500.000	548	

Compounds	QUANT SIG				AMOUNTS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
25 1,1-Dichloroethane	63	6.025	6.021	(0.695)	374251	50.0000	47.9	
26 Acrylonitrile	52	6.132	6.128	(0.707)	459599	250.0000	253	
27 Ethyl tertiary-butyl ether	59	6.482	6.478	(0.748)	400929	50.0000	35.4	
28 Vinyl Acetate	43	6.518	6.515	(0.684)	463038	50.0000	42.6	
29 cis-1,2-Dichloroethene	96	7.033	7.029	(0.811)	231174	50.0000	47.4	
M 30 1,2-Dichloroethylene (total)	96				422449	50.0000	(a)	
31 Methyl Methacrylate	41	10.664	10.660	(1.119)	231952	50.0000	52.1	
32 2,2-Dichloropropane	77	7.226	7.222	(0.833)	131110	50.0000	29.4	
33 Bromochloromethane	128	7.383	7.386	(0.852)	91290	50.0000	49.5	
34 Chloroform	83	7.526	7.522	(0.868)	343151	50.0000	48.4	
35 Carbon Tetrachloride	117	7.748	7.744	(0.813)	179077	50.0000	47.1	
36 Tetrahydrofuran	42	7.790	7.786	(0.899)	453063	250.0000	270	
\$ 37 Dibromofluoromethane	113	7.841	7.844	(0.904)	164318	50.0000	49.3	
38 1,1,1-Trichloroethane	97	7.869	7.865	(0.908)	258610	50.0000	46.2	
39 1,1-Dichloropropene	75	8.084	8.080	(0.848)	277192	50.0000	50.8	
40 2-Butanone	43	8.069	8.065	(0.931)	658819	250.0000	250	
41 Benzene	78	8.505	8.501	(0.893)	859768	50.0000	49.8	
* 42 Pentafluorobenzene	168	8.670	8.666	(1.000)	344467	50.0000		
43 Cyclohexane	56	7.376	7.372	(0.851)	405866	50.0000	52.0	
44 Ethyl Methacrylate	69	10.664	10.668	(1.119)	157757	50.0000	45.5	
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.007)	225450	50.0000	50.6	
46 Tertiary-amyl methyl ether	73	8.713	8.715	(1.005)	387025	50.0000	35.3	
47 1,2-Dichloroethane	62	8.848	8.844	(0.929)	293306	50.0000	50.7	
48 Trichloroethene	95	9.463	9.459	(0.993)	198285	50.0000	49.7	
* 49 1,4-Difluorobenzene	114	9.527	9.523	(1.000)	584351	50.0000		
50 Dibromomethane	93	10.128	10.124	(1.063)	123774	50.0000	50.9	
51 1,2-Dichloropropane	63	10.285	10.288	(1.080)	221955	50.0000	50.5	
52 Bromodichloromethane	83	10.400	10.395	(1.092)	263777	50.0000	50.5	
53 cis-1,3-dichloropropene	75	11.372	11.368	(1.194)	286155	50.0000	42.5	
54 1,4-Dioxane	88	10.714	10.710	(1.125)	39185	1000.00	606	
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	714613	50.0000	51.5	
56 2-Chloroethylvinylether	63	11.300	11.296	(1.186)	78767	50.0000	51.5	
57 Toluene	92	11.722	11.718	(1.230)	548283	50.0000	50.2	
58 4-methyl-2-pentanone	43	12.308	12.311	(1.292)	1411193	250.0000	289	
59 Tetrachloroethene	164	12.287	12.290	(0.885)	161725	50.0000	46.4	
60 trans-1,3-Dichloropropene	75	12.358	12.355	(1.297)	223137	50.0000	40.4	
61 1,1,2-Trichloroethane	83	12.594	12.590	(1.322)	168178	50.0000	51.0	
62 Dibromochloromethane	129	12.844	12.847	(0.925)	179014	50.0000	50.6	
63 1,3-Dichloropropane	76	12.987	12.983	(0.935)	368162	50.0000	50.6	
64 1,2-Dibromoethane	107	13.173	13.176	(1.383)	185125	50.0000	49.5	
65 2-Hexanone	43	13.523	13.519	(0.974)	980413	250.0000	277	
* 66 Chlorobenzene-D5	117	13.888	13.891	(1.000)	558693	50.0000		
67 Chlorobenzene	112	13.909	13.912	(1.002)	579936	50.0000	48.7	
152 1-Chlorohexane	91	13.895	13.891	(1.000)	303660	50.0000	48.2	
68 Ethylbenzene	106	13.959	13.955	(1.005)	322841	50.0000	49.5	
69 1,1,1,2-Tetrachloroethane	131	14.002	14.006	(1.008)	166815	50.0000	45.5	
M 70 Xylenes (total)	106				1199719	150.0000	(a)	
71 m+p-Xylenes	106	14.159	14.155	(1.020)	817514	100.0000	103	
72 o-Xylene	106	14.724	14.720	(1.060)	382205	50.0000	49.6	
73 Styrene	104	14.796	14.791	(1.065)	685577	50.0000	53.0	
74 Bromoform	173	14.824	14.828	(1.067)	117352	50.0000	44.4	
75 Isopropylbenzene	105	15.131	15.135	(0.896)	972183	50.0000	49.5	
\$ 76 P-Bromofluorobenzene	95	15.496	15.492	(1.626)	297643	50.0000	50.4	
77 cis-1,4-Dichloro-2-Butene	53	15.589	15.585	(0.923)	85901	50.0000	40.3	

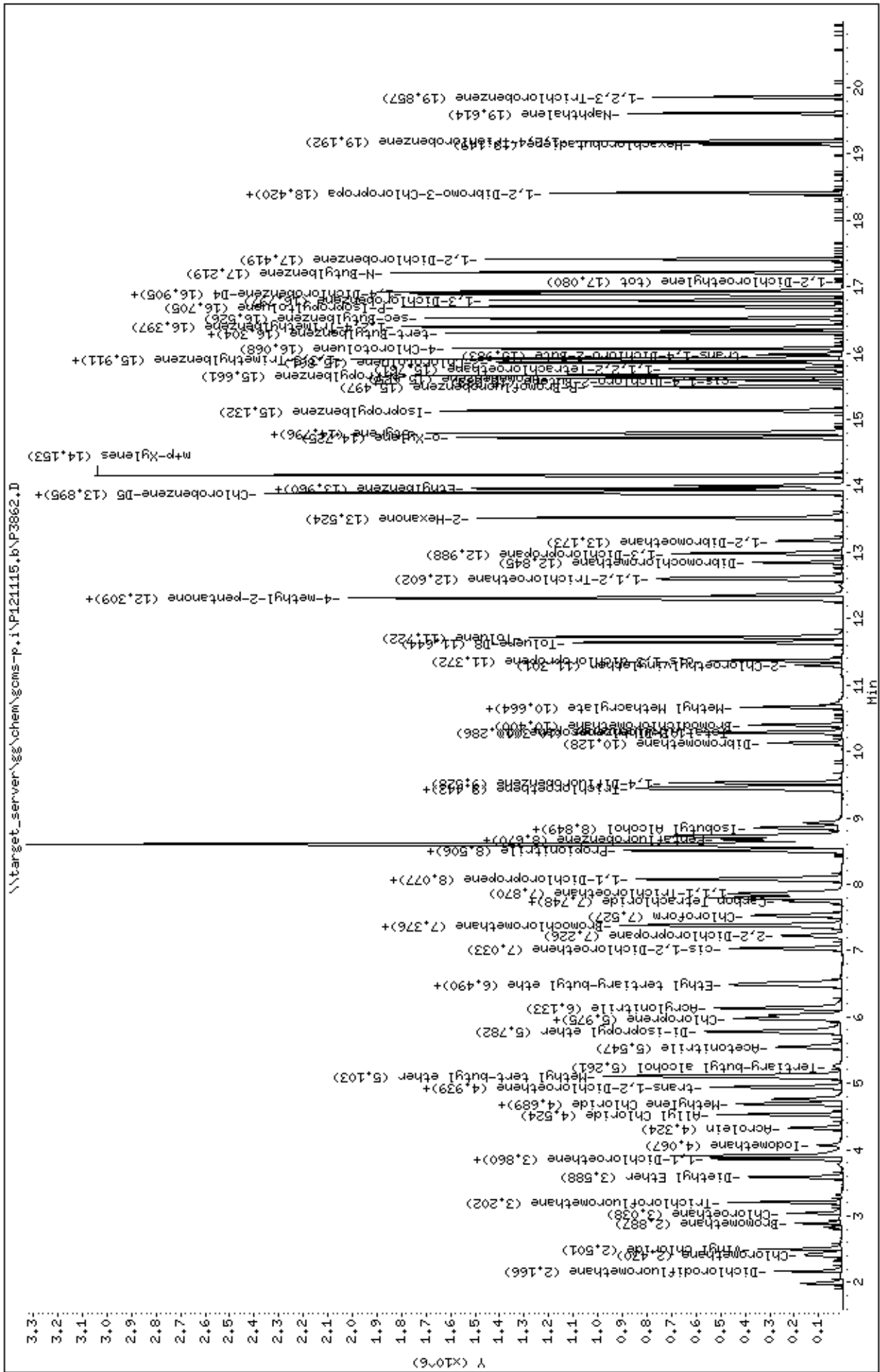
Compounds	QUANT SIG			AMOUNTS				REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT ( ug/l)	ON-COL ( ug/l)	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.979	(0.946)	70249	50.0000	42.2	
79 Bromobenzene	156	15.625	15.621	(0.925)	241985	50.0000	47.3	
80 N-Propylbenzene	91	15.660	15.664	(0.927)	1224437	50.0000	50.8	
81 1,1,2,2-Tetrachloroethane	83	15.761	15.756	(0.933)	307297	50.0000	53.2	
82 1,3,5-Trimethylbenzene	105	15.911	15.907	(0.942)	862876	50.0000	51.0	
83 2-Chlorotoluene	91	15.861	15.857	(0.939)	711340	50.0000	48.5	
84 1,2,3-Trichloropropane	75	15.925	15.928	(0.943)	232091	50.0000	49.2	
85 4-Chlorotoluene	91	16.068	16.064	(0.951)	768012	50.0000	49.0	
86 tert-Butylbenzene	119	16.304	16.307	(0.965)	781578	50.0000	49.9	
87 Pentachloroethane	117	16.340	16.335	(0.967)	117296	50.0000	37.9	
88 1,2,4-Trimethylbenzene	105	16.397	16.393	(0.971)	846732	50.0000	50.2	
89 P-Isopropyltoluene	119	16.704	16.700	(0.989)	886408	50.0000	51.0	
90 1,3-Dichlorobenzene	146	16.797	16.793	(0.994)	463163	50.0000	47.4	
* 91 1,4-Dichlorobenzene-D4	152	16.890	16.886	(1.000)	315253	50.0000		
92 1,4-Dichlorobenzene	146	16.904	16.907	(1.001)	493032	50.0000	47.6	
93 N-Butylbenzene	91	17.219	17.215	(1.019)	844928	50.0000	50.0	
94 sec-Butylbenzene	105	16.525	16.528	(0.978)	1049260	50.0000	50.6	
95 1,2-Dichlorobenzene	146	17.419	17.422	(1.031)	449521	50.0000	48.7	
96 1,2-Dibromo-3-Chloropropane	75	18.391	18.387	(1.089)	42523	50.0000	43.9	
97 1,3,5-Trichlorobenzene	180	18.420	18.416	(1.091)	294882	50.0000	44.4	
98 Hexachlorobutadiene	225	19.149	19.145	(1.134)	85375	50.0000	39.3	
99 1,2,4-Trichlorobenzene	180	19.192	19.195	(1.136)	250833	50.0000	45.3	
100 1,2,3-Trimethylbenzene	105	16.933	16.929	(1.003)	889758	50.0000	49.8	
101 Naphthalene	128	19.613	19.610	(1.161)	554656	50.0000	44.2	
102 1,2,3-Trichlorobenzene	180	19.856	19.859	(1.176)	203351	50.0000	45.9	
103 Methyl Acetate	43	4.953	4.949	(0.571)	230931	50.0000	47.0	
104 Methylcyclohexane	83	9.435	9.430	(1.088)	351323	50.0000	51.4	
M 153 Total Alkylbenzenes	100				6496219	50.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount  
 Below Limit Of Quantitation(BLOQ).

Data File: \\target\_server\gg\chem\gcms-p.i\121115.b\3862.D  
 Date : 11-DEC-2015 16:37  
 Client ID:  
 Sample Info: M6175915-6.S19749  
 Purge Volume: 5.0  
 Column phase: RTX-VHS

Instrument: gcms-p.i  
 Operator: AAB  
 Column diameter: 0.18



Date : 03-DEC-2015 10:04

Client ID:

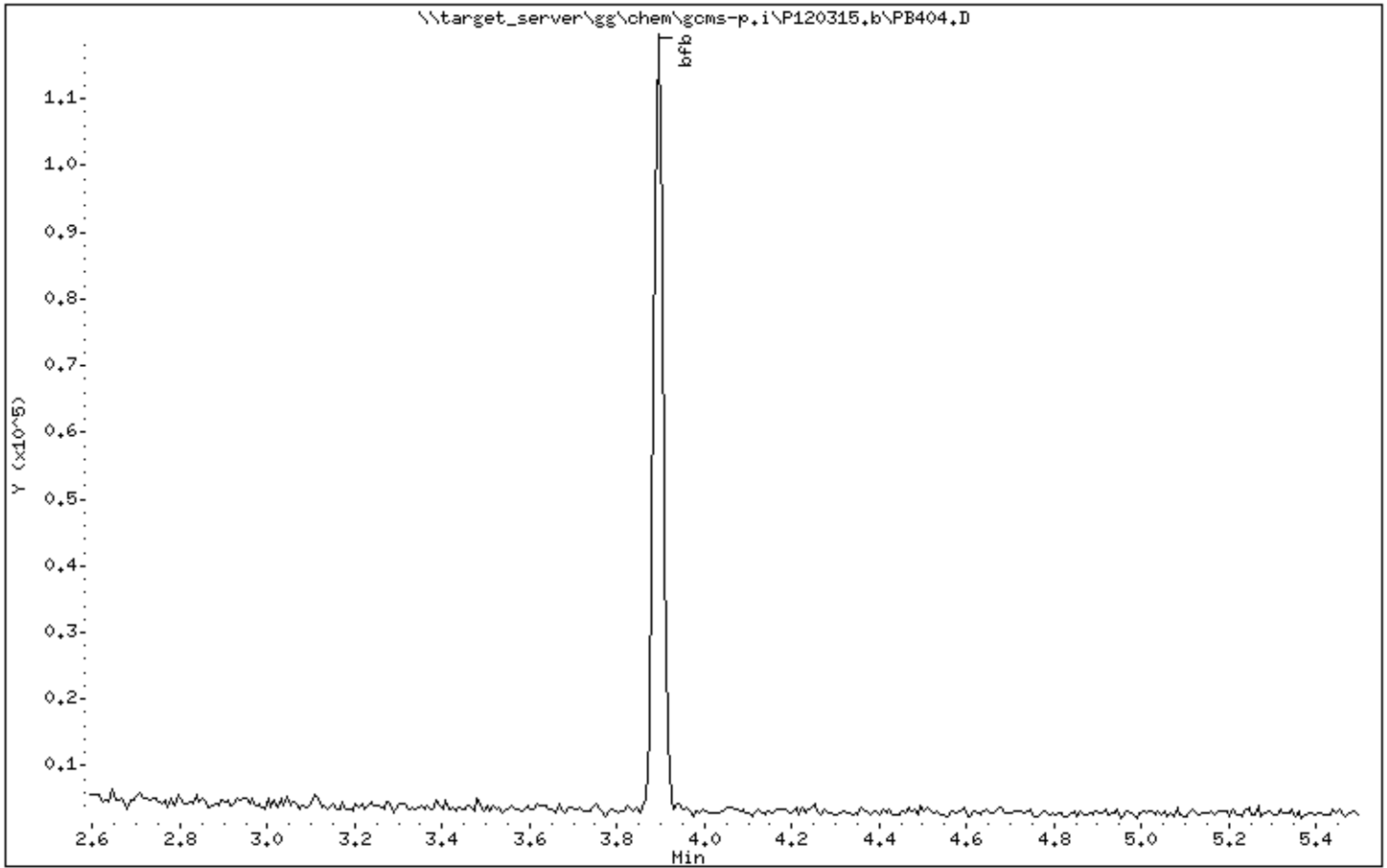
Instrument: goms-p.i

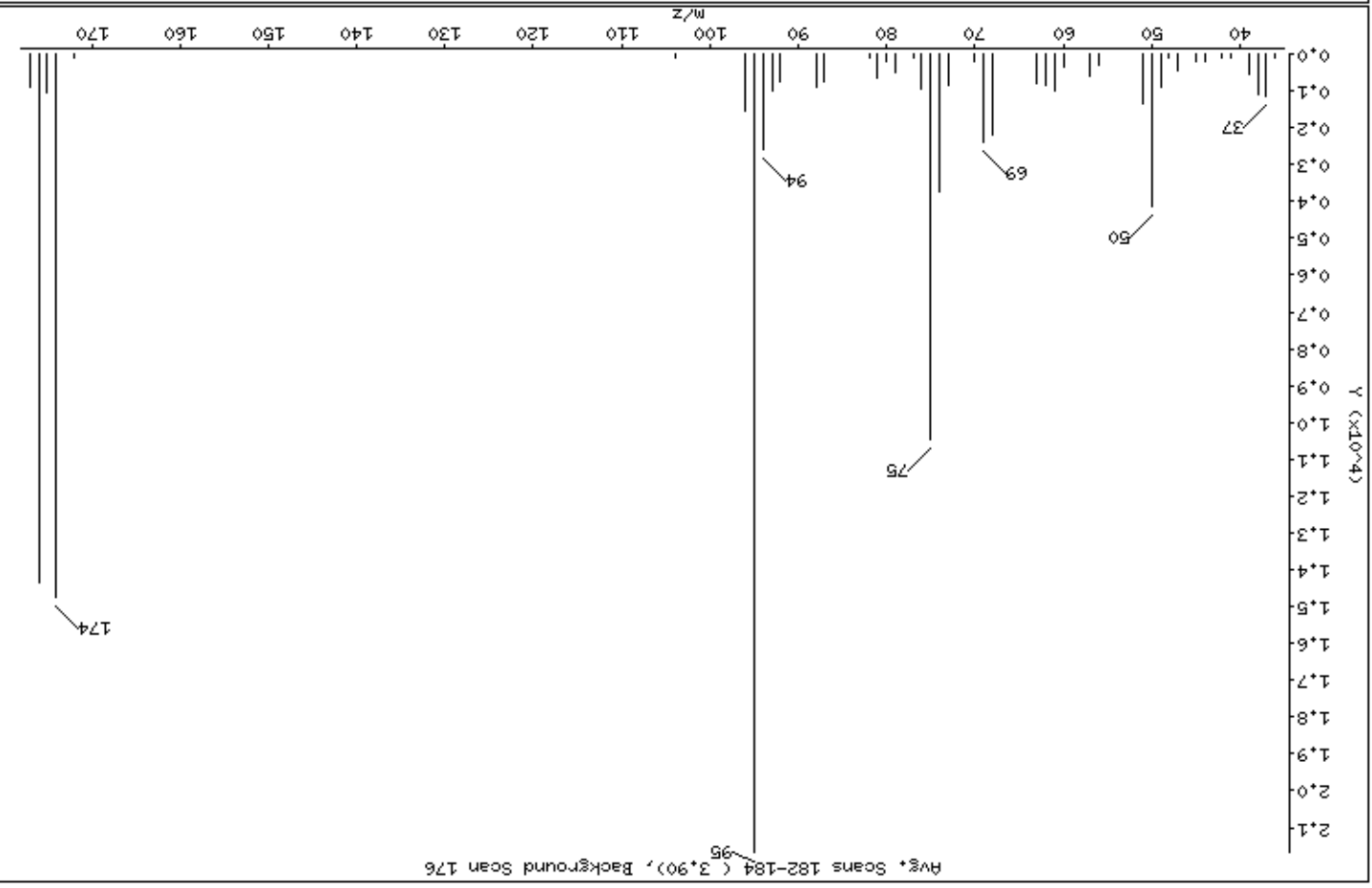
Sample Info: WG175386-8,SI9749

Operator: JSS

Column phase: RTX-VHS

Column diameter: 0.18





m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.10
75	30.00 - 60.00% of mass 95	48.33
96	5.00 - 9.00% of mass 95	7.10
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	67.94
175	5.00 - 9.00% of mass 174	4.92 (7.25)
176	95.00 - 101.00% of mass 174	66.10 (97.30)
177	5.00 - 9.00% of mass 176	4.22 (6.39)

Data File: \\target\_server\chem\gms-p\120215\B\B404.D  
 Date: 03-DEC-2015 10:04  
 Client ID:  
 Sample Info: M6175386-8.SI9749  
 Operator: JSS  
 Column phase: RTX-VHS  
 Column diameter: 0.18  
 Instrument: gms-p.i  
 1 bfb

Date : 03-DEC-2015 10:04

Client ID:

Sample Info: M6175386-8.SI9749

Operator: JSS

Instrument: gms-p.i

Column phase: RTX-VHS

Column diameter: 0.18

Data File: B404.D  
 Spectrum: Avg. Scans 182-184 ( 3.90), Background Scan 176  
 Location of Maximum: 95.00  
 Number of Points: 44

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	95	51.00	1324	75.00	10473	95.00	21672
37.00	1130	56.00	302	76.00	940	96.00	1538
38.00	1114	57.00	603	77.00	93	104.00	85
39.00	531	60.00	328	79.00	503	172.00	91
41.00	84	61.00	981	80.00	175	174.00	14723
42.00	86	62.00	827	81.00	654	175.00	1067
44.00	204	63.00	792	82.00	97	176.00	14325
45.00	187	68.00	2200	87.00	764	177.00	915
47.00	438	69.00	2412	88.00	909		
48.00	105	70.00	199	92.00	742		
49.00	920	73.00	858	93.00	1018		
50.00	4139	74.00	3755	94.00	2574		

Date : 07-DEC-2015 09:25

Client ID:

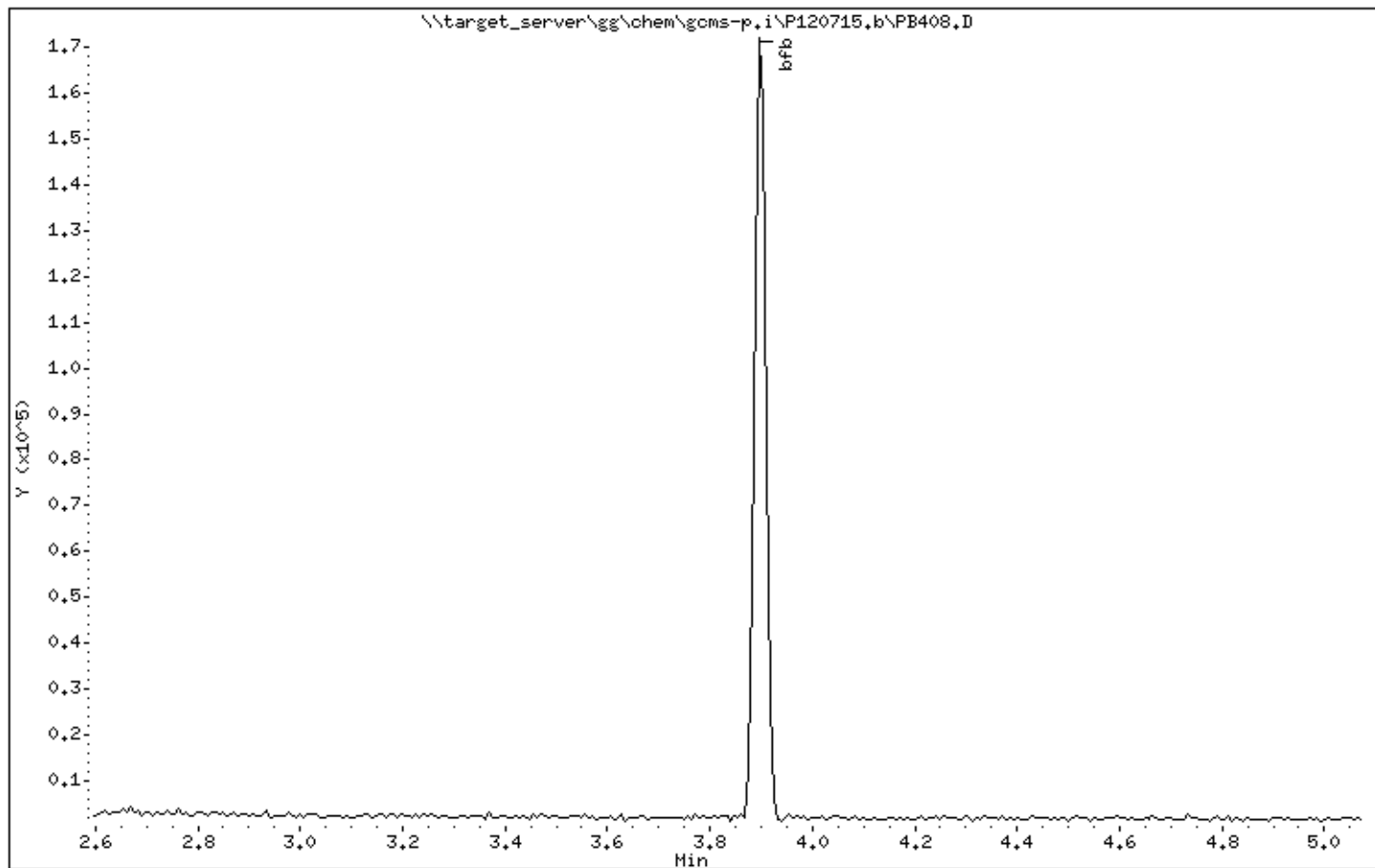
Instrument: goms-p.i

Sample Info: WG175608-3,SI9749

Operator: AAB

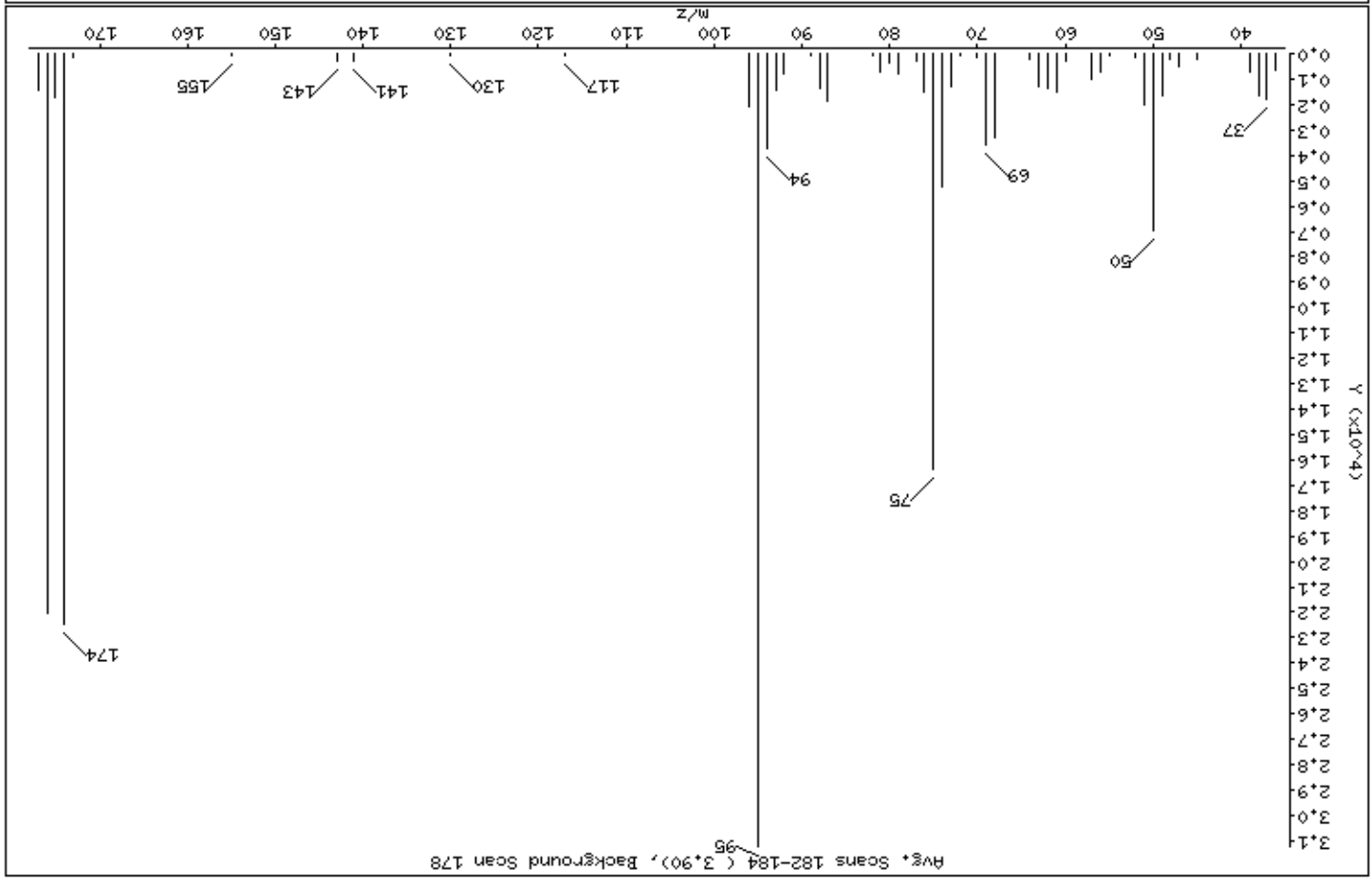
Column phase: RTX-VHS

Column diameter: 0,18





m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.25
75	30.00 - 60.00% of mass 95	52.32
96	5.00 - 9.00% of mass 95	6.70
173	Less than 2.00% of mass 174	0.44 ( 0.61)
174	Greater than 50.00% of mass 95	71.94
175	5.00 - 9.00% of mass 174	5.60 ( 7.79)
176	95.00 - 101.00% of mass 174	70.59 ( 98.11)
177	5.00 - 9.00% of mass 176	4.70 ( 6.65)



Data File: \\target\_server\chem\gms-p\12015\B\B408.D  
 Date: 07-DEC-2015 09:25  
 Client ID:  
 Sample Info: M6175608-3.SI9749  
 Operator: ABB  
 Column phase: RTX-VHS  
 Column diameter: 0.18  
 Instrument: gms-p.i  
 1 bfb

Data File: B408.D  
 Spectrum: Avg. Scans 182-184 ( 3.90), Background Scan 178  
 Location of Maximum: 95.00  
 Number of Points: 50

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	616	57.00	1005	76.00	1535	96.00	2091
37.00	1766	60.00	281	77.00	262	117.00	88
38.00	1628	61.00	1506	79.00	798	130.00	89
39.00	722	62.00	1340	80.00	362	141.00	257
45.00	229	63.00	1316	81.00	731	143.00	283
47.00	521	64.00	221	82.00	101	155.00	94
48.00	243	68.00	3290	87.00	1850	173.00	138
49.00	1636	69.00	3614	88.00	1341	174.00	22464
50.00	6948	70.00	124	89.00	105	175.00	1750
51.00	2031	72.00	96	92.00	785	176.00	22040
52.00	125	73.00	1327	93.00	1458	177.00	1466
55.00	103	74.00	5237	94.00	3750		
56.00	684	75.00	16335	95.00	31224		

Date : 10-DEC-2015 06:56

Client ID:

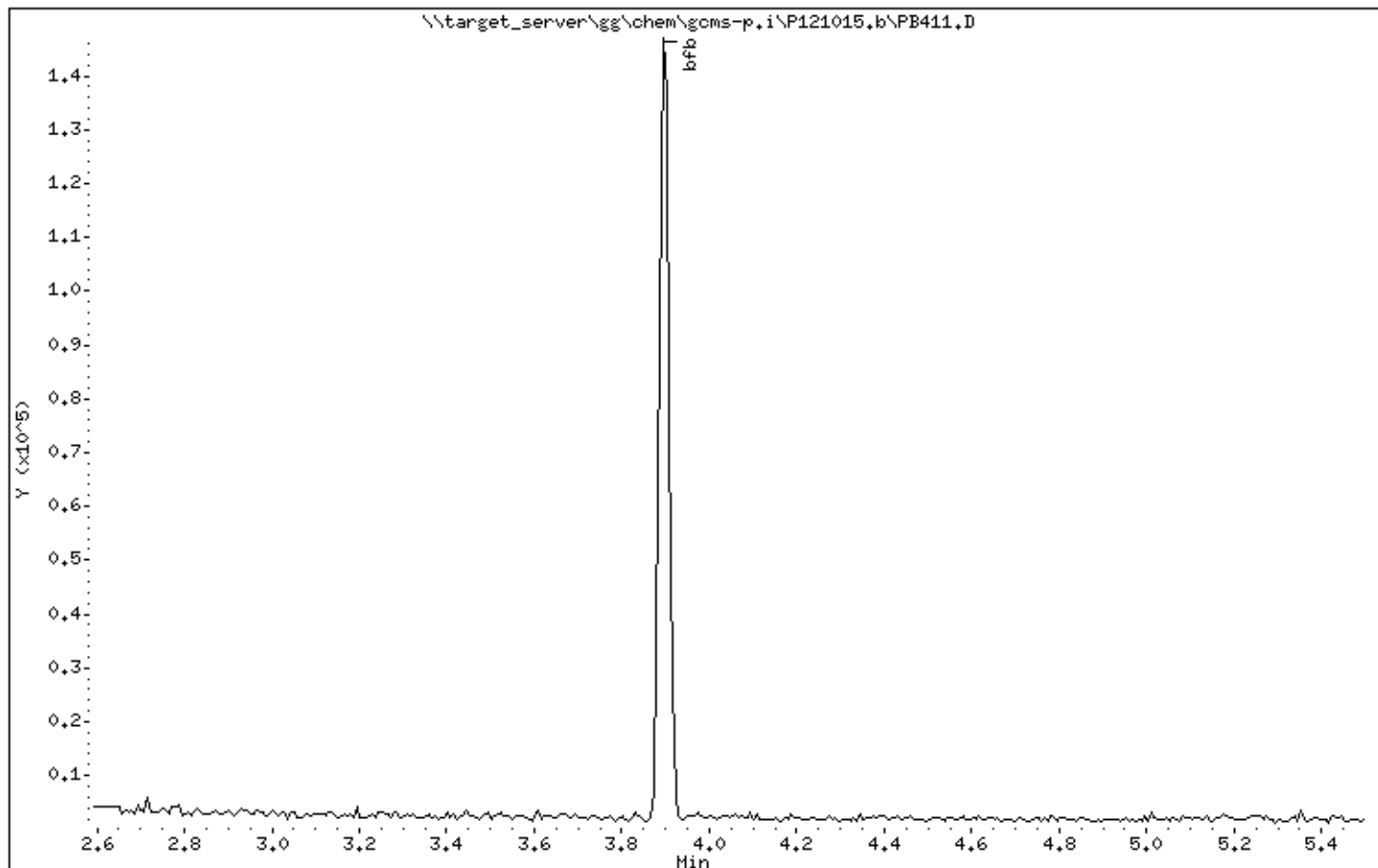
Instrument: goms-p.i

Sample Info: WG176143-8,SI9749

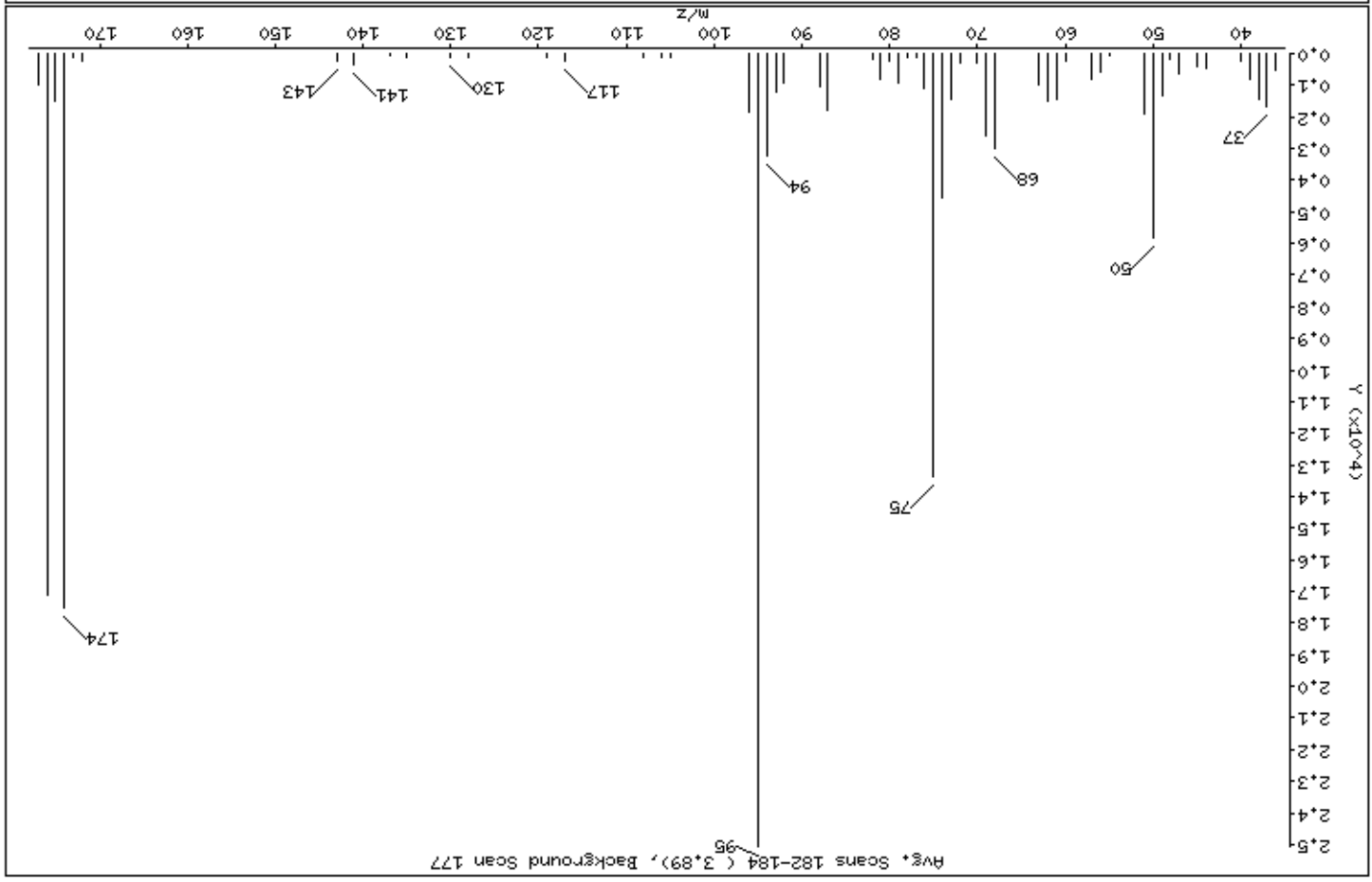
Operator: AAB

Column phase: RTX-VHS

Column diameter: 0,18



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	23.17
75	30.00 - 60.00% of mass 95	53.37
96	5.00 - 9.00% of mass 95	7.35
173	Less than 2.00% of mass 174	0.48 ( 0.69)
174	Greater than 50.00% of mass 95	69.84
175	5.00 - 9.00% of mass 174	6.01 ( 8.60)
176	95.00 - 101.00% of mass 174	68.34 ( 97.85)
177	5.00 - 9.00% of mass 176	3.99 ( 5.83)



Data File: \\target\_server\chem\gms-p\121015\B\B411.D  
 Date: 10-DEC-2015 06:56  
 Client ID:  
 Sample Info: M6176143-8.SI9749  
 Column phase: RTX-VHS  
 Column diameter: 0.18  
 Operator: ABB  
 Instrument: gms-p.i  
 1 bfb

Date: 10-DEC-2015 06:56

Client ID:

Sample Info: M61761443-8.SI9749

Instrument: gms-p.i

Operator: ABB

Column phase: RTX-VHS  
Column diameter: 0.18

Data File: B411.D  
 Spectrum: Avg. Scans 182-184 ( 3.89), Background Scan 177  
 Location of Maximum: 95.00  
 Number of Points: 57

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	510	60.00	210	80.00	221	128.00	107
37.00	1680	61.00	1462	81.00	833	130.00	111
38.00	1432	62.00	1475	82.00	175	135.00	100
39.00	833	63.00	990	87.00	1766	137.00	85
40.00	215	68.00	2999	88.00	1013	141.00	339
44.00	464	69.00	2591	92.00	914	143.00	249
45.00	391	70.00	303	93.00	1222	172.00	222
47.00	611	72.00	297	94.00	3208	173.00	121
48.00	197	73.00	1423	95.00	25064	174.00	17504
49.00	1348	74.00	4571	96.00	1843	175.00	1506
50.00	5807	75.00	13376	105.00	92	176.00	17128
51.00	1885	76.00	1073	106.00	92	177.00	999
55.00	84	77.00	88	108.00	118		
56.00	551	78.00	93	117.00	212		
57.00	828	79.00	919	119.00	102		

Date : 11-DEC-2015 07:04

Client ID:

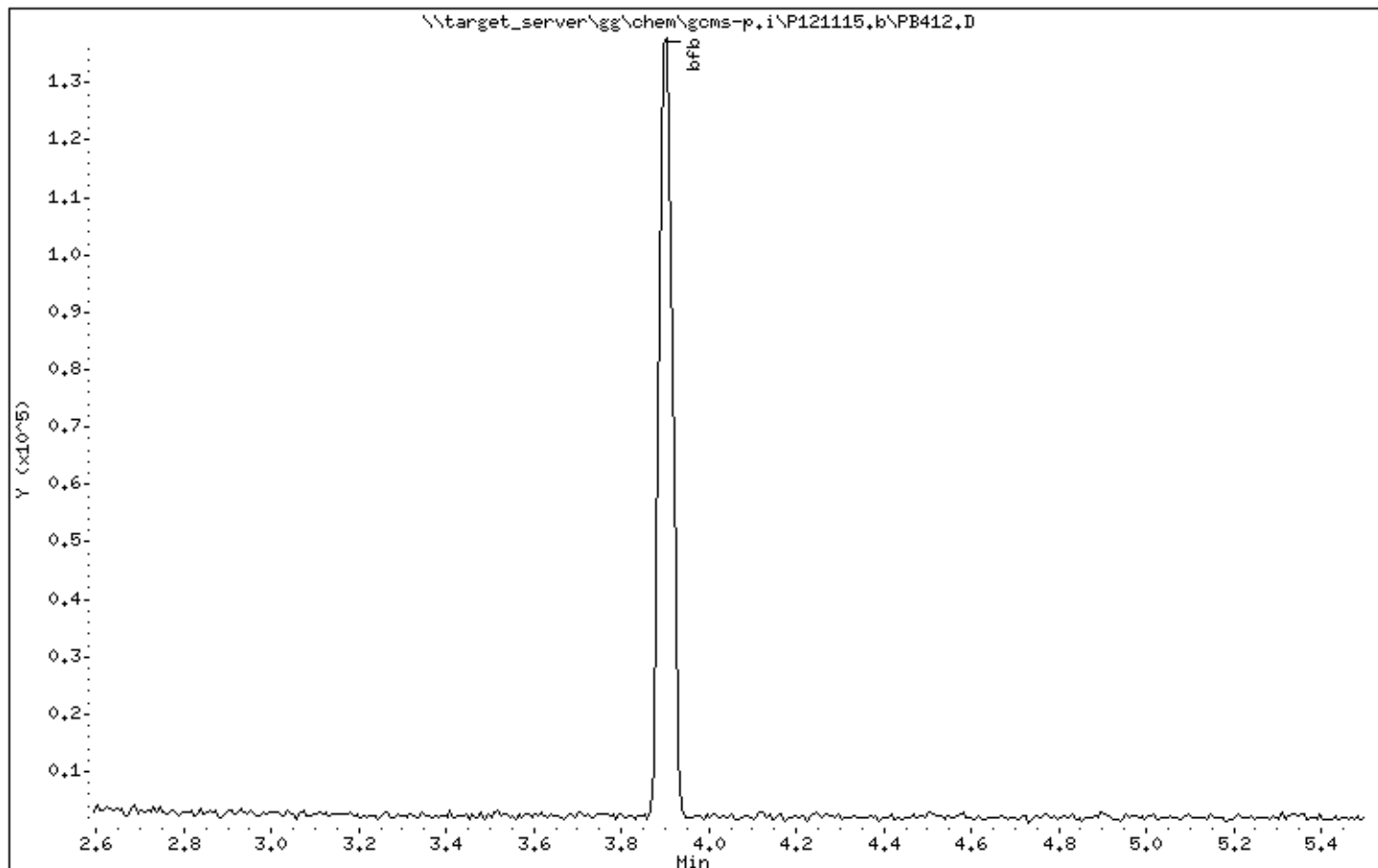
Instrument: goms-p.i

Sample Info: WG175915-7,SI9749

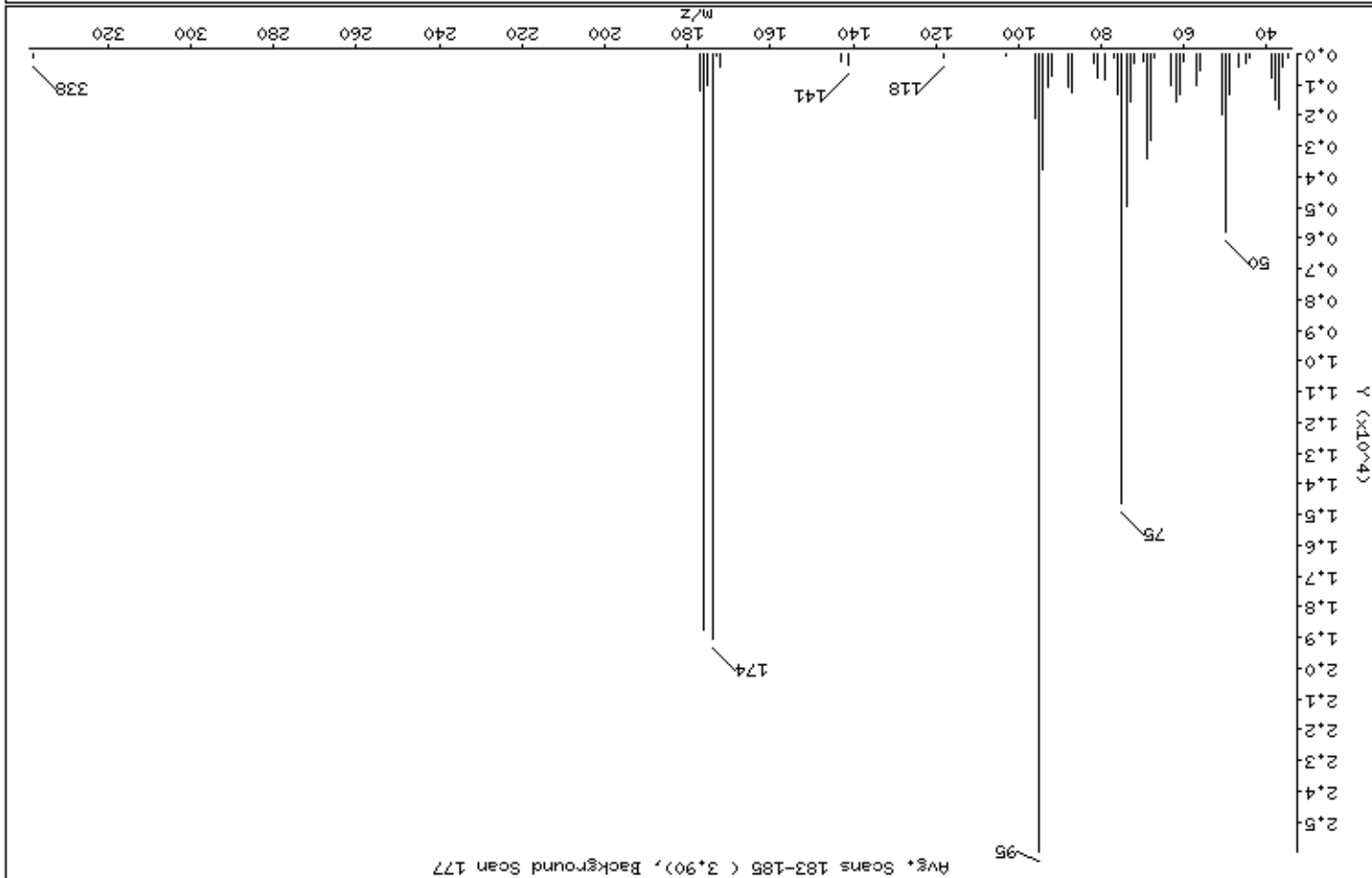
Operator: AAB

Column phase: RTX-VHS

Column diameter: 0,18



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.41
75	30.00 - 60.00% of mass 95	56.23
96	5.00 - 9.00% of mass 95	8.12
173	Less than 2.00% of mass 174	0.34 ( 0.46)
174	Greater than 50.00% of mass 95	73.43
175	5.00 - 9.00% of mass 174	3.96 ( 5.39)
176	95.00 - 101.00% of mass 174	72.20 ( 98.32)
177	5.00 - 9.00% of mass 176	4.70 ( 6.51)



Data File: \\target\_server\chem\gms-p\121115.B\B412.D  
 Date: 11-DEC-2015 07:04  
 Client ID:  
 Sample Info: M6175915-7.S19749  
 Operator: ABB  
 Column phase: RTX-VHS  
 Column diameter: 0.18  
 Instrument: gms-p.i  
 Page 3

Data File: B412.D  
 Spectrum: Avg. Scans 183-185 ( 3.90), Background Scan 177  
 Location of Maximum: 95.00  
 Number of Points: 48

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	123	60.00	250	77.00	112	144.00	353
36.00	407	61.00	1301	79.00	819	143.00	259
37.00	1808	62.00	1527	81.00	786	172.00	418
38.00	1475	63.00	1015	82.00	298	173.00	88
39.00	749	67.00	114	87.00	1270	174.00	19080
44.00	117	68.00	2804	88.00	1067	175.00	1029
45.00	269	69.00	3390	92.00	695	176.00	18760
47.00	443	70.00	257	93.00	1091	177.00	1221
49.00	1311	72.00	293	94.00	3776	338.00	94
50.00	5823	73.00	1536	95.00	25984		
51.00	1942	74.00	4938	96.00	2110		
56.00	557	75.00	14610	103.00	86		
57.00	1018	76.00	1303	118.00	107		



## **Raw QC Data Section**

## Report of Analytical Results

**Client:**  
**Lab ID:** WG175608-2  
**Client ID:** Method Blank Sample  
**Project:**  
**SDG:** SI9749  
**Lab File ID:** P3762.D

**Sample Date:**  
**Received Date:**  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.

## Report of Analytical Results

**Client:**  
**Lab ID:** WG175608-2  
**Client ID:** Method Blank Sample  
**Project:**  
**SDG:** SI9749  
**Lab File ID:** P3762.D

**Sample Date:**  
**Received Date:**  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75

## Report of Analytical Results

**Client:**  
**Lab ID:** WG175608-2  
**Client ID:** Method Blank Sample  
**Project:**  
**SDG:** SI9749  
**Lab File ID:** P3762.D

**Sample Date:**  
**Received Date:**  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		98.6	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		101.	%					
Dibromofluoromethane		100.	%					

Data File: \\target\_server\gg\chem\gcms-p.i\P120715.b\P3762.D  
 Report Date: 16-Dec-2015 08:40

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3762.D  
 Lab Smp Id: WG175608-2  
 Inj Date : 07-DEC-2015 12:41 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175608-2,SI9749  
 Misc Info : WG175608,WG175386-4,SI9749-1  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 08-Dec-2015 09:35 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 6 QC Sample: BLANK  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: V200T1

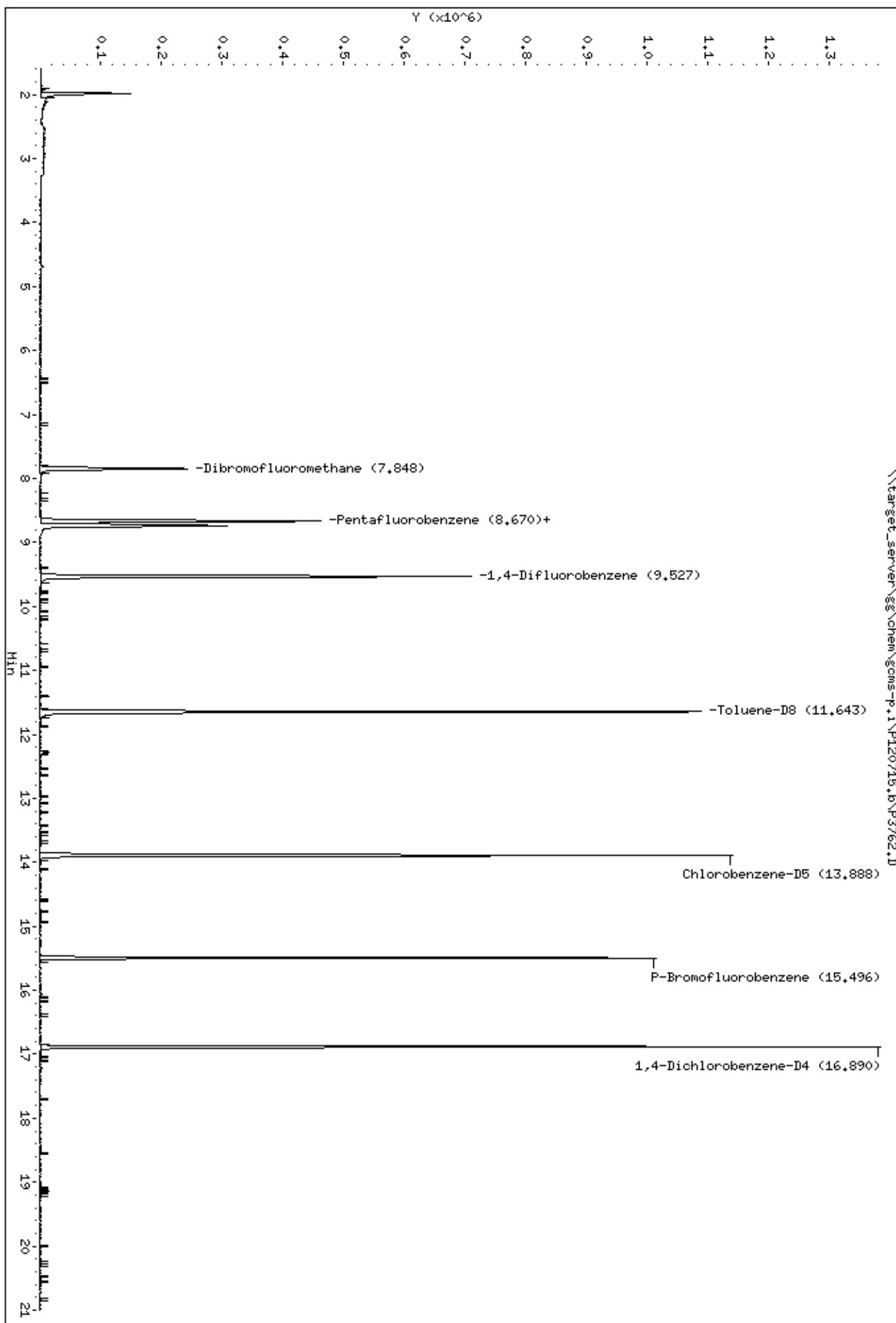
Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
\$ 37 Dibromofluoromethane	113	7.847	7.843	(0.905)	170086	50.1392	50.1	
* 42 Pentafluorobenzene	168	8.669	8.665	(1.000)	349714	50.0000		
\$ 45 1,2-Dichloroethane-D4	65	8.733	8.737	(1.007)	222416	50.6003	50.6	
* 49 1,4-Difluorobenzene	114	9.527	9.530	(1.000)	610152	50.0000		
\$ 55 Toluene-D8	98	11.650	11.646	(1.223)	719063	50.0653	50.1	
* 66 Chlorobenzene-D5	117	13.887	13.890	(1.000)	557870	50.0000		
\$ 76 P-Bromofluorobenzene	95	15.495	15.491	(1.626)	302904	49.3041	49.3	
* 91 1,4-Dichlorobenzene-D4	152	16.889	16.885	(1.000)	294631	50.0000		

Data File: \\target\_server\gms\chem\gms-p.i\PI20715.b\PI3762.D  
Date : 07-DEC-2015 12:41  
Client ID:  
Sample Info: M0175608-2,S19749

Instrument: gms-p.i



## Report of Analytical Results

**Client:**  
**Lab ID:** WG175915-3  
**Client ID:** Method Blank Sample  
**Project:**  
**SDG:** SI9749  
**Lab File ID:** P3849.D

**Sample Date:**  
**Received Date:**  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
Trichlorofluoromethane	U	1.0	ug/L	1	2	2.0	0.24	1.0
Diethyl Ether	U	0.50	ug/L	1	1	1.0	0.40	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Ethyl Tertiary-Butyl Ether	U	0.50	ug/L	1	1	1.0	0.23	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methyl tert-butyl Ether	U	0.50	ug/L	1	1	1.0	0.36	0.50
Di-Isopropyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromochloromethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
Tetrahydrofuran	U	2.5	ug/L	1	5	5.0	1.7	2.5
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.21	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
Tertiary-Amyl Methyl Ether	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
Dibromomethane	U	0.50	ug/L	1	1	1.0	0.46	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
1,4-Dioxane	U	50	ug/L	1	100	100	8.8	50.

## Report of Analytical Results

**Client:**  
**Lab ID:** WG175915-3  
**Client ID:** Method Blank Sample  
**Project:**  
**SDG:** SI9749  
**Lab File ID:** P3849.D

**Sample Date:**  
**Received Date:**  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,3-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,2-Dibromoethane	U	0.50	ug/L	1	1	1.0	0.22	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,1,1,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.19	0.50
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
Isopropylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Propylbenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
1,3,5-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,2,3-Trichloropropane	U	0.50	ug/L	1	1	1.0	0.19	0.50
4-Chlorotoluene	U	0.50	ug/L	1	1	1.0	0.26	0.50
tert-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.31	0.50
1,2,4-Trimethylbenzene	U	0.50	ug/L	1	1	1.0	0.19	0.50
P-Isopropyltoluene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,3-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,4-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.24	0.50
N-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.23	0.50
sec-Butylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
1,2-Dichlorobenzene	U	0.50	ug/L	1	1	1.0	0.15	0.50
1,2-Dibromo-3-Chloropropane	U	0.50	ug/L	1	1	1.0	0.50	0.50
Hexachlorobutadiene	U	0.75	ug/L	1	1	1.0	0.52	0.75



## Report of Analytical Results

**Client:**  
**Lab ID:** WG175915-3  
**Client ID:** Method Blank Sample  
**Project:**  
**SDG:** SI9749  
**Lab File ID:** P3849.D

**Sample Date:**  
**Received Date:**  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175915

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 16-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2,4-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.37	0.50
Naphthalene	U	0.50	ug/L	1	1	1.0	0.30	0.50
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.27	0.50
P-Bromofluorobenzene		97.8	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		108.	%					
Dibromofluoromethane		106.	%					

Data File: \\target\_server\gg\chem\gcms-p.i\P121115.b\P3849.D  
 Report Date: 16-Dec-2015 08:52

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121115.b\P3849.D  
 Lab Smp Id: WG175915-3  
 Inj Date : 11-DEC-2015 10:20 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175915-3,SI9749  
 Misc Info : WG175915,WG176143-4,SI9749-6  
 Comment : SW846 5030  
 Method : \\TARGET\_SERVER\GG\chem\gcms-p.i\P121115.b\P826A21.m  
 Meth Date : 14-Dec-2015 09:46 jsampson Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:48 Cal File: P3837.D  
 Als bottle: 6 QC Sample: BLANK  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: TARGET\_SERVER

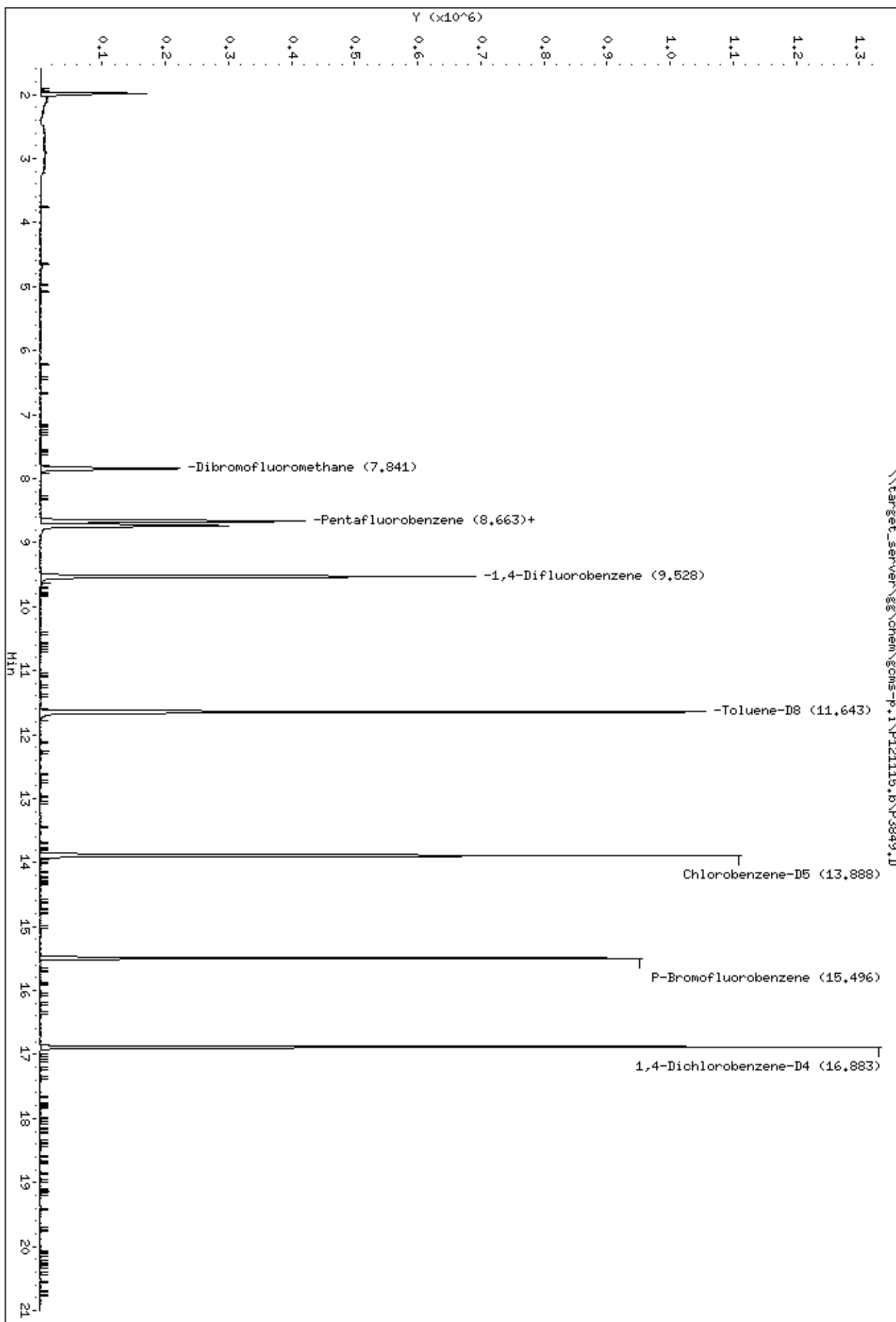
Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
\$ 37 Dibromofluoromethane	113	7.840	7.844	(0.905)	158371	53.1713	53.2	
* 42 Pentafluorobenzene	168	8.662	8.666	(1.000)	307837	50.0000		
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.008)	215777	54.1983	54.2	
* 49 1,4-Difluorobenzene	114	9.527	9.523	(1.000)	567196	50.0000		
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	682134	50.6326	50.6	
* 66 Chlorobenzene-D5	117	13.887	13.891	(1.000)	517633	50.0000		
\$ 76 P-Bromofluorobenzene	95	15.496	15.492	(1.626)	280025	48.9005	48.9	
* 91 1,4-Dichlorobenzene-D4	152	16.890	16.886	(1.000)	283995	50.0000		

Data File: \\target\_server\chem\goms-p.i\P121115.b\P3849.D  
Date: 11-DEC-2015 10:20  
Client ID:  
Sample Info: M0175915-3,S19749

Instrument: goms-p.i



## LCS/LCSD Recovery Report

**LCS ID:** WG175608-1  
**LCSD ID:** WG175608-7  
**Project:**  
**SDG:** SI9749  
**Report Date:** 16-DEC-15  
**LCS File ID:** P3758.D

**Received Date:**  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 8260B  
**Lab Prep Batch:** WG175608  
**LCSD File ID:** P3759.D

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Dichlorodifluoromethane	50.0	61.0	122.	54.1	108.	ug/L	12	20	29-164
Chloromethane	50.0	59.1	118.	52.9	106.	ug/L	11	20	59-123
Vinyl Chloride	50.0	61.4	123.	55.6	111.	ug/L	10	20	64-131
Bromomethane	50.0	56.6	113.	56.1	112.	ug/L	1	20	57-135
Chloroethane	50.0	66.5	133.	61.8	124.	ug/L	7	20	53-157
Trichlorofluoromethane	50.0	60.4	121.	56.6	113.	ug/L	6	20	70-149
Diethyl Ether	50.0	55.6	111.	53.4	107.	ug/L	4	20	78-124
1,1-Dichloroethene	50.0	50.9	102.	48.9	97.8	ug/L	4	20	88-127
Carbon Disulfide	50.0	56.6	113.	54.1	108.	ug/L	4	20	71-129
Ethyl Tertiary-Butyl Ether	50.0	46.5	93.0	47.1	94.2	ug/L	1	20	85-119
Methylene Chloride	50.0	47.8	95.6	47.2	94.4	ug/L	1	20	72-129
Acetone	50.0	46.7	93.4	45.6	91.2	ug/L	2	20	62-172
trans-1,2-Dichloroethene	50.0	53.4	107.	50.1	100.	ug/L	6	20	78-125
Methyl tert-butyl Ether	100.	105.	105.	105.	105.	ug/L	0	20	81-125
Di-Isopropyl Ether	50.0	55.3	111.	54.3	109.	ug/L	2	20	81-123
1,1-Dichloroethane	50.0	52.0	104.	50.8	102.	ug/L	2	20	76-130
cis-1,2-Dichloroethene	50.0	49.8	99.6	48.1	96.2	ug/L	3	20	85-123
2,2-Dichloropropane	50.0	46.8	93.6	46.1	92.2	ug/L	2	20	70-132
Bromochloromethane	50.0	55.9	112.	56.3	113.	ug/L	1	20	85-117
Chloroform	50.0	49.1	98.2	47.9	95.8	ug/L	2	20	78-128
Carbon Tetrachloride	50.0	45.2	90.4	44.9	89.8	ug/L	1	20	87-126
Tetrahydrofuran	50.0	45.4	90.8	47.3	94.6	ug/L	4	20	74-123
1,1,1-Trichloroethane	50.0	49.7	99.4	49.1	98.2	ug/L	1	20	77-129
1,1-Dichloropropene	50.0	52.5	105.	52.0	104.	ug/L	1	20	87-118
2-Butanone	50.0	47.0	94.0	49.1	98.2	ug/L	4	20	71-132
Benzene	50.0	51.7	103.	52.1	104.	ug/L	1	20	86-116
Tertiary-Amyl Methyl Ether	50.0	48.6	97.2	49.6	99.2	ug/L	2	20	80-121
1,2-Dichloroethane	50.0	46.1	92.2	47.4	94.8	ug/L	3	20	81-125
Trichloroethene	50.0	50.9	102.	50.6	101.	ug/L	0	20	79-121
Dibromomethane	50.0	54.0	108.	53.4	107.	ug/L	1	20	85-117
1,2-Dichloropropane	50.0	50.2	100.	49.7	99.4	ug/L	1	20	84-118
Bromodichloromethane	50.0	51.8	104.	52.3	105.	ug/L	1	20	85-122
cis-1,3-Dichloropropene	50.0	48.8	97.6	48.3	96.6	ug/L	1	20	83-119
1,4-Dioxane	1000	772.	77.2	889.	88.9	ug/L	14	20	10-149

## LCS/LCSD Recovery Report

**LCS ID:** WG175608-1  
**LCSD ID:** WG175608-7  
**Project:**  
**SDG:** SI9749  
**Report Date:** 16-DEC-15  
**LCS File ID:** P3758.D

**Received Date:**  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 8260B  
**Lab Prep Batch:** WG175608  
**LCSD File ID:** P3759.D

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Toluene	50.0	51.5	103.	51.2	102.	ug/L	0	20	84-118
4-Methyl-2-Pentanone	50.0	50.3	101.	52.8	106.	ug/L	5	20	83-122
Tetrachloroethene	50.0	38.3	76.6	38.5	77.0	ug/L	0	20	47-155
trans-1,3-Dichloropropene	50.0	51.3	103.	50.7	101.	ug/L	1	20	85-135
1,1,2-Trichloroethane	50.0	48.9	97.8	50.6	101.	ug/L	3	20	84-115
Dibromochloromethane	50.0	52.1	104.	51.4	103.	ug/L	1	20	85-119
1,3-Dichloropropane	50.0	47.6	95.2	47.5	95.0	ug/L	0	20	80-119
1,2-Dibromoethane	50.0	50.5	101.	51.8	104.	ug/L	2	20	84-116
2-Hexanone	50.0	47.1	94.2	49.8	99.6	ug/L	6	20	80-124
Chlorobenzene	50.0	50.1	100.	49.5	99.0	ug/L	1	20	89-113
Ethylbenzene	50.0	50.9	102.	50.7	101.	ug/L	0	20	88-113
1,1,1,2-Tetrachloroethane	50.0	51.0	102.	51.2	102.	ug/L	0	20	88-118
m+p-Xylenes	100.	107.	107.	104.	104.	ug/L	3	20	88-116
o-Xylene	50.0	53.2	106.	52.7	105.	ug/L	1	20	90-116
Styrene	50.0	53.3	107.	52.8	106.	ug/L	1	20	88-117
Bromoform	50.0	44.4	88.8	44.5	89.0	ug/L	0	20	86-117
Isopropylbenzene	50.0	51.4	103.	51.3	103.	ug/L	0	20	96-136
Bromobenzene	50.0	50.4	101.	50.6	101.	ug/L	0	20	84-113
N-Propylbenzene	50.0	52.7	105.	52.8	106.	ug/L	0	20	83-121
1,1,2,2-Tetrachloroethane	50.0	46.0	92.0	47.7	95.4	ug/L	4	20	79-121
1,3,5-Trimethylbenzene	50.0	50.9	102.	50.7	101.	ug/L	0	20	80-123
2-Chlorotoluene	50.0	49.8	99.6	49.5	99.0	ug/L	1	20	81-120
1,2,3-Trichloropropane	50.0	47.6	95.2	48.5	97.0	ug/L	2	20	77-120
4-Chlorotoluene	50.0	49.6	99.2	49.9	99.8	ug/L	1	20	81-122
tert-Butylbenzene	50.0	53.6	107.	53.5	107.	ug/L	0	20	84-121
1,2,4-Trimethylbenzene	50.0	53.1	106.	52.7	105.	ug/L	1	20	83-118
P-Isopropyltoluene	50.0	53.2	106.	53.4	107.	ug/L	0	20	88-121
1,3-Dichlorobenzene	50.0	49.9	99.8	49.5	99.0	ug/L	1	20	86-110
1,4-Dichlorobenzene	50.0	49.0	98.0	48.7	97.4	ug/L	1	20	86-111
N-Butylbenzene	50.0	51.5	103.	51.8	104.	ug/L	0	20	78-121
sec-Butylbenzene	50.0	52.5	105.	51.8	104.	ug/L	1	20	82-122
1,2-Dichlorobenzene	50.0	49.6	99.2	49.7	99.4	ug/L	0	20	86-112
1,2-Dibromo-3-Chloropropane	50.0	36.9	73.8	37.2	74.4	ug/L	1	20	67-124
Hexachlorobutadiene	50.0	47.6	95.2	47.0	94.0	ug/L	1	20	73-113

## LCS/LCSD Recovery Report

**LCS ID:** WG175608-1  
**LCSD ID:** WG175608-7  
**Project:**  
**SDG:** SI9749  
**Report Date:** 16-DEC-15  
**LCS File ID:** P3758.D

**Received Date:**  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 8260B  
**Lab Prep Batch:** WG175608  
**LCSD File ID:** P3759.D

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
1,2,4-Trichlorobenzene	50.0	49.7	99.4	50.7	101.	ug/L	2	20	76-126
Naphthalene	50.0	47.2	94.4	49.6	99.2	ug/L	5	20	62-126
1,2,3-Trichlorobenzene	50.0	49.7	99.4	51.8	104.	ug/L	4	20	70-122
P-Bromofluorobenzene			100.		99.0				56-133
Toluene-d8			99.6		99.0				65-128
1,2-Dichloroethane-d4			98.6		95.7				67-135
Dibromofluoromethane			100.		97.5				68-128

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Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3758.D  
 Lab Smp Id: WG175608-1  
 Inj Date : 07-DEC-2015 10:33 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175608-1,SI9749  
 Misc Info : WG175608,WG175386-4,SI9749-1  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 08-Dec-2015 09:35 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 2 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: VOA-WS

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

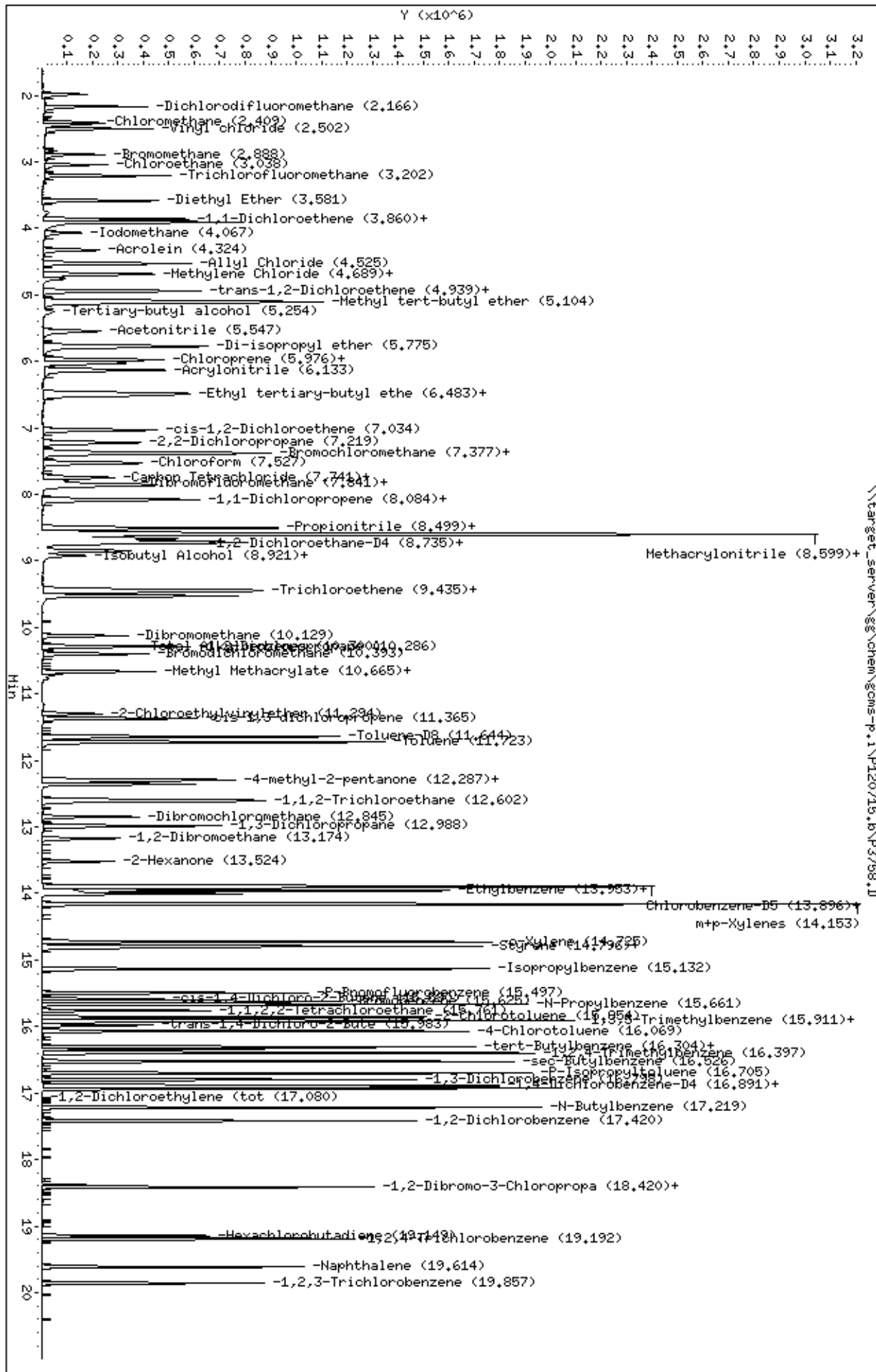
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
1 Dichlorodifluoromethane	85	2.165	2.167 (0.250)		326869	60.9861	61.0	
2 Chloromethane	50	2.408	2.424 (0.278)		486602	59.0795	59.1	
3 Vinyl chloride	62	2.501	2.496 (0.289)		395374	61.3517	61.4	
4 Bromomethane	94	2.887	2.889 (0.333)		136066	56.6009	56.6	
5 Chloroethane	64	3.037	3.040 (0.351)		225124	66.4752	66.5	
6 Trichlorofluoromethane	101	3.202	3.204 (0.370)		345758	60.4243	60.4	
7 Diethyl Ether	59	3.581	3.582 (0.413)		234206	55.6099	55.6	
8 Tertiary-butyl alcohol	59	5.253	5.248 (0.606)		71994	130.626	131	
9 1,1-Dichloroethene	96	3.859	3.854 (0.446)		206719	50.8923	50.9	
10 Carbon Disulfide	76	3.909	3.911 (0.451)		737723	56.5532	56.6	
11 Freon-113	151	3.902	3.897 (0.450)		127003	52.6031	52.6	
12 Iodomethane	142	4.067	4.069 (0.469)		209467	60.4147	60.4	
13 Acrolein	56	4.324	4.325 (0.499)		206698	240.000	240	
14 Methylene Chloride	84	4.688	4.691 (0.541)		245503	47.7841	47.8	
15 Acetone	43	4.760	4.762 (0.549)		99488	46.6721	46.7	
16 Isobutyl Alcohol	43	8.920	8.915 (1.030)		125404	530.586	530	
17 trans-1,2-Dichloroethene	96	4.939	4.933 (0.570)		226004	53.3929	53.4	
18 Allyl Chloride	41	4.524	4.526 (0.522)		417929	56.1697	56.2	
19 Methyl tert-butyl ether	73	5.103	5.098 (0.589)		1382295	105.028	105	
20 Acetonitrile	39	5.546	5.541 (0.640)		73862	449.403	449	
21 Di-isopropyl ether	45	5.775	5.777 (0.667)		884932	55.3140	55.3	
22 Chloroprene	53	5.975	5.977 (0.690)		379835	54.4459	54.4	
23 Propionitrile	54	8.570	8.564 (0.989)		389850	482.659	483	

Compounds	QUANT SIG				RESPONSE	CONCENTRATIONS		REVIEW CODE
	MASS	RT	EXP RT	REL RT		ON-COLUMN ( ug/l)	FINAL ( ug/l)	
24 Methacrylonitrile	41	8.598	8.601 (0.993)		1713135	550.772	551	
25 1,1-Dichloroethane	63	6.025	6.020 (0.696)		419880	52.0463	52.0	
26 Acrylonitrile	52	6.132	6.135 (0.708)		438730	250.861	251	
27 Ethyl tertiary-butyl ether	59	6.475	6.477 (0.748)		698438	46.4883	46.5	
28 Vinyl Acetate	43	6.511	6.513 (0.683)		622126	55.9153	55.9	
29 cis-1,2-Dichloroethene	96	7.033	7.028 (0.812)		250061	49.8020	49.8	
M 30 1,2-Dichloroethylene (total)	96				476065	103.195	103	
31 Methyl Methacrylate	41	10.664	10.666 (1.119)		229986	49.1705	49.2	
32 2,2-Dichloropropane	77	7.219	7.221 (0.833)		289990	46.8351	46.8	
33 Bromochloromethane	128	7.383	7.385 (0.852)		102505	55.8916	55.9	
34 Chloroform	83	7.526	7.528 (0.869)		370072	49.0701	49.1	
35 Carbon Tetrachloride	117	7.741	7.743 (0.812)		217733	45.2081	45.2	
36 Tetrahydrofuran	42	7.791	7.786 (0.899)		77244	45.3699	45.4	
\$ 37 Dibromofluoromethane	113	7.841	7.843 (0.905)		181966	50.0381	50.0	
38 1,1,1-Trichloroethane	97	7.869	7.871 (0.908)		302938	49.7195	49.7	
39 1,1-Dichloropropene	75	8.084	8.086 (0.848)		308743	52.4797	52.5	
40 2-Butanone	43	8.069	8.064 (0.932)		128480	46.9768	47.0	
41 Benzene	78	8.506	8.500 (0.893)		932689	51.6882	51.7	
* 42 Pentafluorobenzene	168	8.663	8.665 (1.000)		374897	50.0000		
43 Cyclohexane	56	7.369	7.371 (0.851)		393216	51.7759	51.8	
44 Ethyl Methacrylate	69	10.664	10.667 (1.119)		170404	44.6767	44.7	
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737 (1.008)		232276	49.2938	49.3	
46 Tertiary-amyl methyl ether	73	8.713	8.715 (1.006)		623372	48.5589	48.6	
47 1,2-Dichloroethane	62	8.849	8.843 (0.929)		287091	46.1159	46.1	
48 Trichloroethene	95	9.456	9.458 (0.992)		211195	50.9144	50.9	
* 49 1,4-Difluorobenzene	114	9.528	9.530 (1.000)		647622	50.0000		
50 Dibromomethane	93	10.128	10.130 (1.063)		136027	54.0307	54.0	
51 1,2-Dichloropropane	63	10.285	10.287 (1.080)		228324	50.2190	50.2	
52 Bromodichloromethane	83	10.393	10.394 (1.091)		284284	51.7893	51.8	
53 cis-1,3-dichloropropene	75	11.365	11.367 (1.193)		348462	48.7796	48.8	
54 1,4-Dioxane	88	10.707	10.709 (1.124)		43714	771.628	772	
\$ 55 Toluene-D8	98	11.643	11.646 (1.222)		758947	49.7849	49.8	
56 2-Chloroethylvinylether	63	11.293	11.295 (1.185)		99320	39.5455	39.5	
57 Toluene	92	11.722	11.724 (1.230)		601643	51.4964	51.5	
58 4-methyl-2-pentanone	43	12.308	12.311 (1.292)		254171	50.3378	50.3	
59 Tetrachloroethene	164	12.287	12.289 (0.885)		170799	38.2897	38.3	
60 trans-1,3-Dichloropropene	75	12.358	12.360 (1.297)		309625	51.3482	51.3	
61 1,1,2-Trichloroethane	83	12.594	12.596 (1.322)		168675	48.8879	48.9	
62 Dibromochloromethane	129	12.844	12.846 (0.925)		198071	52.0686	52.1	
63 1,3-Dichloropropane	76	12.987	12.989 (0.935)		380812	47.6420	47.6	
64 1,2-Dibromoethane	107	13.173	13.175 (1.383)		202948	50.5424	50.5	
65 2-Hexanone	43	13.523	13.519 (0.974)		183358	47.1149	47.1	
* 66 Chlorobenzene-D5	117	13.888	13.890 (1.000)		601351	50.0000		
67 Chlorobenzene	112	13.909	13.911 (1.002)		613295	50.0850	50.1	
152 1-Chlorohexane	91	13.895	13.897 (1.000)		342560	49.2252	49.2	
68 Ethylbenzene	106	13.959	13.954 (1.005)		349416	50.9459	50.9	
69 1,1,1,2-Tetrachloroethane	131	14.002	14.004 (1.008)		194860	51.0267	51.0	
M 70 Xylenes (total)	106				1322296	160.178	160	
71 m+p-Xylenes	106	14.152	14.155 (1.019)		888326	106.987	107	
72 o-Xylene	106	14.724	14.726 (1.060)		433970	53.1914	53.2	
73 Styrene	104	14.796	14.798 (1.065)		745346	53.2644	53.3	
74 Bromoform	173	14.824	14.827 (1.067)		127999	44.3545	44.4	
75 Isopropylbenzene	105	15.132	15.134 (0.896)		1078405	51.3595	51.4	
\$ 76 P-Bromofluorobenzene	95	15.496	15.491 (1.626)		326366	50.0495	50.0	



Compounds	QUANT SIG		CONCENTRATIONS					REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	FINAL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.589	15.584	(0.923)	101394	42.7545	42.8	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.985	(0.946)	81776	44.1663	44.2	
79 Bromobenzene	156	15.625	15.627	(0.925)	264453	50.4177	50.4	
80 N-Propylbenzene	91	15.661	15.663	(0.927)	1351732	52.6921	52.7	
81 1,1,2,2-Tetrachloroethane	83	15.761	15.763	(0.933)	289206	46.0004	46.0	
82 1,3,5-Trimethylbenzene	105	15.911	15.913	(0.942)	911404	50.8655	50.9	
83 2-Chlorotoluene	91	15.854	15.856	(0.939)	790260	49.7843	49.8	
84 1,2,3-Trichloropropane	75	15.925	15.927	(0.943)	238589	47.5696	47.6	
85 4-Chlorotoluene	91	16.068	16.070	(0.951)	835370	49.6044	49.6	
86 tert-Butylbenzene	119	16.304	16.306	(0.965)	871808	53.6307	53.6	
87 Pentachloroethane	117	16.333	16.335	(0.967)	148880	63.0238	63.0	
88 1,2,4-Trimethylbenzene	105	16.397	16.392	(0.971)	948958	53.0689	53.1	
89 P-Isopropyltoluene	119	16.704	16.706	(0.989)	977563	53.2058	53.2	
90 1,3-Dichlorobenzene	146	16.797	16.799	(0.994)	503854	49.9283	49.9	
* 91 1,4-Dichlorobenzene-D4	152	16.890	16.885	(1.000)	333330	50.0000		
92 1,4-Dichlorobenzene	146	16.904	16.906	(1.001)	518119	49.0226	49.0	
93 N-Butylbenzene	91	17.219	17.221	(1.019)	918805	51.4861	51.5	
94 sec-Butylbenzene	105	16.526	16.527	(0.978)	1163314	52.4690	52.5	
95 1,2-Dichlorobenzene	146	17.419	17.421	(1.031)	484084	49.5878	49.6	
96 1,2-Dibromo-3-Chloropropane	75	18.384	18.386	(1.088)	47074	36.9414	36.9	
97 1,3,5-Trichlorobenzene	180	18.420	18.422	(1.091)	335234	51.8945	51.9	
98 Hexachlorobutadiene	225	19.149	19.151	(1.134)	103501	47.5652	47.6	
99 1,2,4-Trichlorobenzene	180	19.192	19.194	(1.136)	296544	49.7022	49.7	
100 1,2,3-Trimethylbenzene	105	16.933	16.935	(1.003)	971132	54.9077	54.9	
101 Naphthalene	128	19.614	19.616	(1.161)	683436	47.2033	47.2	
102 1,2,3-Trichlorobenzene	180	19.857	19.858	(1.176)	238413	49.7231	49.7	
103 Methyl Acetate	43	4.953	4.955	(0.572)	220510	44.9786	45.0	
104 Methylcyclohexane	83	9.435	9.429	(1.089)	373150	54.1939	54.2	
M 153 Total Alkylbenzenes	100				7143584	367.418	367	



Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3759.D  
 Lab Smp Id: WG175608-7  
 Inj Date : 07-DEC-2015 11:00 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175608-7,SI9749  
 Misc Info : WG175608,WG175386-4,SI9749-1  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 08-Dec-2015 09:35 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 3 QC Sample: LCSD  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12  
 Processing Host: VOA-WS

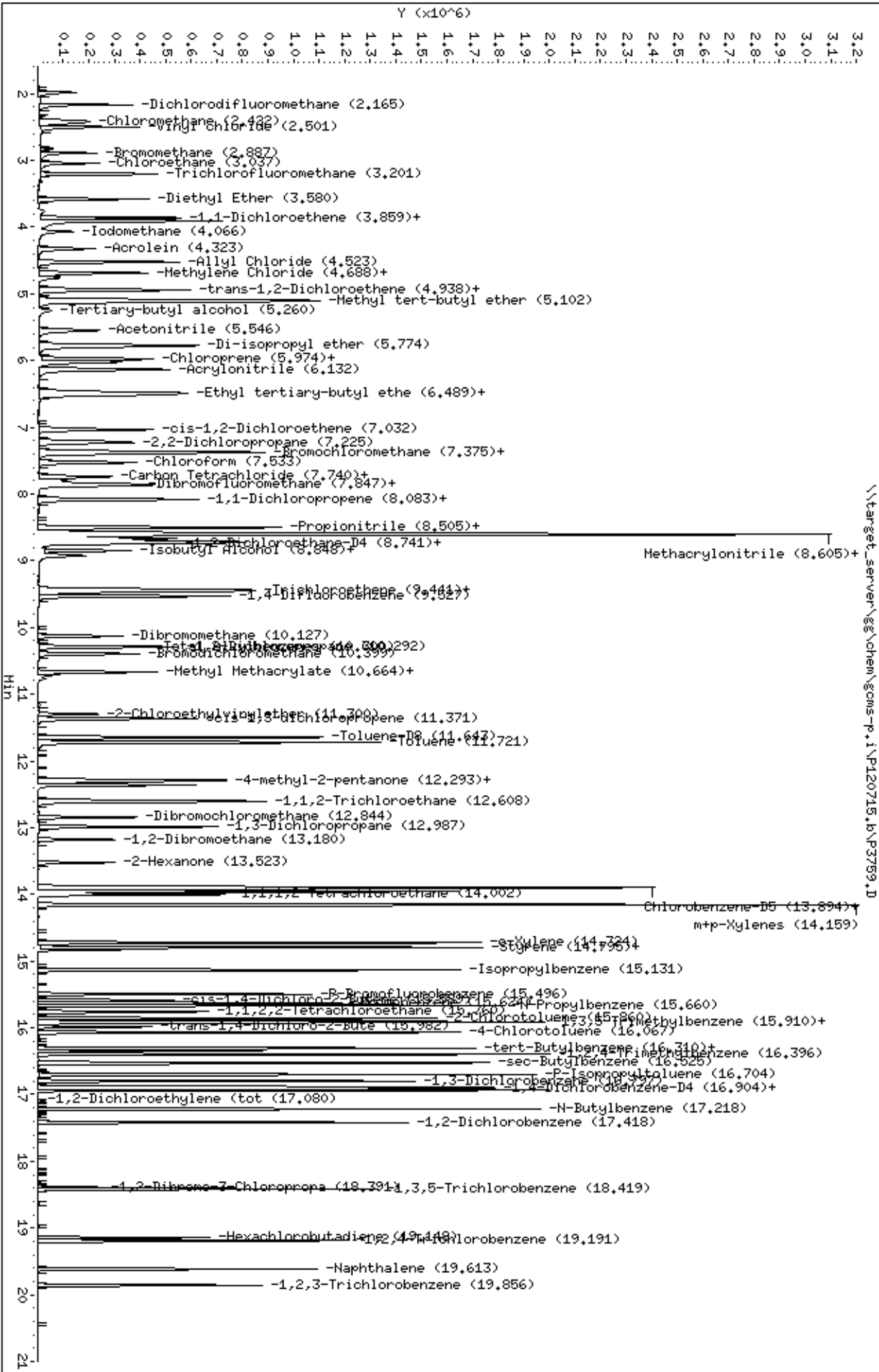
Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG		RT		REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
	MASS		EXP RT				ON-COLUMN	FINAL	
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1 Dichlorodifluoromethane	85		2.164	2.167 (0.250)		290337	54.0837	54.1	
2 Chloromethane	50		2.421	2.424 (0.279)		436713	52.9378	52.9	
3 Vinyl chloride	62		2.500	2.496 (0.288)		358949	55.6106	55.6	
4 Bromomethane	94		2.886	2.889 (0.333)		135138	56.1252	56.1	
5 Chloroethane	64		3.036	3.040 (0.350)		209575	61.7851	61.8	
6 Trichlorofluoromethane	101		3.201	3.204 (0.369)		324505	56.6197	56.6	
7 Diethyl Ether	59		3.579	3.582 (0.413)		225237	53.3949	53.4	
8 Tertiary-butyl alcohol	59		5.259	5.248 (0.607)		78766	142.254	142	
9 1,1-Dichloroethene	96		3.858	3.854 (0.445)		198914	48.8926	48.9	
10 Carbon Disulfide	76		3.908	3.911 (0.451)		706617	54.0822	54.1	
11 Freon-113	151		3.901	3.897 (0.450)		121737	50.3417	50.3	
12 Iodomethane	142		4.065	4.069 (0.469)		193143	55.1168	55.1	
13 Acrolein	56		4.323	4.325 (0.499)		220243	255.319	255	
14 Methylene Chloride	84		4.687	4.691 (0.541)		243056	47.2289	47.2	
15 Acetone	43		4.759	4.762 (0.549)		97355	45.5986	45.6	
16 Isobutyl Alcohol	43		8.919	8.915 (1.029)		144752	611.471	611	
17 trans-1,2-Dichloroethene	96		4.938	4.933 (0.570)		212370	50.0919	50.1	
18 Allyl Chloride	41		4.523	4.526 (0.522)		396707	53.2324	53.2	
19 Methyl tert-butyl ether	73		5.102	5.098 (0.589)		1390499	105.483	105	
20 Acetonitrile	39		5.545	5.541 (0.640)		75013	455.678	456	
21 Di-isopropyl ether	45		5.774	5.777 (0.666)		870578	54.3300	54.3	
22 Chloroprene	53		5.974	5.977 (0.689)		367432	52.5840	52.6	
23 Propionitrile	54		8.569	8.564 (0.988)		415501	513.596	514	

Compounds	QUANT SIG				RESPONSE	CONCENTRATIONS		REVIEW CODE
	MASS	RT	EXP RT	REL RT		ON-COLUMN ( ug/l)	FINAL ( ug/l)	
24 Methacrylonitrile	41	8.604	8.601 (0.993)		1769720	568.056	568	
25 1,1-Dichloroethane	63	6.024	6.020 (0.695)		410316	50.7796	50.8	
26 Acrylonitrile	52	6.131	6.135 (0.707)		449199	256.437	256	
27 Ethyl tertiary-butyl ether	59	6.481	6.477 (0.748)		708163	47.0605	47.1	
28 Vinyl Acetate	43	6.517	6.513 (0.684)		638866	57.6878	57.7	
29 cis-1,2-Dichloroethene	96	7.032	7.028 (0.811)		241742	48.0684	48.1	
M 30 1,2-Dichloroethylene (total)	96				454112	98.1603	98.2	
31 Methyl Methacrylate	41	10.663	10.666 (1.119)		240220	51.5982	51.6	
32 2,2-Dichloropropane	77	7.225	7.221 (0.833)		286056	46.1260	46.1	
33 Bromochloromethane	128	7.382	7.385 (0.852)		103359	56.2674	56.3	
34 Chloroform	83	7.525	7.528 (0.868)		362008	47.9243	47.9	
35 Carbon Tetrachloride	117	7.747	7.743 (0.813)		215330	44.9217	44.9	
36 Tetrahydrofuran	42	7.797	7.786 (0.899)		80736	47.3454	47.3	
§ 37 Dibromofluoromethane	113	7.847	7.843 (0.905)		177501	48.7324	48.7	
38 1,1,1-Trichloroethane	97	7.868	7.871 (0.908)		299775	49.1218	49.1	
39 1,1-Dichloropropene	75	8.083	8.086 (0.848)		304542	52.0072	52.0	
40 2-Butanone	43	8.068	8.064 (0.931)		134452	49.0820	49.1	
41 Benzene	78	8.504	8.500 (0.893)		936127	52.1209	52.1	
* 42 Pentafluorobenzene	168	8.669	8.665 (1.000)		375496	50.0000		
43 Cyclohexane	56	7.375	7.371 (0.851)		383751	50.4490	50.4	
44 Ethyl Methacrylate	69	10.663	10.667 (1.119)		178529	46.9735	47.0	
§ 45 1,2-Dichloroethane-D4	65	8.740	8.737 (1.008)		225806	47.8443	47.8	
46 Tertiary-amyl methyl ether	73	8.712	8.715 (1.005)		637715	49.5970	49.6	
47 1,2-Dichloroethane	62	8.847	8.843 (0.929)		293607	47.3827	47.4	
48 Trichloroethene	95	9.462	9.458 (0.993)		209024	50.6262	50.6	
* 49 1,4-Difluorobenzene	114	9.527	9.530 (1.000)		644614	50.0000		
50 Dibromomethane	93	10.127	10.130 (1.063)		133733	53.3674	53.4	
51 1,2-Dichloropropane	63	10.291	10.287 (1.080)		225118	49.7449	49.7	
52 Bromodichloromethane	83	10.399	10.394 (1.092)		285797	52.3079	52.3	
53 cis-1,3-dichloropropene	75	11.371	11.367 (1.194)		343484	48.3071	48.3	
54 1,4-Dioxane	88	10.713	10.709 (1.125)		50123	888.887	889	
§ 55 Toluene-D8	98	11.642	11.646 (1.222)		751344	49.5162	49.5	
56 2-Chloroethylvinylether	63	11.299	11.295 (1.186)		101384	40.5557	40.6	
57 Toluene	92	11.721	11.724 (1.230)		595192	51.1820	51.2	
58 4-methyl-2-pentanone	43	12.314	12.311 (1.293)		265537	52.8342	52.8	
59 Tetrachloroethene	164	12.286	12.289 (0.885)		171265	38.4700	38.5	
60 trans-1,3-Dichloropropene	75	12.357	12.360 (1.297)		304070	50.6623	50.7	
61 1,1,2-Trichloroethane	83	12.593	12.596 (1.322)		173912	50.6410	50.6	
62 Dibromochloromethane	129	12.843	12.846 (0.925)		194870	51.3571	51.4	
63 1,3-Dichloropropane	76	12.986	12.989 (0.935)		378782	47.5083	47.5	
64 1,2-Dibromoethane	107	13.179	13.175 (1.383)		206860	51.7571	51.8	
65 2-Hexanone	43	13.522	13.519 (0.974)		193433	49.8299	49.8	
* 66 Chlorobenzene-D5	117	13.887	13.890 (1.000)		599829	50.0000		
67 Chlorobenzene	112	13.915	13.911 (1.002)		604130	49.4618	49.5	
152 1-Chlorohexane	91	13.894	13.897 (1.000)		340349	49.0316	49.0	
68 Ethylbenzene	106	13.958	13.954 (1.005)		346715	50.6803	50.7	
69 1,1,1,2-Tetrachloroethane	131	14.001	14.004 (1.008)		195045	51.2048	51.2	
M 70 Xylenes (total)	106				1291505	156.855	157	
71 m+p-Xylenes	106	14.158	14.155 (1.020)		862912	104.190	104	
72 o-Xylene	106	14.723	14.726 (1.060)		428593	52.6656	52.7	
73 Styrene	104	14.795	14.798 (1.065)		737677	52.8501	52.8	
74 Bromoform	173	14.830	14.827 (1.068)		128150	44.5098	44.5	
75 Isopropylbenzene	105	15.131	15.134 (0.896)		1064206	51.3375	51.3	
§ 76 P-Bromofluorobenzene	95	15.495	15.491 (1.626)		321451	49.5258	49.5	

Compounds	QUANT SIG		CONCENTRATIONS					REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	FINAL ( ug/l)	
77 cis-1,4-Dichloro-2-Butene	53	15.588	15.584	(0.923)	107094	45.5919	45.6	
78 trans-1,4-Dichloro-2-Butene	53	15.981	15.985	(0.946)	84353	46.1553	46.2	
79 Bromobenzene	156	15.624	15.627	(0.925)	262041	50.6027	50.6	
80 N-Propylbenzene	91	15.659	15.663	(0.927)	1338679	52.8569	52.8	
81 1,1,2,2-Tetrachloroethane	83	15.760	15.763	(0.933)	296371	47.7485	47.7	
82 1,3,5-Trimethylbenzene	105	15.910	15.913	(0.942)	897018	50.7088	50.7	
83 2-Chlorotoluene	91	15.860	15.856	(0.939)	776448	49.5456	49.5	
84 1,2,3-Trichloropropane	75	15.924	15.927	(0.943)	240134	48.4956	48.5	
85 4-Chlorotoluene	91	16.067	16.070	(0.951)	829031	49.8635	49.9	
86 tert-Butylbenzene	119	16.310	16.306	(0.966)	858811	53.5132	53.5	
87 Pentachloroethane	117	16.339	16.335	(0.967)	141592	60.7124	60.7	
88 1,2,4-Trimethylbenzene	105	16.396	16.392	(0.971)	930588	52.7134	52.7	
89 P-Isopropyltoluene	119	16.703	16.706	(0.989)	968775	53.4082	53.4	
90 1,3-Dichlorobenzene	146	16.796	16.799	(0.994)	493642	49.5479	49.5	
* 91 1,4-Dichlorobenzene-D4	152	16.889	16.885	(1.000)	329082	50.0000		
92 1,4-Dichlorobenzene	146	16.903	16.906	(1.001)	507829	48.6692	48.7	
93 N-Butylbenzene	91	17.218	17.221	(1.019)	913127	51.8285	51.8	
94 sec-Butylbenzene	105	16.524	16.527	(0.978)	1134024	51.8082	51.8	
95 1,2-Dichlorobenzene	146	17.418	17.421	(1.031)	478656	49.6647	49.7	
96 1,2-Dibromo-3-Chloropropane	75	18.390	18.386	(1.089)	46862	37.2359	37.2	
97 1,3,5-Trichlorobenzene	180	18.419	18.422	(1.091)	326369	51.1743	51.2	
98 Hexachlorobutadiene	225	19.148	19.151	(1.134)	100893	46.9652	47.0	
99 1,2,4-Trichlorobenzene	180	19.191	19.194	(1.136)	298925	50.7480	50.7	
100 1,2,3-Trimethylbenzene	105	16.932	16.935	(1.003)	940471	53.8605	53.9	
101 Naphthalene	128	19.612	19.616	(1.161)	710300	49.6467	49.6	
102 1,2,3-Trichlorobenzene	180	19.863	19.858	(1.176)	244989	51.7542	51.8	
103 Methyl Acetate	43	4.952	4.955	(0.571)	228740	46.5829	46.6	
104 Methylcyclohexane	83	9.434	9.429	(1.088)	370727	53.7561	53.8	
M 153 Total Alkylbenzenes	100				7041022	366.837	367	



## LCS/LCSD Recovery Report

**LCS ID:** WG175915-1  
**LCSD ID:** WG175915-2  
**Project:**  
**SDG:** SI9749  
**Report Date:** 20-JAN-16  
**LCS File ID:** P3845.D

**Received Date:**  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 8260B  
**Lab Prep Batch:** WG175915  
**LCSD File ID:** P3846.D

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Dichlorodifluoromethane	50.0	51.0	102.	45.1	90.2	ug/L	12	20	29-164
Chloromethane	50.0	50.4	101.	45.6	91.2	ug/L	10	20	59-123
Vinyl Chloride	50.0	51.0	102.	47.5	95.0	ug/L	7	20	64-131
Bromomethane	50.0	49.6	99.2	46.7	93.4	ug/L	6	20	57-135
Chloroethane	50.0	56.1	112.	51.5	103.	ug/L	8	20	53-157
Trichlorofluoromethane	50.0	49.3	98.6	46.3	92.6	ug/L	6	20	70-149
Diethyl Ether	50.0	49.2	98.4	46.2	92.4	ug/L	6	20	78-124
1,1-Dichloroethene	50.0	45.7	91.4	43.4	86.8*	ug/L	5	20	88-127
Carbon Disulfide	50.0	45.4	90.8	42.5	85.0	ug/L	6	20	71-129
Ethyl Tertiary-Butyl Ether	50.0	49.7	99.4	51.4	103.	ug/L	3	20	85-119
Methylene Chloride	50.0	43.0	86.0	40.8	81.6	ug/L	5	20	72-129
Acetone	50.0	47.2	94.4	49.8	99.6	ug/L	5	20	62-172
trans-1,2-Dichloroethene	50.0	47.2	94.4	45.4	90.8	ug/L	4	20	78-125
Methyl tert-butyl Ether	100.	99.4	99.4	98.0	98.0	ug/L	1	20	81-125
Di-Isopropyl Ether	50.0	51.2	102.	50.1	100.	ug/L	2	20	81-123
1,1-Dichloroethane	50.0	48.4	96.8	46.2	92.4	ug/L	5	20	76-130
cis-1,2-Dichloroethene	50.0	44.0	88.0	42.7	85.4	ug/L	3	20	85-123
2,2-Dichloropropane	50.0	52.7	105.	51.4	103.	ug/L	2	20	70-132
Bromochloromethane	50.0	49.3	98.6	47.7	95.4	ug/L	3	20	85-117
Chloroform	50.0	46.2	92.4	45.2	90.4	ug/L	2	20	78-128
Carbon Tetrachloride	50.0	49.7	99.4	47.9	95.8	ug/L	4	20	87-126
Tetrahydrofuran	50.0	45.2	90.4	45.6	91.2	ug/L	1	20	74-123
1,1,1-Trichloroethane	50.0	46.9	93.8	45.0	90.0	ug/L	4	20	77-129
1,1-Dichloropropene	50.0	50.5	101.	48.6	97.2	ug/L	4	20	87-118
2-Butanone	50.0	48.6	97.2	50.8	102.	ug/L	4	20	71-132
Benzene	50.0	48.5	97.0	46.8	93.6	ug/L	4	20	86-116
Tertiary-Amyl Methyl Ether	50.0	45.2	90.4	46.5	93.0	ug/L	3	20	80-121
1,2-Dichloroethane	50.0	46.2	92.4	45.9	91.8	ug/L	1	20	81-125
Trichloroethene	50.0	47.7	95.4	45.6	91.2	ug/L	4	20	79-121
Dibromomethane	50.0	47.7	95.4	48.4	96.8	ug/L	1	20	85-117
1,2-Dichloropropane	50.0	45.9	91.8	45.0	90.0	ug/L	2	20	84-118
Bromodichloromethane	50.0	49.4	98.8	48.2	96.4	ug/L	2	20	85-122
cis-1,3-Dichloropropene	50.0	43.4	86.8	44.1	88.2	ug/L	2	20	83-119
1,4-Dioxane	1000	656.	65.6	733.	73.3	ug/L	11	20	10-149

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**LCS ID:** WG175915-1  
**LCSD ID:** WG175915-2  
**Project:**  
**SDG:** SI9749  
**Report Date:** 20-JAN-16  
**LCS File ID:** P3845.D

**Received Date:**  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 8260B  
**Lab Prep Batch:** WG175915  
**LCSD File ID:** P3846.D

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Toluene	50.0	48.8	97.6	47.7	95.4	ug/L	2	20	84-118
4-Methyl-2-Pentanone	50.0	49.7	99.4	51.3	103.	ug/L	3	20	83-122
Tetrachloroethene	50.0	40.9	81.8	44.3	88.6	ug/L	8	20	47-155
trans-1,3-Dichloropropene	50.0	46.3	92.6	46.1	92.2	ug/L	0	20	85-135
1,1,2-Trichloroethane	50.0	45.6	91.2	45.8	91.6	ug/L	0	20	84-115
Dibromochloromethane	50.0	48.8	97.6	48.2	96.4	ug/L	1	20	85-119
1,3-Dichloropropane	50.0	46.3	92.6	46.1	92.2	ug/L	0	20	80-119
1,2-Dibromoethane	50.0	48.2	96.4	48.4	96.8	ug/L	0	20	84-116
2-Hexanone	50.0	50.1	100.	53.6	107.	ug/L	7	20	80-124
Chlorobenzene	50.0	45.7	91.4	44.7	89.4	ug/L	2	20	89-113
Ethylbenzene	50.0	46.9	93.8	46.5	93.0	ug/L	1	20	88-113
1,1,1,2-Tetrachloroethane	50.0	46.2	92.4	45.0	90.0	ug/L	3	20	88-118
m+p-Xylenes	100.	99.3	99.3	97.3	97.3	ug/L	2	20	88-116
o-Xylene	50.0	50.4	101.	48.8	97.6	ug/L	3	20	90-116
Styrene	50.0	50.5	101.	50.0	100.	ug/L	1	20	88-117
Bromoform	50.0	44.1	88.2	44.8	89.6	ug/L	2	20	86-117
Isopropylbenzene	50.0	49.8	99.6	47.8	95.6*	ug/L	4	20	96-136
Bromobenzene	50.0	45.6	91.2	44.3	88.6	ug/L	3	20	84-113
N-Propylbenzene	50.0	50.8	102.	49.4	98.8	ug/L	3	20	83-121
1,1,2,2-Tetrachloroethane	50.0	46.0	92.0	46.9	93.8	ug/L	2	20	79-121
1,3,5-Trimethylbenzene	50.0	48.3	96.6	47.2	94.4	ug/L	2	20	80-123
2-Chlorotoluene	50.0	48.4	96.8	47.4	94.8	ug/L	2	20	81-120
1,2,3-Trichloropropane	50.0	47.2	94.4	46.8	93.6	ug/L	1	20	77-120
4-Chlorotoluene	50.0	48.3	96.6	46.8	93.6	ug/L	3	20	81-122
tert-Butylbenzene	50.0	50.2	100.	48.4	96.8	ug/L	4	20	84-121
1,2,4-Trimethylbenzene	50.0	50.5	101.	49.6	99.2	ug/L	2	20	83-118
P-Isopropyltoluene	50.0	51.0	102.	49.7	99.4	ug/L	2	20	88-121
1,3-Dichlorobenzene	50.0	46.2	92.4	45.0	90.0	ug/L	3	20	86-110
1,4-Dichlorobenzene	50.0	44.9	89.8	43.4	86.8	ug/L	3	20	86-111
N-Butylbenzene	50.0	50.4	101.	49.0	98.0	ug/L	3	20	78-121
sec-Butylbenzene	50.0	50.8	102.	49.0	98.0	ug/L	4	20	82-122
1,2-Dichlorobenzene	50.0	46.8	93.6	46.4	92.8	ug/L	1	20	86-112
1,2-Dibromo-3-Chloropropane	50.0	46.1	92.2	47.8	95.6	ug/L	4	20	67-124
Hexachlorobutadiene	50.0	43.8	87.6	42.7	85.4	ug/L	2	20	73-113



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**LCSD ID:** WG175915-2  
**Project:**  
**SDG:** SI9749  
**Report Date:** 20-JAN-16  
**LCS File ID:** P3845.D

**Received Date:**  
**Extract Date:** 11-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 8260B  
**Lab Prep Batch:** WG175915  
**LCSD File ID:** P3846.D

**Analysis Date:** 11-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
1,2,4-Trichlorobenzene	50.0	47.3	94.6	47.0	94.0	ug/L	1	20	76-126
Naphthalene	50.0	47.6	95.2	49.3	98.6	ug/L	4	20	62-126
1,2,3-Trichlorobenzene	50.0	47.0	94.0	47.2	94.4	ug/L	0	20	70-122
P-Bromofluorobenzene			102.		101.				56-133
Toluene-d8			101.		101.				65-128
1,2-Dichloroethane-d4			98.4		98.0				67-135
Dibromofluoromethane			100.		97.4				68-128

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121115.b\P3845.D  
 Lab Smp Id: WG175915-1  
 Inj Date : 11-DEC-2015 08:10 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175915-1,SI9749  
 Misc Info : WG175915,WG176143-4,SI9749-6  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121115.b\P826A21.m  
 Meth Date : 20-Jan-2016 10:07 gcms-p.i Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:48 Cal File: P3837.D  
 Als bottle: 2 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

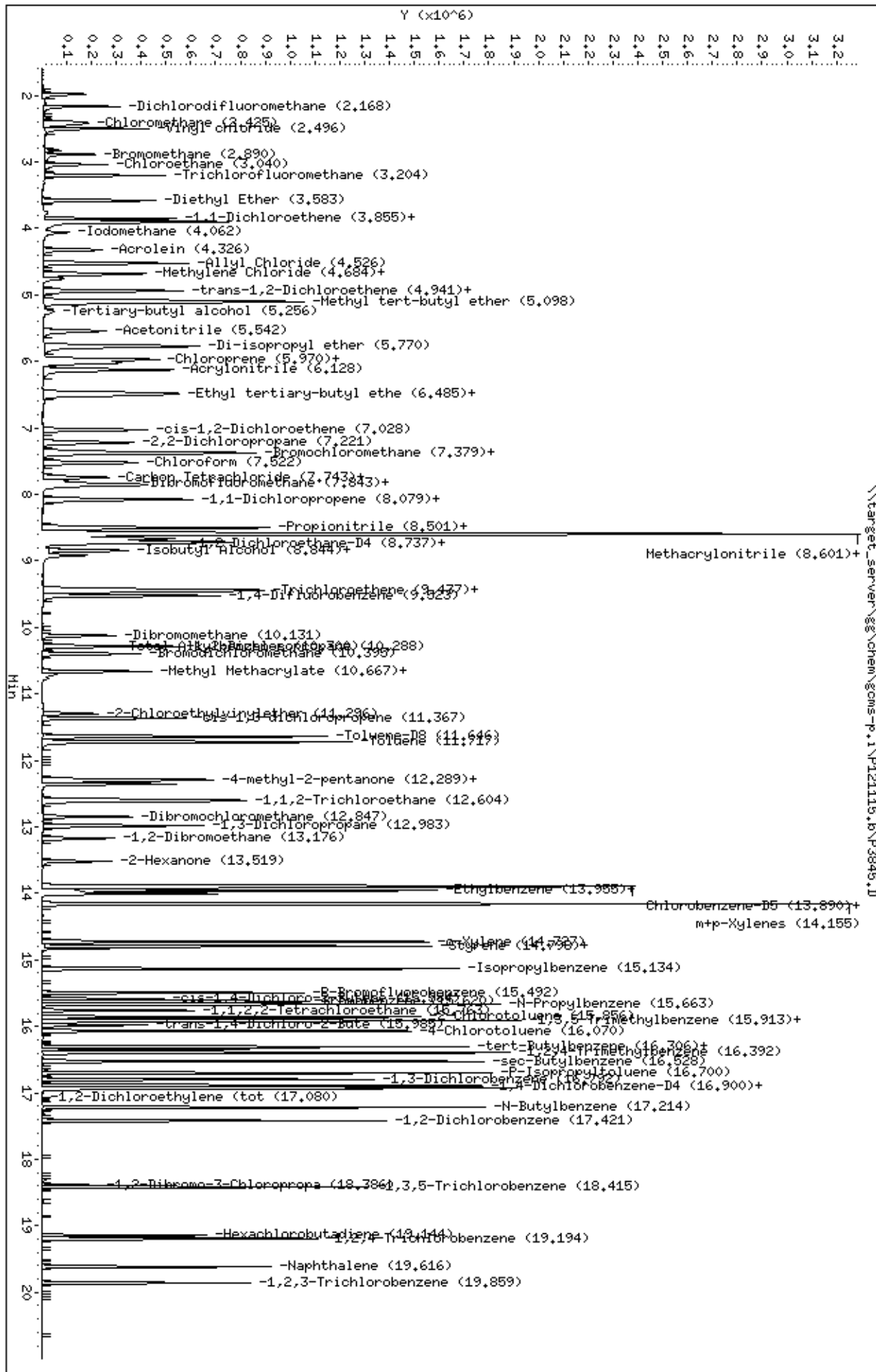
Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG		CONCENTRATIONS					REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	FINAL ( ug/l)	
1 Dichlorodifluoromethane	85	2.167	2.168	(0.250)	243924	51.0005	51.0	
2 Chloromethane	50	2.410	2.418	(0.278)	416803	50.4261	50.4	
3 Vinyl chloride	62	2.496	2.497	(0.288)	352986	51.0571	51.0	
4 Bromomethane	94	2.889	2.883	(0.333)	116514	49.5631	49.6	
5 Chloroethane	64	3.039	3.040	(0.351)	220583	56.1455	56.1	
6 Trichlorofluoromethane	101	3.204	3.205	(0.370)	332792	49.3235	49.3	
7 Diethyl Ether	59	3.582	3.583	(0.413)	230655	49.1781	49.2	
8 Tertiary-butyl alcohol	59	5.255	5.257	(0.607)	68612	245.068	245	
9 1,1-Dichloroethene	96	3.854	3.855	(0.445)	184099	45.6778	45.7	
10 Carbon Disulfide	76	3.911	3.912	(0.451)	655748	45.3611	45.4	
11 Freon-113	151	3.904	3.898	(0.451)	137758	54.0859	54.1	
12 Iodomethane	142	4.061	4.062	(0.469)	151894	47.2049	47.2	
13 Acrolein	56	4.326	4.327	(0.499)	232553	249.218	249	
14 Methylene Chloride	84	4.683	4.684	(0.541)	228205	43.0198	43.0	
15 Acetone	43	4.762	4.756	(0.550)	102592	47.2413	47.2	
16 Isobutyl Alcohol	43	8.915	8.916	(1.029)	131856	971.686	972	
17 trans-1,2-Dichloroethene	96	4.933	4.934	(0.569)	207508	47.2220	47.2	
18 Allyl Chloride	41	4.526	4.520	(0.522)	426857	51.8978	51.9	
19 Methyl tert-butyl ether	73	5.098	5.099	(0.588)	1261763	99.3715	99.4	
20 Acetonitrile	39	5.541	5.542	(0.640)	81322	483.663	484	
21 Di-isopropyl ether	45	5.770	5.771	(0.666)	898199	51.2393	51.2	
22 Chloroprene	53	5.970	5.971	(0.689)	395700	53.0787	53.1	
23 Propionitrile	54	8.565	8.566	(0.988)	414385	484.583	484	
24 Methacrylonitrile	41	8.600	8.601	(0.993)	1865870	505.002	505	

Compounds	QUANT SIG				CONCENTRATIONS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	
25 1,1-Dichloroethane	63	6.020	6.021	(0.695)	397899	48.4348	48.4
26 Acrylonitrile	52	6.127	6.128	(0.707)	465027	244.075	244
27 Ethyl tertiary-butyl ether	59	6.477	6.478	(0.748)	591581	49.7193	49.7
28 Vinyl Acetate	43	6.513	6.515	(0.683)	598755	51.5531	51.6
29 cis-1,2-Dichloroethene	96	7.028	7.029	(0.811)	225181	44.0026	44.0
M 30 1,2-Dichloroethylene (total)	96				432689	91.2246	91.2
31 Methyl Methacrylate	41	10.666	10.660	(1.119)	238562	50.6006	50.6
32 2,2-Dichloropropane	77	7.221	7.222	(0.833)	247369	52.7307	52.7
33 Bromochloromethane	128	7.385	7.386	(0.852)	95466	49.2774	49.3
34 Chloroform	83	7.521	7.522	(0.868)	343723	46.1967	46.2
35 Carbon Tetrachloride	117	7.743	7.744	(0.812)	199754	49.6834	49.7
36 Tetrahydrofuran	42	7.793	7.786	(0.899)	79508	45.1908	45.2
\$ 37 Dibromofluoromethane	113	7.843	7.844	(0.905)	175898	50.2353	50.2
38 1,1,1-Trichloroethane	97	7.864	7.865	(0.908)	275703	46.9318	46.9
39 1,1-Dichloropropene	75	8.079	8.080	(0.848)	291414	50.4901	50.5
40 2-Butanone	43	8.064	8.065	(0.931)	134284	48.6114	48.6
41 Benzene	78	8.500	8.501	(0.892)	885084	48.4701	48.5
* 42 Pentafluorobenzene	168	8.665	8.666	(1.000)	361888	50.0000	
43 Cyclohexane	56	7.371	7.372	(0.851)	381733	46.5362	46.5
44 Ethyl Methacrylate	69	10.666	10.668	(1.119)	167710	45.7284	45.7
\$ 45 1,2-Dichloroethane-D4	65	8.736	8.737	(1.008)	230374	49.2221	49.2
46 Tertiary-amyl methyl ether	73	8.715	8.715	(1.006)	529053	45.1917	45.2
47 1,2-Dichloroethane	62	8.843	8.844	(0.928)	283062	46.2043	46.2
48 Trichloroethene	95	9.458	9.459	(0.992)	201537	47.7276	47.7
* 49 1,4-Difluorobenzene	114	9.530	9.523	(1.000)	618490	50.0000	
50 Dibromomethane	93	10.123	10.124	(1.062)	122752	47.7165	47.7
51 1,2-Dichloropropane	63	10.287	10.288	(1.080)	213403	45.9156	45.9
52 Bromodichloromethane	83	10.394	10.395	(1.091)	272670	49.3561	49.4
53 cis-1,3-dichloropropene	75	11.367	11.368	(1.193)	309784	43.4195	43.4
54 1,4-Dioxane	88	10.709	10.710	(1.124)	44845	655.633	656
\$ 55 Toluene-D8	98	11.645	11.646	(1.222)	742379	50.5344	50.5
56 2-Chloroethylvinylether	63	11.295	11.296	(1.185)	91455	56.4677	56.5
57 Toluene	92	11.717	11.718	(1.230)	564515	48.8152	48.8
58 4-methyl-2-pentanone	43	12.310	12.311	(1.292)	256979	49.6653	49.7
59 Tetrachloroethene	164	12.289	12.290	(0.885)	150137	40.9005	40.9
60 trans-1,3-Dichloropropene	75	12.360	12.355	(1.297)	273560	46.2780	46.3
61 1,1,2-Trichloroethane	83	12.589	12.590	(1.321)	159110	45.5779	45.6
62 Dibromochloromethane	129	12.846	12.847	(0.925)	182059	48.8043	48.8
63 1,3-Dichloropropane	76	12.982	12.983	(0.935)	355440	46.2823	46.3
64 1,2-Dibromoethane	107	13.175	13.176	(1.383)	190743	48.2086	48.2
65 2-Hexanone	43	13.518	13.519	(0.973)	186907	50.1347	50.1
* 66 Chlorobenzene-D5	117	13.890	13.891	(1.000)	589134	50.0000	
67 Chlorobenzene	112	13.911	13.912	(1.002)	574261	45.7047	45.7
152 1-Chlorohexane	91	13.897	13.891	(1.000)	324706	48.9125	48.9
68 Ethylbenzene	106	13.954	13.955	(1.005)	322446	46.8878	46.9
69 1,1,1,2-Tetrachloroethane	131	14.004	14.006	(1.008)	178562	46.2125	46.2
M 70 Xylenes (total)	106				1239773	149.705	150
71 m+p-Xylenes	106	14.154	14.155	(1.019)	830216	99.2941	99.3
72 o-Xylene	106	14.726	14.720	(1.060)	409557	50.4111	50.4
73 Styrene	104	14.798	14.791	(1.065)	688507	50.4703	50.5
74 Bromoform	173	14.826	14.828	(1.067)	122837	44.0922	44.1
75 Isopropylbenzene	105	15.134	15.135	(0.896)	1016687	49.8183	49.8
\$ 76 P-Bromofluorobenzene	95	15.491	15.492	(1.626)	318005	50.9273	50.9
77 cis-1,4-Dichloro-2-Butene	53	15.584	15.585	(0.923)	102704	45.8004	45.8

Compounds	QUANT SIG			CONCENTRATIONS				REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	FINAL ( ug/l)	
78 trans-1,4-Dichloro-2-Butene	53	15.984	15.979	(0.947)	86900	49.8528	49.8	
79 Bromobenzene	156	15.627	15.621	(0.925)	242681	45.6458	45.6	
80 N-Propylbenzene	91	15.663	15.664	(0.928)	1271685	50.8337	50.8	
81 1,1,2,2-Tetrachloroethane	83	15.763	15.756	(0.934)	276107	46.0539	46.0	
82 1,3,5-Trimethylbenzene	105	15.913	15.907	(0.942)	847670	48.2645	48.3	
83 2-Chlorotoluene	91	15.856	15.857	(0.939)	736636	48.3826	48.4	
84 1,2,3-Trichloropropane	75	15.927	15.928	(0.943)	231357	47.2158	47.2	
85 4-Chlorotoluene	91	16.070	16.064	(0.952)	786241	48.3326	48.3	
86 tert-Butylbenzene	119	16.306	16.307	(0.966)	817677	50.2523	50.2	
87 Pentachloroethane	117	16.334	16.335	(0.967)	156763	47.8355	47.8	
88 1,2,4-Trimethylbenzene	105	16.392	16.393	(0.971)	884978	50.5291	50.5	
89 P-Isopropyltoluene	119	16.699	16.700	(0.989)	921650	51.0208	51.0	
90 1,3-Dichlorobenzene	146	16.799	16.793	(0.995)	468905	46.1722	46.2	
* 91 1,4-Dichlorobenzene-D4	152	16.885	16.886	(1.000)	327435	50.0000		
92 1,4-Dichlorobenzene	146	16.906	16.907	(1.001)	483468	44.9121	44.9	
93 N-Butylbenzene	91	17.214	17.215	(1.019)	883537	50.3847	50.4	
94 sec-Butylbenzene	105	16.527	16.528	(0.979)	1094112	50.7887	50.8	
95 1,2-Dichlorobenzene	146	17.421	17.422	(1.032)	448344	46.7567	46.8	
96 1,2-Dibromo-3-Chloropropane	75	18.386	18.387	(1.089)	46336	46.0973	46.1	
97 1,3,5-Trichlorobenzene	180	18.415	18.416	(1.091)	322363	46.7327	46.7	
98 Hexachlorobutadiene	225	19.144	19.145	(1.134)	98749	43.8060	43.8	
99 1,2,4-Trichlorobenzene	180	19.194	19.195	(1.137)	271959	47.2654	47.3	
100 1,2,3-Trimethylbenzene	105	16.928	16.929	(1.003)	942525	50.7851	50.8	
101 Naphthalene	128	19.615	19.610	(1.162)	622372	47.5818	47.6	
102 1,2,3-Trichlorobenzene	180	19.858	19.859	(1.176)	216490	47.0459	47.0	
103 Methyl Acetate	43	4.948	4.949	(0.571)	233455	45.2341	45.2	
104 Methylcyclohexane	83	9.430	9.430	(1.088)	382798	53.3351	53.3	
M 153 Total Alkylbenzenes	100				6721309	352.074	352	



Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P121115.b\P3846.D  
 Lab Smp Id: WG175915-2  
 Inj Date : 11-DEC-2015 08:36 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175915-2,SI9749  
 Misc Info : WG175915,WG176143-4,SI9749-6  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P121115.b\P826A21.m  
 Meth Date : 20-Jan-2016 10:07 gcms-p.i Quant Type: ISTD  
 Cal Date : 10-DEC-2015 11:48 Cal File: P3837.D  
 Als bottle: 3 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

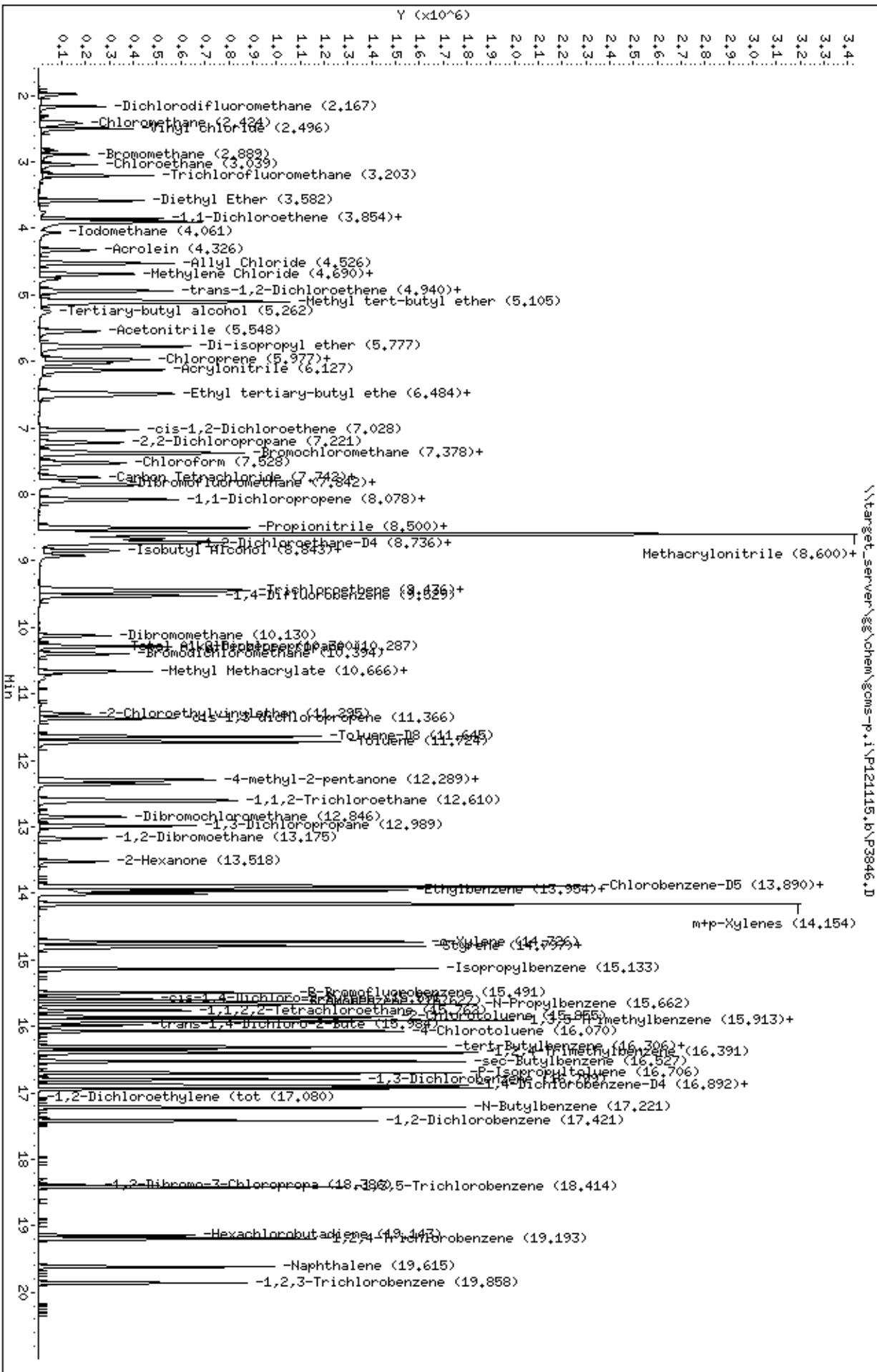
Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT	SIG	CONCENTRATIONS					REVIEW CODE
			ON-COLUMN	FINAL				
	MASS	RT	EXP RT	REL RT	RESPONSE	( ug/l)	( ug/l)	
1 Dichlorodifluoromethane	85	2.166	2.168	(0.250)	219031	45.0734	45.1	
2 Chloromethane	50	2.424	2.418	(0.280)	383052	45.6118	45.6	
3 Vinyl chloride	62	2.495	2.497	(0.288)	333905	47.5353	47.5	
4 Bromomethane	94	2.888	2.883	(0.333)	111455	46.6632	46.7	
5 Chloroethane	64	3.039	3.040	(0.350)	205631	51.5141	51.5	
6 Trichlorofluoromethane	101	3.203	3.205	(0.369)	317193	46.2700	46.3	
7 Diethyl Ether	59	3.582	3.583	(0.413)	220197	46.2078	46.2	
8 Tertiary-butyl alcohol	59	5.262	5.257	(0.607)	75700	266.120	266	
9 1,1-Dichloroethene	96	3.853	3.855	(0.444)	177780	43.4141	43.4	
10 Carbon Disulfide	76	3.911	3.912	(0.451)	624062	42.4883	42.5	
11 Freon-113	151	3.903	3.898	(0.450)	126426	48.8538	48.8	
12 Iodomethane	142	4.061	4.062	(0.468)	137443	41.4736	41.5	
13 Acrolein	56	4.325	4.327	(0.499)	229064	241.607	242	
14 Methylene Chloride	84	4.690	4.684	(0.541)	220207	40.8573	40.8	
15 Acetone	43	4.761	4.756	(0.549)	109975	49.8421	49.8	
16 Isobutyl Alcohol	43	8.921	8.916	(1.029)	142919	1036.60	1040	
17 trans-1,2-Dichloroethene	96	4.933	4.934	(0.569)	202623	45.3830	45.4	
18 Allyl Chloride	41	4.525	4.520	(0.522)	417304	49.9360	49.9	
19 Methyl tert-butyl ether	73	5.104	5.099	(0.589)	1264908	98.0478	98.0	
20 Acetonitrile	39	5.547	5.542	(0.640)	77569	454.145	454	
21 Di-isopropyl ether	45	5.776	5.771	(0.666)	892197	50.0941	50.1	
22 Chloroprene	53	5.976	5.971	(0.689)	376710	49.7343	49.7	
23 Propionitrile	54	8.571	8.566	(0.988)	437229	503.231	503	
24 Methacrylonitrile	41	8.600	8.601	(0.992)	1937128	516.018	516	

Compounds	QUANT SIG					CONCENTRATIONS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	FINAL ( ug/l)	
25 1,1-Dichloroethane	63	6.026	6.021	(0.695)	385326	46.1644	46.2	
26 Acrylonitrile	52	6.126	6.128	(0.707)	477284	246.557	246	
27 Ethyl tertiary-butyl ether	59	6.484	6.478	(0.748)	621195	51.3846	51.4	
28 Vinyl Acetate	43	6.512	6.515	(0.683)	588953	50.3693	50.4	
29 cis-1,2-Dichloroethene	96	7.034	7.029	(0.811)	221853	42.6684	42.7	
M 30 1,2-Dichloroethylene (total)	96				424476	88.0514	88.0	
31 Methyl Methacrylate	41	10.665	10.660	(1.119)	249621	52.5398	52.5	
32 2,2-Dichloropropane	77	7.220	7.222	(0.833)	245071	51.4168	51.4	
33 Bromochloromethane	128	7.384	7.386	(0.852)	93822	47.6648	47.7	
34 Chloroform	83	7.527	7.522	(0.868)	341583	45.1849	45.2	
35 Carbon Tetrachloride	117	7.742	7.744	(0.812)	194098	47.9060	47.9	
36 Tetrahydrofuran	42	7.792	7.786	(0.899)	81512	45.5990	45.6	
\$ 37 Dibromofluoromethane	113	7.842	7.844	(0.904)	173271	48.7044	48.7	
38 1,1,1-Trichloroethane	97	7.871	7.865	(0.908)	268617	45.0043	45.0	
39 1,1-Dichloropropene	75	8.085	8.080	(0.848)	282697	48.6037	48.6	
40 2-Butanone	43	8.064	8.065	(0.930)	142741	50.8578	50.8	
41 Benzene	78	8.507	8.501	(0.893)	862057	46.8466	46.8	
* 42 Pentafluorobenzene	168	8.671	8.666	(1.000)	367688	50.0000		
43 Cyclohexane	56	7.377	7.372	(0.851)	365518	43.8566	43.8	
44 Ethyl Methacrylate	69	10.665	10.668	(1.119)	178984	48.2720	48.3	
\$ 45 1,2-Dichloroethane-D4	65	8.735	8.737	(1.007)	232996	48.9971	49.0	
46 Tertiary-amyl methyl ether	73	8.714	8.715	(1.005)	554492	46.5392	46.5	
47 1,2-Dichloroethane	62	8.843	8.844	(0.928)	283371	45.8996	45.9	
48 Trichloroethene	95	9.457	9.459	(0.993)	193892	45.5646	45.6	
* 49 1,4-Difluorobenzene	114	9.529	9.523	(1.000)	623275	50.0000		
50 Dibromomethane	93	10.129	10.124	(1.063)	125565	48.4353	48.4	
51 1,2-Dichloropropane	63	10.287	10.288	(1.080)	210839	45.0156	45.0	
52 Bromodichloromethane	83	10.394	10.395	(1.091)	268162	48.1675	48.2	
53 cis-1,3-dichloropropene	75	11.366	11.368	(1.193)	317576	44.1253	44.1	
54 1,4-Dioxane	88	10.715	10.710	(1.125)	50540	733.222	733	
\$ 55 Toluene-D8	98	11.645	11.646	(1.222)	748349	50.5497	50.5	
56 2-Chloroethylvinylether	63	11.294	11.296	(1.185)	86728	53.1380	53.1	
57 Toluene	92	11.723	11.718	(1.230)	556387	47.7430	47.7	
58 4-methyl-2-pentanone	43	12.309	12.311	(1.292)	267463	51.2947	51.3	
59 Tetrachloroethene	164	12.288	12.290	(0.885)	165084	44.2738	44.3	
60 trans-1,3-Dichloropropene	75	12.360	12.355	(1.297)	274718	46.1274	46.1	
61 1,1,2-Trichloroethane	83	12.595	12.590	(1.322)	161279	45.8445	45.8	
62 Dibromochloromethane	129	12.846	12.847	(0.925)	182847	48.2543	48.2	
63 1,3-Dichloropropane	76	12.989	12.983	(0.935)	359441	46.0763	46.1	
64 1,2-Dibromoethane	107	13.174	13.176	(1.383)	192804	48.3554	48.4	
65 2-Hexanone	43	13.525	13.519	(0.974)	203151	53.6455	53.6	
* 66 Chlorobenzene-D5	117	13.889	13.891	(1.000)	598429	50.0000		
67 Chlorobenzene	112	13.911	13.912	(1.002)	570717	44.7171	44.7	
152 1-Chlorohexane	91	13.896	13.891	(1.000)	320688	47.5569	47.6	
68 Ethylbenzene	106	13.954	13.955	(1.005)	324738	46.4876	46.5	
69 1,1,1,2-Tetrachloroethane	131	14.004	14.006	(1.008)	176327	44.9601	45.0	
M 70 Xylenes (total)	106				1228977	146.086	146	
71 m+p-Xylenes	106	14.154	14.155	(1.019)	826070	97.2636	97.3	
72 o-Xylene	106	14.725	14.720	(1.060)	402907	48.8223	48.8	
73 Styrene	104	14.797	14.791	(1.065)	693136	50.0204	50.0	
74 Bromoform	173	14.826	14.828	(1.067)	126800	44.7657	44.8	
75 Isopropylbenzene	105	15.133	15.135	(0.896)	1001829	47.7559	47.8	
\$ 76 P-Bromofluorobenzene	95	15.490	15.492	(1.626)	318238	50.5734	50.6	
77 cis-1,4-Dichloro-2-Butene	53	15.583	15.585	(0.923)	104382	45.3310	45.3	

Compounds	QUANT SIG				CONCENTRATIONS			REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	FINAL ( ug/l)	
78 trans-1,4-Dichloro-2-Butene	53	15.984	15.979	(0.947)	87293	48.7631	48.8	
79 Bromobenzene	156	15.626	15.621	(0.925)	242118	44.3021	44.3	
80 N-Propylbenzene	91	15.662	15.664	(0.928)	1270738	49.4151	49.4	
81 1,1,2,2-Tetrachloroethane	83	15.762	15.756	(0.934)	288926	46.8822	46.9	
82 1,3,5-Trimethylbenzene	105	15.912	15.907	(0.942)	851975	47.1911	47.2	
83 2-Chlorotoluene	91	15.855	15.857	(0.939)	742323	47.4308	47.4	
84 1,2,3-Trichloropropane	75	15.926	15.928	(0.943)	236027	46.8595	46.8	
85 4-Chlorotoluene	91	16.069	16.064	(0.952)	782019	46.7664	46.8	
86 tert-Butylbenzene	119	16.305	16.307	(0.966)	809145	48.3763	48.4	
87 Pentachloroethane	117	16.334	16.335	(0.967)	143086	42.8241	42.8	
88 1,2,4-Trimethylbenzene	105	16.391	16.393	(0.971)	893078	49.6055	49.6	
89 P-Isopropyltoluene	119	16.705	16.700	(0.989)	922270	49.6674	49.7	
90 1,3-Dichlorobenzene	146	16.798	16.793	(0.995)	469346	44.9594	45.0	
* 91 1,4-Dichlorobenzene-D4	152	16.884	16.886	(1.000)	336584	50.0000		
92 1,4-Dichlorobenzene	146	16.906	16.907	(1.001)	480364	43.4108	43.4	
93 N-Butylbenzene	91	17.220	17.215	(1.020)	882959	48.9831	49.0	
94 sec-Butylbenzene	105	16.527	16.528	(0.979)	1085896	49.0371	49.0	
95 1,2-Dichlorobenzene	146	17.420	17.422	(1.032)	456878	46.3516	46.4	
96 1,2-Dibromo-3-Chloropropane	75	18.385	18.387	(1.089)	49351	47.7622	47.8	
97 1,3,5-Trichlorobenzene	180	18.421	18.416	(1.091)	328721	46.3591	46.4	
98 Hexachlorobutadiene	225	19.150	19.145	(1.134)	99028	42.7357	42.7	
99 1,2,4-Trichlorobenzene	180	19.193	19.195	(1.137)	278297	47.0523	47.0	
100 1,2,3-Trimethylbenzene	105	16.934	16.929	(1.003)	939554	49.2489	49.2	
101 Naphthalene	128	19.615	19.610	(1.162)	664205	49.3333	49.3	
102 1,2,3-Trichlorobenzene	180	19.858	19.859	(1.176)	223072	47.1586	47.2	
103 Methyl Acetate	43	4.947	4.949	(0.571)	237046	45.2054	45.2	
104 Methylcyclohexane	83	9.436	9.430	(1.088)	371600	50.9582	51.0	
M 153 Total Alkylbenzenes	100				6716061	342.276	342	





## MS/MSD Recovery Report

**MS ID:** WG175608-5  
**MSD ID:** WG175608-6  
**Sample ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:**  
**SDG:** SI9749  
**MS File ID:** P3777.D

**Received Date:**  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608  
**Report Date:** 16-DEC-15  
**MSD File ID:** P3778.D

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Dichlorodifluoromethane	50.0	50.0	ug/L	U1.0	55.0	56.6	110.	113.	3	20	29-164
Chloromethane	50.0	50.0	ug/L	U1.0	50.0	51.3	100.	103.	2	20	59-123
Vinyl Chloride	50.0	50.0	ug/L	U1.0	59.6	60.7	119.	121.	2	20	64-131
Bromomethane	50.0	50.0	ug/L	UM1.0	24.8	34.0	49.6*	68.0	31*	20	57-135
Chloroethane	50.0	50.0	ug/L	U1.0	65.2	65.6	130.	131.	1	20	53-157
Trichlorofluoromethane	50.0	50.0	ug/L	U1.0	61.0	63.8	122.	128.	4	20	70-149
Diethyl Ether	50.0	50.0	ug/L	U0.50	55.3	55.7	111.	111.	1	20	78-124
1,1-Dichloroethene	50.0	50.0	ug/L	U0.50	49.0	50.4	98.0	101.	3	20	88-127
Carbon Disulfide	50.0	50.0	ug/L	U0.50	55.3	57.3	111.	115.	4	20	71-129
Ethyl Tertiary-Butyl Ether	50.0	50.0	ug/L	JMM0.50	34.9	41.0	69.8*	82.0*	16	20	85-119
Methylene Chloride	50.0	50.0	ug/L	U2.5	45.8	48.3	91.6	96.6	5	20	72-129
Acetone	50.0	50.0	ug/L	U2.5	39.9	41.5	79.8	83.0	4	20	62-172
trans-1,2-Dichloroethene	50.0	50.0	ug/L	U0.50	51.8	53.4	104.	107.	3	20	78-125
Methyl tert-butyl Ether	100.	100.	ug/L	U0.50	92.1	99.8	92.1	99.8	8	20	81-125
Di-Isopropyl Ether	50.0	50.0	ug/L	U0.50	54.8	56.8	110.	114.	4	20	81-123
1,1-Dichloroethane	50.0	50.0	ug/L	U0.50	50.0	52.7	100.	105.	5	20	76-130
cis-1,2-Dichloroethene	50.0	50.0	ug/L	U0.50	47.5	48.8	95.0	97.6	3	20	85-123
2,2-Dichloropropane	50.0	50.0	ug/L	UM0.50	33.2	39.0	66.4*	78.0	16	20	70-132
Bromochloromethane	50.0	50.0	ug/L	U0.50	54.8	56.1	110.	112.	2	20	85-117
Chloroform	50.0	50.0	ug/L	U0.50	47.8	49.5	95.6	99.0	3	20	78-128
Carbon Tetrachloride	50.0	50.0	ug/L	UM0.50	40.2	45.0	80.4*	90.0	11	20	87-126
Tetrahydrofuran	50.0	50.0	ug/L	U2.5	48.1	48.5	96.2	97.0	1	20	74-123
1,1,1-Trichloroethane	50.0	50.0	ug/L	U0.50	47.1	51.2	94.2	102.	8	20	77-129
1,1-Dichloropropene	50.0	50.0	ug/L	U0.50	51.7	55.1	103.	110.	6	20	87-118
2-Butanone	50.0	50.0	ug/L	U2.5	46.0	48.9	92.0	97.8	6	20	71-132
Benzene	50.0	50.0	ug/L	U0.50	50.6	53.3	101.	107.	5	20	86-116
Tertiary-Amyl Methyl Ether	50.0	50.0	ug/L	UM0.50	39.4	43.7	78.8*	87.4	10	20	80-121
1,2-Dichloroethane	50.0	50.0	ug/L	U0.50	46.4	48.8	92.8	97.6	5	20	81-125
Trichloroethene	50.0	50.0	ug/L	U0.50	49.7	52.1	99.4	104.	5	20	79-121
Dibromomethane	50.0	50.0	ug/L	U0.50	52.7	53.8	105.	108.	2	20	85-117
1,2-Dichloropropane	50.0	50.0	ug/L	U0.50	47.9	50.8	95.8	102.	6	20	84-118
Bromodichloromethane	50.0	50.0	ug/L	U0.50	49.4	53.2	98.8	106.	7	20	85-122
cis-1,3-Dichloropropene	50.0	50.0	ug/L	U0.50	42.5	46.0	85.0	92.0	8	20	83-119

## MS/MSD Recovery Report

**MS ID:** WG175608-5  
**MSD ID:** WG175608-6  
**Sample ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:**  
**SDG:** SI9749  
**MS File ID:** P3777.D

**Received Date:**  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608  
**Report Date:** 16-DEC-15  
**MSD File ID:** P3778.D

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
1,4-Dioxane	1000	1000	ug/L	U50	682.	935.	68.2	93.5	31*	20	10-149
Toluene	50.0	50.0	ug/L	U0.50	50.2	52.6	100.	105.	5	20	84-118
4-Methyl-2-Pentanone	50.0	50.0	ug/L	U2.5	52.9	55.9	106.	112.	6	20	83-122
Tetrachloroethene	50.0	50.0	ug/L	4.9	34.9	37.4	60.0	65.0	7	20	47-155
trans-1,3-Dichloropropene	50.0	50.0	ug/L	U0.50	42.8	47.2	85.6	94.4	10	20	85-135
1,1,2-Trichloroethane	50.0	50.0	ug/L	U0.50	47.8	50.8	95.6	102.	6	20	84-115
Dibromochloromethane	50.0	50.0	ug/L	U0.50	46.3	51.2	92.6	102.	10	20	85-119
1,3-Dichloropropane	50.0	50.0	ug/L	U0.50	45.3	48.6	90.6	97.2	7	20	80-119
1,2-Dibromoethane	50.0	50.0	ug/L	U0.50	48.4	51.6	96.8	103.	6	20	84-116
2-Hexanone	50.0	50.0	ug/L	U2.5	47.2	50.0	94.4	100.	6	20	80-124
Chlorobenzene	50.0	50.0	ug/L	U0.50	48.0	51.0	96.0	102.	6	20	89-113
Ethylbenzene	50.0	50.0	ug/L	U0.50	48.9	52.4	97.8	105.	7	20	88-113
1,1,1,2-Tetrachloroethane	50.0	50.0	ug/L	U0.50	45.9	49.4	91.8	98.8	7	20	88-118
m+p-Xylenes	100.	100.	ug/L	U1.0	103.	109.	103.	109.	6	20	88-116
o-Xylene	50.0	50.0	ug/L	U0.50	50.5	53.7	101.	107.	6	20	90-116
Styrene	50.0	50.0	ug/L	U0.50	50.9	53.2	102.	106.	4	20	88-117
Bromoform	50.0	50.0	ug/L	UM0.50	39.4	43.6	78.8*	87.2	10	20	86-117
Isopropylbenzene	50.0	50.0	ug/L	U0.50	50.1	53.1	100.	106.	6	20	96-136
Bromobenzene	50.0	50.0	ug/L	U0.50	47.7	51.1	95.4	102.	7	20	84-113
N-Propylbenzene	50.0	50.0	ug/L	U0.50	51.2	54.4	102.	109.	6	20	83-121
1,1,2,2-Tetrachloroethane	50.0	50.0	ug/L	U0.50	45.3	48.6	90.6	97.2	7	20	79-121
1,3,5-Trimethylbenzene	50.0	50.0	ug/L	U0.50	48.7	52.3	97.4	105.	7	20	80-123
2-Chlorotoluene	50.0	50.0	ug/L	U0.50	47.4	51.2	94.8	102.	8	20	81-120
1,2,3-Trichloropropane	50.0	50.0	ug/L	U0.50	46.6	50.2	93.2	100.	7	20	77-120
4-Chlorotoluene	50.0	50.0	ug/L	U0.50	46.9	50.4	93.8	101.	7	20	81-122
tert-Butylbenzene	50.0	50.0	ug/L	U0.50	48.3	55.8	96.6	112.	14	20	84-121
1,2,4-Trimethylbenzene	50.0	50.0	ug/L	U0.50	50.2	53.9	100.	108.	7	20	83-118
P-Isopropyltoluene	50.0	50.0	ug/L	U0.50	51.2	54.8	102.	110.	7	20	88-121
1,3-Dichlorobenzene	50.0	50.0	ug/L	U0.50	47.3	50.6	94.6	101.	7	20	86-110
1,4-Dichlorobenzene	50.0	50.0	ug/L	U0.50	46.7	49.2	93.4	98.4	5	20	86-111
N-Butylbenzene	50.0	50.0	ug/L	U0.50	50.0	53.6	100.	107.	7	20	78-121
sec-Butylbenzene	50.0	50.0	ug/L	U0.50	50.5	54.2	101.	108.	7	20	82-122
1,2-Dichlorobenzene	50.0	50.0	ug/L	U0.50	46.7	50.7	93.4	101.	8	20	86-112

## MS/MSD Recovery Report

**MS ID:** WG175608-5  
**MSD ID:** WG175608-6  
**Sample ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:**  
**SDG:** SI9749  
**MS File ID:** P3777.D

**Received Date:**  
**Extract Date:** 07-DEC-15  
**Extracted By:** AAB  
**Extraction Method:** SW846 5030  
**Lab Prep Batch:** WG175608  
**Report Date:** 16-DEC-15  
**MSD File ID:** P3778.D

**Analysis Date:** 07-DEC-15  
**Analyst:** AAB  
**Analysis Method:** SW846 8260B  
**Matrix:** AQ  
**% Solids:** NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
1,2-Dibromo-3-Chloropropane	50.0	50.0	ug/L	U0.50	35.1	37.5	70.2	75.0	7	20	67-124
Hexachlorobutadiene	50.0	50.0	ug/L	U0.75	45.3	50.0	90.6	100.	10	20	73-113
1,2,4-Trichlorobenzene	50.0	50.0	ug/L	U0.50	46.9	50.2	93.8	100.	7	20	76-126
Naphthalene	50.0	50.0	ug/L	U0.50	45.1	49.8	90.2	99.6	10	20	62-126
1,2,3-Trichlorobenzene	50.0	50.0	ug/L	U0.50	47.6	51.2	95.2	102.	7	20	70-122
P-Bromofluorobenzene							99.8	100.			56-133
Toluene-d8							101.	101.			65-128
1,2-Dichloroethane-d4							102.	100.			67-135
Dibromofluoromethane							99.6	99.0			68-128

Data File: \\target\_server\gg\chem\gcms-p.i\P120715.b\P3777.D  
 Report Date: 16-Dec-2015 08:41

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3777.D  
 Lab Smp Id: WG175608-5  
 Inj Date : 07-DEC-2015 19:36 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175608-5,SI9749  
 Misc Info : WG175608,WG175386-4,SI9749-1  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 08-Dec-2015 09:35 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 21 QC Sample: MS  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

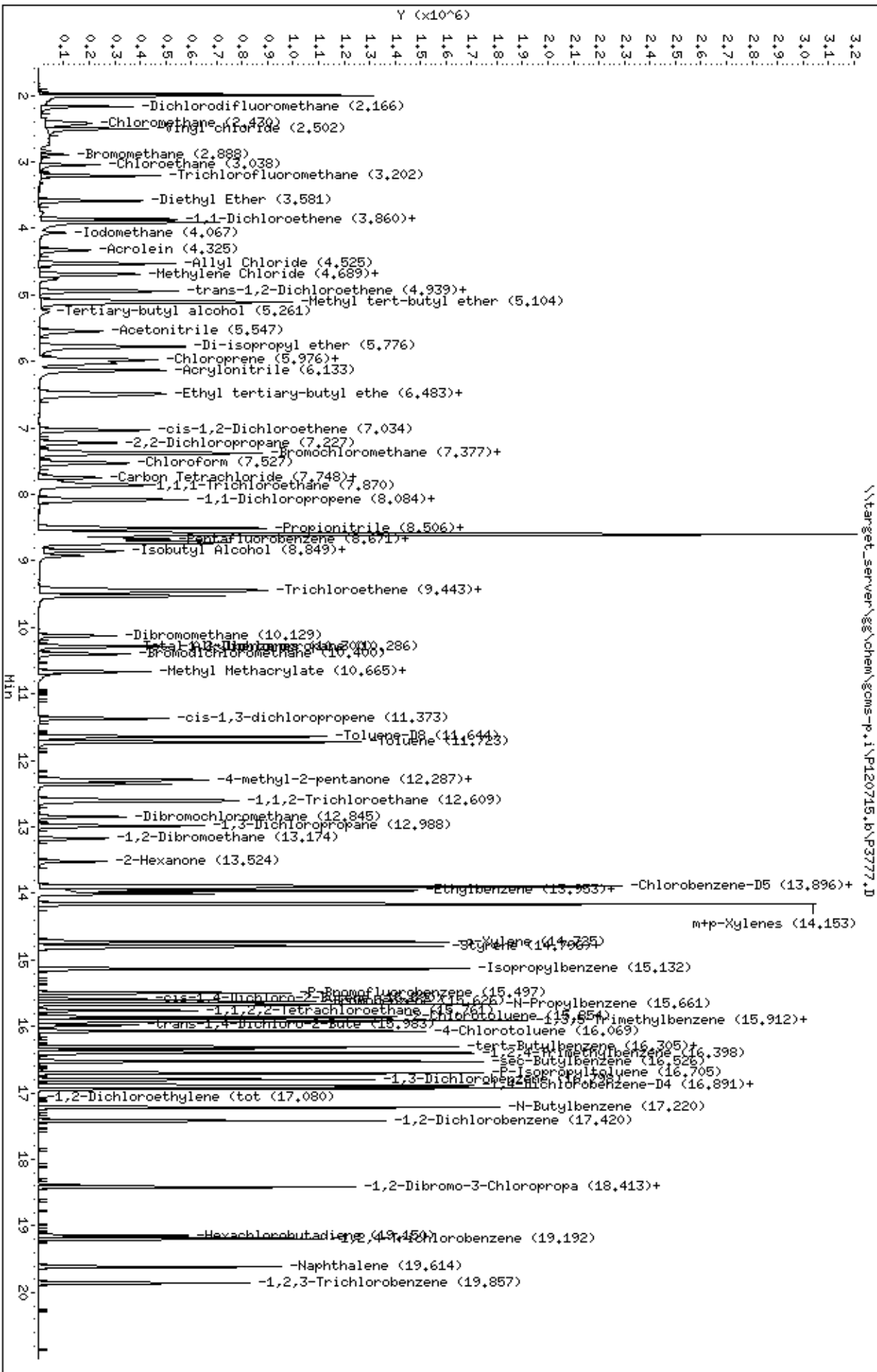
Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
						ON-COLUMN ( ug/l)	FINAL ( ug/l)	
1 Dichlorodifluoromethane	85	2.165	2.167 (0.250)		276811	54.9860	55.0	
2 Chloromethane	50	2.423	2.424 (0.279)		387221	50.0533	50.0	
3 Vinyl chloride	62	2.501	2.496 (0.289)		360962	59.6336	59.6	
4 Bromomethane	94	2.887	2.889 (0.333)		56093	24.8424	24.8	
5 Chloroethane	64	3.037	3.040 (0.350)		207398	65.2009	65.2	
6 Trichlorofluoromethane	101	3.202	3.204 (0.369)		327985	61.0246	61.0	
7 Diethyl Ether	59	3.581	3.582 (0.413)		218705	55.2871	55.3	
8 Tertiary-butyl alcohol	59	5.260	5.248 (0.607)		55179	107.448	107	
9 1,1-Dichloroethene	96	3.859	3.854 (0.445)		187154	49.0548	49.0	
10 Carbon Disulfide	76	3.917	3.911 (0.452)		677913	55.3285	55.3	
11 Freon-113	151	3.902	3.897 (0.450)		127150	56.0690	56.1	
12 Iodomethane	142	4.067	4.069 (0.469)		137312	40.9928	41.0	
13 Acrolein	56	4.324	4.325 (0.499)		188488	233.008	233	
14 Methylene Chloride	84	4.689	4.691 (0.541)		220989	45.7817	45.8	
15 Acetone	43	4.760	4.762 (0.549)		79861	39.8871	39.9	
16 Isobutyl Alcohol	43	8.920	8.915 (1.029)		128517	578.917	579	
17 trans-1,2-Dichloroethene	96	4.939	4.933 (0.570)		206080	51.8340	51.8	
18 Allyl Chloride	41	4.524	4.526 (0.522)		384688	55.0452	55.0	
19 Methyl tert-butyl ether	73	5.103	5.098 (0.589)		1138945	92.1335	92.1	
20 Acetonitrile	39	5.546	5.541 (0.640)		75772	490.835	491	
21 Di-isopropyl ether	45	5.775	5.777 (0.666)		823450	54.7991	54.8	
22 Chloroprene	53	5.975	5.977 (0.689)		380255	58.0305	58.0	
23 Propionitrile	54	8.570	8.564 (0.988)		413534	545.086	545	
24 Methacrylonitrile	41	8.599	8.601 (0.992)		1819709	622.864	623(R)	

Compounds	QUANT SIG				CONCENTRATIONS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	
25 1,1-Dichloroethane	63	6.025	6.020	(0.695)	378980	50.0141	50.0
26 Acrylonitrile	52	6.133	6.135	(0.707)	436249	265.572	266
27 Ethyl tertiary-butyl ether	59	6.483	6.477	(0.748)	492409	34.8942	34.9(R)
28 Vinyl Acetate	43	6.519	6.513	(0.684)	491662	46.8757	46.9
29 cis-1,2-Dichloroethene	96	7.033	7.028	(0.811)	224250	47.5494	47.5
M 30 1,2-Dichloroethylene (total)	96				430330	99.3834	99.4
31 Methyl Methacrylate	41	10.664	10.666	(1.119)	229521	52.0540	52.0
32 2,2-Dichloropropane	77	7.226	7.221	(0.833)	192899	33.1688	33.2(R)
33 Bromochloromethane	128	7.383	7.385	(0.852)	94462	54.8366	54.8
34 Chloroform	83	7.526	7.528	(0.868)	338366	47.7671	47.8
35 Carbon Tetrachloride	117	7.748	7.743	(0.813)	182479	40.2590	40.2
36 Tetrahydrofuran	42	7.798	7.786	(0.899)	76923	48.1029	48.1
\$ 37 Dibromofluoromethane	113	7.841	7.843	(0.904)	170091	49.7970	49.8
38 1,1,1-Trichloroethane	97	7.870	7.871	(0.908)	269373	47.0693	47.1
39 1,1-Dichloropropene	75	8.084	8.086	(0.848)	286886	51.7288	51.7
40 2-Butanone	43	8.070	8.064	(0.931)	118245	46.0301	46.0
41 Benzene	78	8.506	8.500	(0.893)	860454	50.5837	50.6
* 42 Pentafluorobenzene	168	8.670	8.665	(1.000)	352128	50.0000	
43 Cyclohexane	56	7.376	7.371	(0.851)	380285	53.3110	53.3
44 Ethyl Methacrylate	69	10.664	10.667	(1.119)	161441	44.8948	44.9
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.007)	225295	50.9039	50.9
46 Tertiary-amyl methyl ether	73	8.713	8.715	(1.005)	474803	39.3774	39.4(R)
47 1,2-Dichloroethane	62	8.849	8.843	(0.929)	272346	46.4067	46.4
48 Trichloroethene	95	9.464	9.458	(0.993)	194310	49.6913	49.7
* 49 1,4-Difluorobenzene	114	9.528	9.530	(1.000)	610511	50.0000	
50 Dibromomethane	93	10.128	10.130	(1.063)	125017	52.6760	52.7
51 1,2-Dichloropropane	63	10.286	10.287	(1.080)	205444	47.9334	47.9
52 Bromodichloromethane	83	10.400	10.394	(1.092)	255386	49.3529	49.4
53 cis-1,3-dichloropropene	75	11.372	11.367	(1.194)	286494	42.5428	42.5
54 1,4-Dioxane	88	10.714	10.709	(1.125)	36416	681.880	682
\$ 55 Toluene-D8	98	11.644	11.646	(1.222)	725733	50.5000	50.5
57 Toluene	92	11.722	11.724	(1.230)	552391	50.1548	50.2
58 4-methyl-2-pentanone	43	12.308	12.311	(1.292)	252008	52.9433	52.9
59 Tetrachloroethene	164	12.287	12.289	(0.885)	146594	34.9453	34.9
60 trans-1,3-Dichloropropene	75	12.358	12.360	(1.297)	243022	42.7526	42.8
61 1,1,2-Trichloroethane	83	12.594	12.596	(1.322)	155323	47.7545	47.8
62 Dibromochloromethane	129	12.845	12.846	(0.925)	167628	46.3147	46.3
63 1,3-Dichloropropane	76	12.987	12.989	(0.935)	344327	45.2761	45.3
64 1,2-Dibromoethane	107	13.173	13.175	(1.383)	183034	48.3539	48.4
65 2-Hexanone	43	13.524	13.519	(0.974)	174637	47.1643	47.2
* 66 Chlorobenzene-D5	117	13.888	13.890	(1.000)	572150	50.0000	
67 Chlorobenzene	112	13.910	13.911	(1.002)	559572	48.0300	48.0
152 1-Chlorohexane	91	13.895	13.897	(1.000)	319116	48.1968	48.2
68 Ethylbenzene	106	13.960	13.954	(1.005)	319269	48.9262	48.9
69 1,1,1,2-Tetrachloroethane	131	14.002	14.004	(1.008)	166823	45.9144	45.9
M 70 Xylenes (total)	106				1207967	153.788	154
71 m+p-Xylenes	106	14.153	14.155	(1.019)	815649	103.247	103
72 o-Xylene	106	14.724	14.726	(1.060)	392318	50.5403	50.5
73 Styrene	104	14.796	14.798	(1.065)	677599	50.8944	50.9
74 Bromoform	173	14.825	14.827	(1.067)	107324	39.3987	39.4
75 Isopropylbenzene	105	15.132	15.134	(0.896)	1004771	50.1459	50.1
\$ 76 P-Bromofluorobenzene	95	15.496	15.491	(1.626)	306735	49.8983	49.9
77 cis-1,4-Dichloro-2-Butene	53	15.589	15.584	(0.923)	89299	39.6235	39.6
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.985	(0.946)	74604	42.2148	42.2

Compounds	QUANT SIG		CONCENTRATIONS					REVIEW CODE	
	MASS		RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)		FINAL ( ug/l)
79 Bromobenzene	156		15.625	15.627	(0.925)	238606	47.6700	47.7	
80 N-Propylbenzene	91		15.661	15.663	(0.927)	1252922	51.1810	51.2	
81 1,1,2,2-Tetrachloroethane	83		15.761	15.763	(0.933)	272045	45.3445	45.3	
82 1,3,5-Trimethylbenzene	105		15.911	15.913	(0.942)	832661	48.6979	48.7	
83 2-Chlorotoluene	91		15.854	15.856	(0.939)	718579	47.4380	47.4	
84 1,2,3-Trichloropropane	75		15.925	15.927	(0.943)	223104	46.6139	46.6	
85 4-Chlorotoluene	91		16.068	16.070	(0.951)	754474	46.9478	46.9	
86 tert-Butylbenzene	119		16.304	16.306	(0.965)	749860	48.3396	48.3	
87 Pentachloroethane	117		16.333	16.335	(0.967)	150070	66.5720	66.6	
88 1,2,4-Trimethylbenzene	105		16.397	16.392	(0.971)	855924	50.1601	50.2	
89 P-Isopropyltoluene	119		16.704	16.706	(0.989)	898055	51.2209	51.2	
90 1,3-Dichlorobenzene	146		16.797	16.799	(0.994)	455250	47.2740	47.3	
* 91 1,4-Dichlorobenzene-D4	152		16.890	16.885	(1.000)	318086	50.0000		
92 1,4-Dichlorobenzene	146		16.905	16.906	(1.001)	470768	46.6770	46.7	
93 N-Butylbenzene	91		17.219	17.221	(1.019)	852298	50.0482	50.0	
94 sec-Butylbenzene	105		16.526	16.527	(0.978)	1068292	50.4924	50.5	
95 1,2-Dichlorobenzene	146		17.419	17.421	(1.031)	434706	46.6638	46.7	
96 1,2-Dibromo-3-Chloropropane	75		18.384	18.386	(1.088)	42576	35.0995	35.1	
97 1,3,5-Trichlorobenzene	180		18.420	18.422	(1.091)	326216	52.9186	52.9	
98 Hexachlorobutadiene	225		19.149	19.151	(1.134)	94096	45.3154	45.3	
99 1,2,4-Trichlorobenzene	180		19.192	19.194	(1.136)	267156	46.9225	46.9	
100 1,2,3-Trimethylbenzene	105		16.933	16.935	(1.003)	943587	55.9071	55.9	
101 Naphthalene	128		19.614	19.616	(1.161)	622536	45.0968	45.1	
102 1,2,3-Trichlorobenzene	180		19.857	19.858	(1.176)	217740	47.5879	47.6	
103 Methyl Acetate	43		4.953	4.955	(0.571)	196266	42.6220	42.6	
104 Methylcyclohexane	83		9.435	9.429	(1.088)	388456	60.0648	60.1	
M 153 Total Alkylbenzenes	100					6510012	350.140	350	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.





Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gcms-p.i\P120715.b\P3778.D  
 Lab Smp Id: WG175608-6  
 Inj Date : 07-DEC-2015 20:05 MS Autotune Date: 03-DEC-2015 09:04  
 Operator : AAB Inst ID: gcms-p.i  
 Smp Info : WG175608-6,SI9749  
 Misc Info : WG175608,WG175386-4,SI9749-1  
 Comment : SW846 5030  
 Method : \\target\_server\gg\chem\gcms-p.i\P120715.b\P826A20.m  
 Meth Date : 08-Dec-2015 09:35 abullentin Quant Type: ISTD  
 Cal Date : 03-DEC-2015 12:49 Cal File: P3682.D  
 Als bottle: 22 QC Sample: MSD  
 Dil Factor: 1.00000  
 Integrator: HP RTE Compound Sublist: all.sub  
 Target Version: 4.12

Concentration Formula: Amt \* DF \* 5/Vo \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

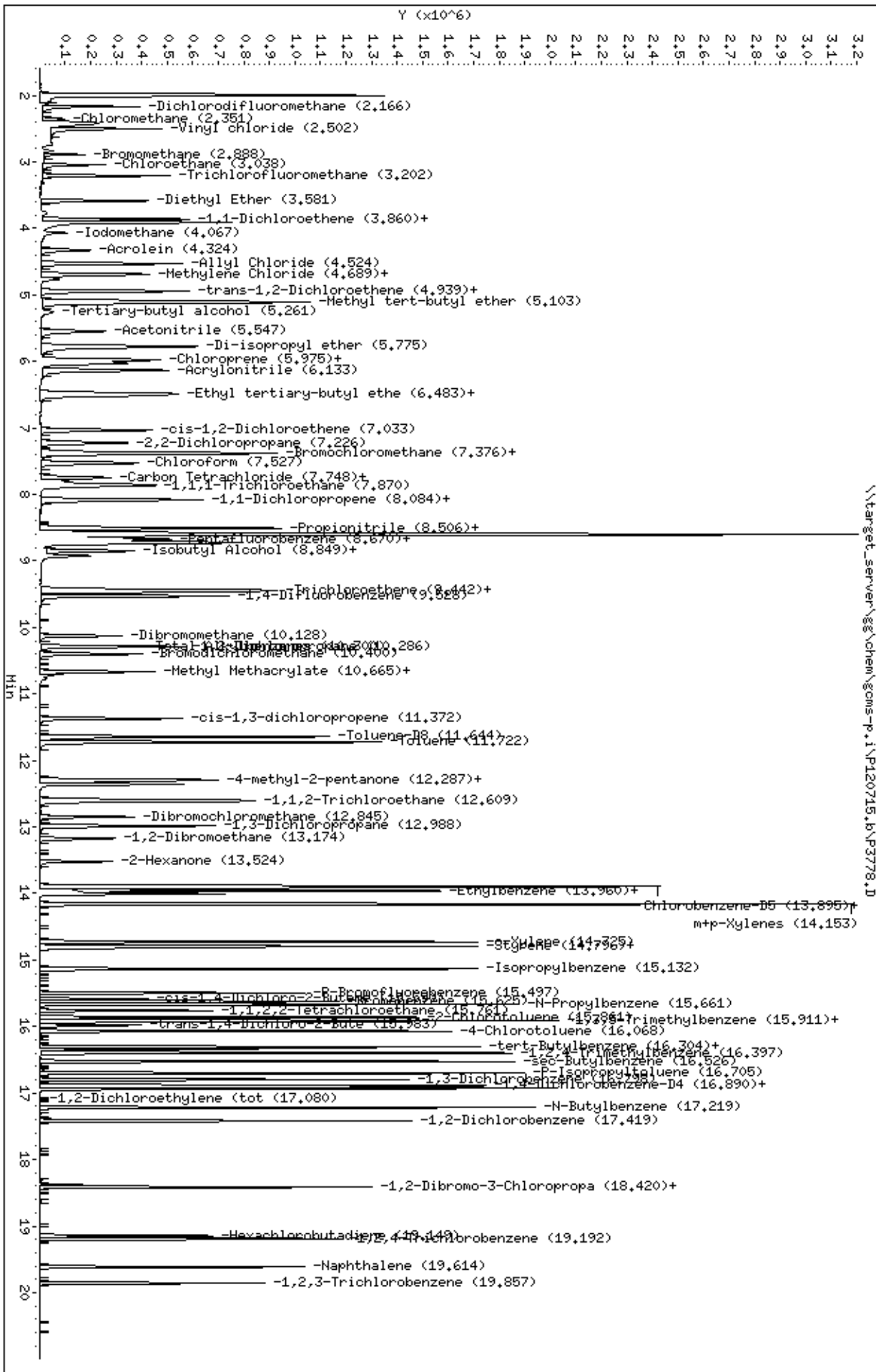
Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		REVIEW CODE
							ON-COLUMN	FINAL	
	MASS						( ug/l)	( ug/l)	
1 Dichlorodifluoromethane	85		2.165	2.167	(0.250)	293653	56.5912	56.6	
2 Chloromethane	50		2.422	2.424	(0.279)	409137	51.3084	51.3	
3 Vinyl chloride	62		2.501	2.496	(0.289)	378524	60.6692	60.7	
4 Bromomethane	94		2.887	2.889	(0.333)	79064	33.9711	34.0	
5 Chloroethane	64		3.037	3.040	(0.350)	214979	65.5678	65.6	
6 Trichlorofluoromethane	101		3.209	3.204	(0.370)	353428	63.7966	63.8	
7 Diethyl Ether	59		3.580	3.582	(0.413)	227267	55.7374	55.7	
8 Tertiary-butyl alcohol	59		5.260	5.248	(0.607)	71834	134.480	134	
9 1,1-Dichloroethene	96		3.859	3.854	(0.445)	198032	50.3574	50.4	
10 Carbon Disulfide	76		3.916	3.911	(0.452)	723265	57.2688	57.3	
11 Freon-113	151		3.902	3.897	(0.450)	130396	55.7848	55.8	
12 Iodomethane	142		4.066	4.069	(0.469)	149309	43.3472	43.3	
13 Acrolein	56		4.324	4.325	(0.499)	195814	234.842	235	
14 Methylene Chloride	84		4.688	4.691	(0.541)	240480	48.3496	48.3	
15 Acetone	43		4.767	4.762	(0.550)	85577	41.4668	41.5	
16 Isobutyl Alcohol	43		8.920	8.915	(1.029)	150660	658.414	658	
17 trans-1,2-Dichloroethene	96		4.939	4.933	(0.570)	218803	53.3922	53.4	
18 Allyl Chloride	41		4.524	4.526	(0.522)	405405	56.2789	56.3	
19 Methyl tert-butyl ether	73		5.103	5.098	(0.589)	1271575	99.7934	99.8	
20 Acetonitrile	39		5.546	5.541	(0.640)	79560	499.996	500	
21 Di-isopropyl ether	45		5.775	5.777	(0.666)	879012	56.7514	56.8	
22 Chloroprene	53		5.975	5.977	(0.689)	385545	57.0824	57.1	
23 Propionitrile	54		8.570	8.564	(0.988)	422187	539.889	540	
24 Methacrylonitrile	41		8.598	8.601	(0.992)	1818592	603.910	604	

Compounds	QUANT SIG					CONCENTRATIONS		REVIEW CODE
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)	FINAL ( ug/l)	
25 1,1-Dichloroethane	63	6.025	6.020	(0.695)	411774	52.7206	52.7	
26 Acrylonitrile	52	6.132	6.135	(0.707)	452317	267.138	267	
27 Ethyl tertiary-butyl ether	59	6.482	6.477	(0.748)	595835	40.9637	41.0(R)	
28 Vinyl Acetate	43	6.518	6.513	(0.684)	556882	52.4379	52.4	
29 cis-1,2-Dichloroethene	96	7.033	7.028	(0.811)	237322	48.8198	48.8	
M 30 1,2-Dichloroethylene (total)	96				456125	102.212	102	
31 Methyl Methacrylate	41	10.664	10.666	(1.119)	234157	52.4493	52.4	
32 2,2-Dichloropropane	77	7.226	7.221	(0.833)	233772	38.9976	39.0	
33 Bromochloromethane	128	7.383	7.385	(0.852)	99681	56.1398	56.1	
34 Chloroform	83	7.526	7.528	(0.868)	361782	49.5490	49.5	
35 Carbon Tetrachloride	117	7.748	7.743	(0.813)	206781	44.9843	45.0	
36 Tetrahydrofuran	42	7.798	7.786	(0.899)	79952	48.5053	48.5	
\$ 37 Dibromofluoromethane	113	7.841	7.843	(0.904)	174257	49.4945	49.5	
38 1,1,1-Trichloroethane	97	7.869	7.871	(0.908)	301985	51.1935	51.2	
39 1,1-Dichloropropene	75	8.084	8.086	(0.848)	309309	55.0828	55.1	
40 2-Butanone	43	8.069	8.064	(0.931)	129502	48.9082	48.9	
41 Benzene	78	8.505	8.500	(0.893)	917609	53.2772	53.3	
* 42 Pentafluorobenzene	168	8.670	8.665	(1.000)	362957	50.0000		
43 Cyclohexane	56	7.369	7.371	(0.850)	402247	54.7074	54.7	
44 Ethyl Methacrylate	69	10.664	10.667	(1.119)	171150	46.9603	47.0	
\$ 45 1,2-Dichloroethane-D4	65	8.734	8.737	(1.007)	228506	50.0890	50.1	
46 Tertiary-amyl methyl ether	73	8.713	8.715	(1.005)	542904	43.6819	43.7	
47 1,2-Dichloroethane	62	8.848	8.843	(0.929)	289680	48.7505	48.8	
48 Trichloroethene	95	9.463	9.458	(0.993)	206321	52.1110	52.1	
* 49 1,4-Difluorobenzene	114	9.528	9.530	(1.000)	618148	50.0000		
50 Dibromomethane	93	10.128	10.130	(1.063)	129407	53.8521	53.8	
51 1,2-Dichloropropane	63	10.285	10.287	(1.080)	220590	50.8314	50.8	
52 Bromodichloromethane	83	10.400	10.394	(1.092)	279017	53.2534	53.2	
53 cis-1,3-dichloropropene	75	11.372	11.367	(1.194)	313794	46.0210	46.0	
54 1,4-Dioxane	88	10.714	10.709	(1.125)	50555	934.934	935	
\$ 55 Toluene-D8	98	11.643	11.646	(1.222)	734335	50.4673	50.5	
57 Toluene	92	11.722	11.724	(1.230)	586769	52.6180	52.6	
58 4-methyl-2-pentanone	43	12.308	12.311	(1.292)	269388	55.8954	55.9	
59 Tetrachloroethene	164	12.287	12.289	(0.885)	158528	37.3739	37.4	
60 trans-1,3-Dichloropropene	75	12.358	12.360	(1.297)	271549	47.1809	47.2	
61 1,1,2-Trichloroethane	83	12.594	12.596	(1.322)	167455	50.8485	50.8	
62 Dibromochloromethane	129	12.844	12.846	(0.925)	185726	51.1932	51.2	
63 1,3-Dichloropropane	76	12.987	12.989	(0.935)	370302	48.5758	48.6	
64 1,2-Dibromoethane	107	13.173	13.175	(1.383)	197620	51.5622	51.6	
65 2-Hexanone	43	13.523	13.519	(0.974)	185727	50.0401	50.0	
* 66 Chlorobenzene-D5	117	13.888	13.890	(1.000)	573513	50.0000		
67 Chlorobenzene	112	13.909	13.911	(1.002)	596002	51.0353	51.0	
152 1-Chlorohexane	91	13.895	13.897	(1.000)	339603	51.1691	51.2	
68 Ethylbenzene	106	13.959	13.954	(1.005)	343042	52.4443	52.4	
69 1,1,1,2-Tetrachloroethane	131	14.002	14.004	(1.008)	179954	49.4107	49.4	
M 70 Xylenes (total)	106				1278778	162.422	162	
71 m+p-Xylenes	106	14.152	14.155	(1.019)	860565	108.674	109	
72 o-Xylene	106	14.724	14.726	(1.060)	418213	53.7482	53.7	
73 Styrene	104	14.796	14.798	(1.065)	710063	53.2060	53.2	
74 Bromoform	173	14.824	14.827	(1.067)	119842	43.5915	43.6	
75 Isopropylbenzene	105	15.132	15.134	(0.896)	1054675	53.1247	53.1	
\$ 76 p-Bromofluorobenzene	95	15.496	15.491	(1.626)	312522	50.2116	50.2	
77 cis-1,4-Dichloro-2-Butene	53	15.589	15.584	(0.923)	92311	41.2474	41.2	
78 trans-1,4-Dichloro-2-Butene	53	15.982	15.985	(0.946)	76625	43.7680	43.8	

Compounds	QUANT SIG		CONCENTRATIONS					REVIEW CODE	
	MASS		RT	EXP RT	REL RT	RESPONSE	ON-COLUMN ( ug/l)		FINAL ( ug/l)
79 Bromobenzene	156		15.625	15.627	(0.925)	253610	51.1375	51.1	
80 N-Propylbenzene	91		15.661	15.663	(0.927)	1318529	54.3606	54.4	
81 1,1,2,2-Tetrachloroethane	83		15.761	15.763	(0.933)	288941	48.6074	48.6	
82 1,3,5-Trimethylbenzene	105		15.911	15.913	(0.942)	886149	52.3068	52.3	
83 2-Chlorotoluene	91		15.861	15.856	(0.939)	767729	51.1528	51.2	
84 1,2,3-Trichloropropane	75		15.925	15.927	(0.943)	238021	50.1918	50.2	
85 4-Chlorotoluene	91		16.068	16.070	(0.951)	802398	50.3930	50.4	
86 tert-Butylbenzene	119		16.304	16.306	(0.965)	857389	55.7840	55.8	
87 Pentachloroethane	117		16.332	16.335	(0.967)	142332	63.7250	63.7	
88 1,2,4-Trimethylbenzene	105		16.397	16.392	(0.971)	911160	53.8924	53.9	
89 P-Isopropyltoluene	119		16.704	16.706	(0.989)	951114	54.7503	54.8	
90 1,3-Dichlorobenzene	146		16.797	16.799	(0.994)	482946	50.6151	50.6	
* 91 1,4-Dichlorobenzene-D4	152		16.890	16.885	(1.000)	315163	50.0000		
92 1,4-Dichlorobenzene	146		16.904	16.906	(1.001)	491526	49.1872	49.2	
93 N-Butylbenzene	91		17.219	17.221	(1.019)	905367	53.6575	53.6	
94 sec-Butylbenzene	105		16.525	16.527	(0.978)	1135453	54.1645	54.2	
95 1,2-Dichlorobenzene	146		17.419	17.421	(1.031)	467920	50.6950	50.7	
96 1,2-Dibromo-3-Chloropropane	75		18.384	18.386	(1.088)	45223	37.5078	37.5	
97 1,3,5-Trichlorobenzene	180		18.420	18.422	(1.091)	330129	54.0500	54.0	
98 Hexachlorobutadiene	225		19.149	19.151	(1.134)	102939	50.0338	50.0	
99 1,2,4-Trichlorobenzene	180		19.192	19.194	(1.136)	282984	50.1635	50.2	
100 1,2,3-Trimethylbenzene	105		16.933	16.935	(1.003)	951047	56.8717	56.9	
101 Naphthalene	128		19.613	19.616	(1.161)	682009	49.7724	49.8	
102 1,2,3-Trichlorobenzene	180		19.856	19.858	(1.176)	232209	51.2209	51.2	
103 Methyl Acetate	43		4.953	4.955	(0.571)	201952	42.5483	42.5	
104 Methylcyclohexane	83		9.435	9.429	(1.088)	398764	59.8190	59.8	
M 153 Total Alkylbenzenes	100					6965161	378.916	379	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.



# **Logbooks and Supporting Documents**

KATAHDIN ANALYTICAL SERVICES

GCMS-P INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 120315

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD			Cylinder			Y/N	ANALYST	PH	COMMENTS
					5030	5035	1511	KAS	BOD	GAPP				
SDMS BFB -8	7B404	1	-	VOABFBAG							Y	AAB	-	
RINSE	P3677		1	PE26AZO							N		-	
VSTD050P08A -4	78		2								Y		-	
020 -3	79		3										-	
006 -2	80		4										-	
001 -1	81		5										-	
200 -6	82		6										-	
100 -5	83		7										-	
LCS W6175786-7	84		8								Y		-	
LCS	85		9								Y		-	
RINSE	86		10								N		-	

AAB  
120315

AAB 120315

STANDARD	CODE
BFB	VO163
CAL. STD.	VO165/VO164A
LCS/MS MIX	VO161
EXTRAS MIX	VO155

STANDARD	CODE
IS MIX	VO157
SS MIX	↓

Circle Methods:

SW846 8260

SW846 8260 SIM

SW846 8260 SIM

(heated purge)

OLM 04.2

OLC 03.2

EPA 624

EPA 524

KATAHDIN ANALYTICAL SERVICES

GCMS-P INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 120715 0925

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD			Criteria			Y/N	ANALYST	PH	COMMENTS
					5030	5035	1311	KAS	DoD	QAPP				
50 ng BFB -3	P8408	1	-	V0A8F3AQ										
VSTD050P07A -4	P3757	1	1	PBZGARD										
LCS W6175608-1	58		2											
LCS D -7	59		3											
VBLK	60		4											
VBLK	61		5											
VBLK -2	62		6											
MeOH BLK	63		7										NOT NEEDED	
SI9715-4EA	64	↓	8		X			X						
↓ -2DL	65	20	9		↓			↓						
SI9444-4ADL3	66	400	10		X			X						
RINSE	67	1	11										HIGH HITTEZ	
SI9779-1	A 68		12		X			X						
↓ -2	A 69		13											
↓ -3	A 70		14											
↓ -4	A 71		15											
SI9749-1	A 72		16		X			X						
↓ -2	A 73		17											
↓ -3	A 74		18											
↓ -4	A 75		19											
↓ -5	A 76		20											
-IMS-5	B 77		21											
↓ -IMD-6	C 78		22											
RINSE CV 8	79		23										2033 ✓	
↓ CV	80		24											
CV	81		25										RINSES 3782 → 3785	

STANDARD	CODE
BFB	V0163
CAL. STD.	V0165/V0164A
LCS/MS MIX	V0161
EXTRAS MIX	V0166

STANDARD	CODE
IS MIX	V0157
SS MIX	↓

Circle Methods:

- SW846 8260
- SW846 8260 SIM
- SW846 8260 SIM (heated purge)

- OLM 04.2
- OLC 03.2
- EPA 624
- EPA 524

QAMS588

000006

KATAHDIN ANALYTICAL SERVICES

GCMS-P INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 12/15 0656

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD			Criteria			Y/N	ANALYST	PH	COMMENTS
					5030	5035	1311	KAS	DoD	QAPP				
50 ug BFB	PB411	1	-	VOABFBAR									-8	
VSTD050P10A	P3832		1	P826AZD										
↓ B	33		2	↓										
VSTD050P10C	34		1	P826AZI									WC176143-4	
↓ 620 P10A	35		2	↓									-3	
↓ 005	36		3	↓									-2	
↓ 001	37		4	↓									-1	
↓ 200	38		5	↓									-6	
↓ 100	39		6	↓									-5	
LCS	40		7	↓									-7	
LCS	41		8	↓										
RINSE	42		9	↓										
↓	43	↓	10	↓										

AAB 12/15

STANDARD	CODE
BFB	V0163
CAL. STD.	V0168/V0167A
LCS/MS MIX	V0161
EXTRAS MIX	V0169

STANDARD	CODE
IS MIX	V0157
SS MIX	↓

Circle Methods:

- SW846 8260
- SW846 8260 SIM
- SW846 8260 SIM (heated purge)

- OLM 04.2
- OLC 03.2
- EPA 624
- EPA 524

QAMS588

000009



GCMS-P INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

DATE/TIME OF BFB INJECTION: 12-11-15 704

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	PREP METHOD			Criteria				ANALYST	PH	COMMENTS
					5030	5035	1311	KAS	DoD	QAPP	Y/N			
50ng BFB -7	PB412	1	-1	VOA-BFB							Y	NA		
VSTD 050211A-5	P3844	1	1	P386A21							Y	NA		
LCS WGT5915-1	45	1	2								Y			
LCS D -2	46	1	3								Y			
VBLK	47	1	4								Y			
VBLK	48	1	5								N			
VBLK	49	1	6								N			
MeOH BLK -3	50	1	7								Y			
SI9749-169A	51	1	8						X		Y			
SI9835-1 A	52	1	9								Y			
SI9749-6 A	53	1	10								Y			
↓ -7 A	54	1	11								Y			
↓ -8 A	55	1	12								Y			
SI9835-2 A	56	1	13								Y			
↓ -3 A	57	1	14								Y			
↓ -4 A	58	1	15								Y			
↓ -5 A	59	1	16								Y			
↓ -6 A	60	1	17								Y			
↓ -7 A	61	1	18								Y			
ccv -6 5	62	1	19								Y	NA	16:37	
ccv HPLC 12/11/15	63	1	20								N	NA	not needed	
ccv	64	1	21								N	NA	17:30	
Rinse	65	1	1								N	NA		
Rinse	66	1	2								N	NA		

STANDARD	CODE
BFB	VO163
CAL. STD.	VO168/VO167A
LCS/MS MIX	VO161
EXTRAS MIX	VO169

STANDARD	CODE
IS MIX	VO157
SS MIX	↓

Circle Methods:  
 SW846 8260  
 SW846 8260 SIM  
 SW846 8260 SIM  
 (heated purge)

OLM 04.2  
 OLC 03.2  
 EPA 624  
 EPA 524

12/11/15

Katahdin Analytical Services 1000298

# **PCB DATA**

# **QC Summary Section**

## Form 2 System Monitoring Compound Recovery

**Lab Name:** Katahdin Analytical Services  
**Lab Code:** KAS

**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749

**Matrix:** AQ

Client Sample ID	Lab Sample ID	Col. ID	DCB	#	TCX	#
MW-4A-120215	SI9749-1	A	83.9		107.	
MW-4A-120215	SI9749-1	B	86.9		98.3	
MW-5-120215	SI9749-2	A	88.2		91.4	
MW-5-120215	SI9749-2	B	90.5		81.0	
MW-5-120215-REP	SI9749-3	A	84.1		93.6	
MW-5-120215-REP	SI9749-3	B	84.8		85.9	
MW-01-120215	SI9749-4	A	90.6		102.	
MW-01-120215	SI9749-4	B	95.1		94.1	
MW-06-120215	SI9749-5	A	75.7		95.9	
MW-06-120215	SI9749-5	B	75.1		87.9	
MW-7A-120315	SI9749-6	A	96.5		101.	
MW-7A-120315	SI9749-6	B	98.4		92.6	
MW-03-120315	SI9749-7	A	88.8		104.	
MW-03-120315	SI9749-7	B	88.0		94.1	
EB-001-120315	SI9749-8	A	83.6		101.	
EB-001-120315	SI9749-8	B	85.2		93.5	
Method Blank Sample	WG175803-1	A	72.8		114.	*
Method Blank Sample	WG175803-1	B	78.9		103.	
Laboratory Control S	WG175803-2	A	72.2		102.	
Laboratory Control S	WG175803-2	B	72.6		94.5	
Laboratory Control S	WG175803-3	A	70.9		90.9	
Laboratory Control S	WG175803-3	B	71.0		83.4	
Matrix Spike	WG175803-4	A	81.6		99.2	
Matrix Spike	WG175803-4	B	83.0		92.5	
Matrix Spike Duplica	WG175803-5	A	85.6		100.	
Matrix Spike Duplica	WG175803-5	B	87.5		90.8	

### QC Limits

TCX	TETRACHLORO-M-XYLENE	62-111
DCB	DECACHLOROBIPHENYL	44-135

# = Column to be used to flag recovery limits.  
\* = Values outside of contract required QC limits.  
D= System Monitoring Compound diluted out.

## Form 4 Method Blank Summary

<p><b>Lab Name :</b> Katahdin Analytical Services  <b>Project :</b> New Bedford Harbor Superfund Site  <b>Lab File ID :</b> 7IL104.D  <b>Matrix :</b> AQ  <b>Column A</b>  <b>Instrument ID :</b> GC07  <b>Date Analyzed :</b> 10-DEC-15  <b>Time Analyzed :</b> 16:58</p>	<p><b>SDG :</b> SI9749  <b>Lab Sample ID :</b> WG175803-1  <b>Date Extracted :</b> 10-DEC-15  <b>Extraction Method :</b> SW846 3510  <b>Column B</b>  <b>Instrument ID :</b> GC07  <b>Date Analyzed :</b> 10-DEC-15  <b>Time Analyzed :</b> 16:58</p>
--	---

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG175803-2	7IL105.D	12/10/15	17:33
Laboratory Control S	WG175803-3	7IL106.D	12/10/15	18:07
Matrix Spike	WG175803-4	7IL107.D	12/10/15	18:42
Matrix Spike Duplica	WG175803-5	7IL108.D	12/10/15	19:17
MW-4A-120215	SI9749-1	7IL110.D	12/10/15	20:26
MW-5-120215	SI9749-2	7IL111.D	12/10/15	21:01
MW-5-120215-REP	SI9749-3	7IL112.D	12/10/15	21:35
MW-01-120215	SI9749-4	7IL113.D	12/10/15	22:10
MW-06-120215	SI9749-5	7IL117.D	12/11/15	00:28
MW-7A-120315	SI9749-6	7IL118.D	12/11/15	01:03
MW-03-120315	SI9749-7	7IL119.D	12/11/15	01:38
EB-001-120315	SI9749-8	7IL120.D	12/11/15	02:12

## Form 8 GC Analytical Sequence

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Instrument ID :** GC07

**SDG :** SI9749  
**Column ID :** A

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	TCX	DCB	
Initial Calibration	WG174334-1	11/13/15	13:04	5.164	25.78	
Initial Calibration	WG174334-2	11/13/15	13:39	5.164	25.78	
Initial Calibration	WG174334-3	11/13/15	14:14	5.165	25.79	
Initial Calibration	WG174334-4	11/13/15	14:48	5.166	25.80	
Initial Calibration	WG174334-5	11/13/15	15:23	5.169	25.80	
Initial Calibration	WG174334-6	11/13/15	15:58	5.167	25.79	
Independent Source	WG174334-8	11/13/15	17:17			
Initial Calibration	WG174334-9	11/13/15	17:52			
Initial Calibration	WG174334-16	11/13/15	21:55			
Initial Calibration	WG174334-23	11/14/15	01:57			
Initial Calibration	WG174334-24	11/14/15	02:32			
Initial Calibration	WG174334-25	11/14/15	03:06			
Independent Source	WG174334-7	11/16/15	12:47			
Continuing Calibrati	WG175876-1	12/10/15	09:09	5.133	25.73	
Method Blank Sample	WG175803-1	12/10/15	16:58	5.141	25.74	
Laboratory Control S	WG175803-2	12/10/15	17:33	5.135	25.74	
Laboratory Control S	WG175803-3	12/10/15	18:07	5.143	25.73	
Matrix Spike	WG175803-4	12/10/15	18:42	5.136	25.72	
Matrix Spike Duplica	WG175803-5	12/10/15	19:17	5.132	25.71	
MW-4A-120215	SI9749-1	12/10/15	20:26	5.127	25.71	
MW-5-120215	SI9749-2	12/10/15	21:01	5.127	25.70	
MW-5-120215-REP	SI9749-3	12/10/15	21:35	5.123	25.71	
MW-01-120215	SI9749-4	12/10/15	22:10	5.121	25.70	
Continuing Calibrati	WG175876-2	12/10/15	23:54	5.125	25.7	
MW-06-120215	SI9749-5	12/11/15	00:28	5.123	25.70	
MW-7A-120315	SI9749-6	12/11/15	01:03	5.124	25.70	
MW-03-120315	SI9749-7	12/11/15	01:38	5.123	25.71	
EB-001-120315	SI9749-8	12/11/15	02:12	5.125	25.71	
Continuing Calibrati	WG175876-3	12/11/15	03:56	5.118	25.71	

## Form 8 GC Analytical Sequence

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund Site  
**Instrument ID :** GC07

**SDG :** SI9749  
**Column ID :** B

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	TCX	DCB	
Initial Calibration	WG174334-1	11/13/15	13:04	5.628	27.18	
Initial Calibration	WG174334-2	11/13/15	13:39	5.626	27.18	
Initial Calibration	WG174334-3	11/13/15	14:14	5.627	27.18	
Initial Calibration	WG174334-4	11/13/15	14:48	5.632	27.18	
Initial Calibration	WG174334-5	11/13/15	15:23	5.634	27.18	
Initial Calibration	WG174334-6	11/13/15	15:58	5.632	27.18	
Independent Source	WG174334-8	11/13/15	17:17			
Initial Calibration	WG174334-9	11/13/15	17:52			
Initial Calibration	WG174334-16	11/13/15	21:55			
Initial Calibration	WG174334-23	11/14/15	01:57			
Initial Calibration	WG174334-24	11/14/15	02:32			
Initial Calibration	WG174334-25	11/14/15	03:06			
Independent Source	WG174334-7	11/16/15	12:47			
Continuing Calibrati	WG175876-1	12/10/15	09:09	5.573	27.08	
Method Blank Sample	WG175803-1	12/10/15	16:58	5.578	27.08	
Laboratory Control S	WG175803-2	12/10/15	17:33	5.59	27.09	
Laboratory Control S	WG175803-3	12/10/15	18:07	5.597	27.08	
Matrix Spike	WG175803-4	12/10/15	18:42	5.591	27.07	
Matrix Spike Duplica	WG175803-5	12/10/15	19:17	5.585	27.07	
MW-4A-120215	SI9749-1	12/10/15	20:26	5.58	27.07	
MW-5-120215	SI9749-2	12/10/15	21:01	5.58	27.06	
MW-5-120215-REP	SI9749-3	12/10/15	21:35	5.578	27.06	
MW-01-120215	SI9749-4	12/10/15	22:10	5.576	27.06	
Continuing Calibrati	WG175876-2	12/10/15	23:54	5.58	27.06	
MW-06-120215	SI9749-5	12/11/15	00:28	5.577	27.06	
MW-7A-120315	SI9749-6	12/11/15	01:03	5.577	27.06	
MW-03-120315	SI9749-7	12/11/15	01:38	5.578	27.06	
EB-001-120315	SI9749-8	12/11/15	02:12	5.578	27.06	
Continuing Calibrati	WG175876-3	12/11/15	03:56	5.573	27.07	

## **Sample Data Section**



## KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL/LOQ or "U" LOD, where the rate of false negatives is <1%.

\* Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

or

J Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N Presumptive evidence of a compound based on a mass spectral library search.

A Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

## Katahdin Analytical Services, Inc.

### Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1 Peak	splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL110.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 10-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.48	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.48	0.085	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.48	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.48	0.078	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.48	0.16	0.24
Total PCBs	U	2.1	ug/L	1	4.5	4.3	0.063	2.1
Tetrachloro-M-Xylene		107.	%					
Decachlorobiphenyl		86.9	%					

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL110.D  
Report Date: 14-Dec-2015 14:08

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL110.D  
Lab Smp Id: SI9749-1 Client Smp ID: MW-4A-120215  
Inj Date : 10-DEC-2015 20:26  
Operator : AWS Inst ID: gc07.i  
Smp Info : SI9749-1  
Misc Info : WG175876,WG175803,WG174334-1  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
Als bottle: 12  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: DoD8082.sub  
Target Version: 4.12 Sample Matrix: WATER  
Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.050	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 3					CAS #: 877-09-8	
5.127	5.118	0.009	8925424 0.10667	1.02	(M)	M4
-----						
\$ 12					CAS #: 2051-24-3	
25.708	25.708	0.000	5052217 0.08391	0.799		
-----						

AWS

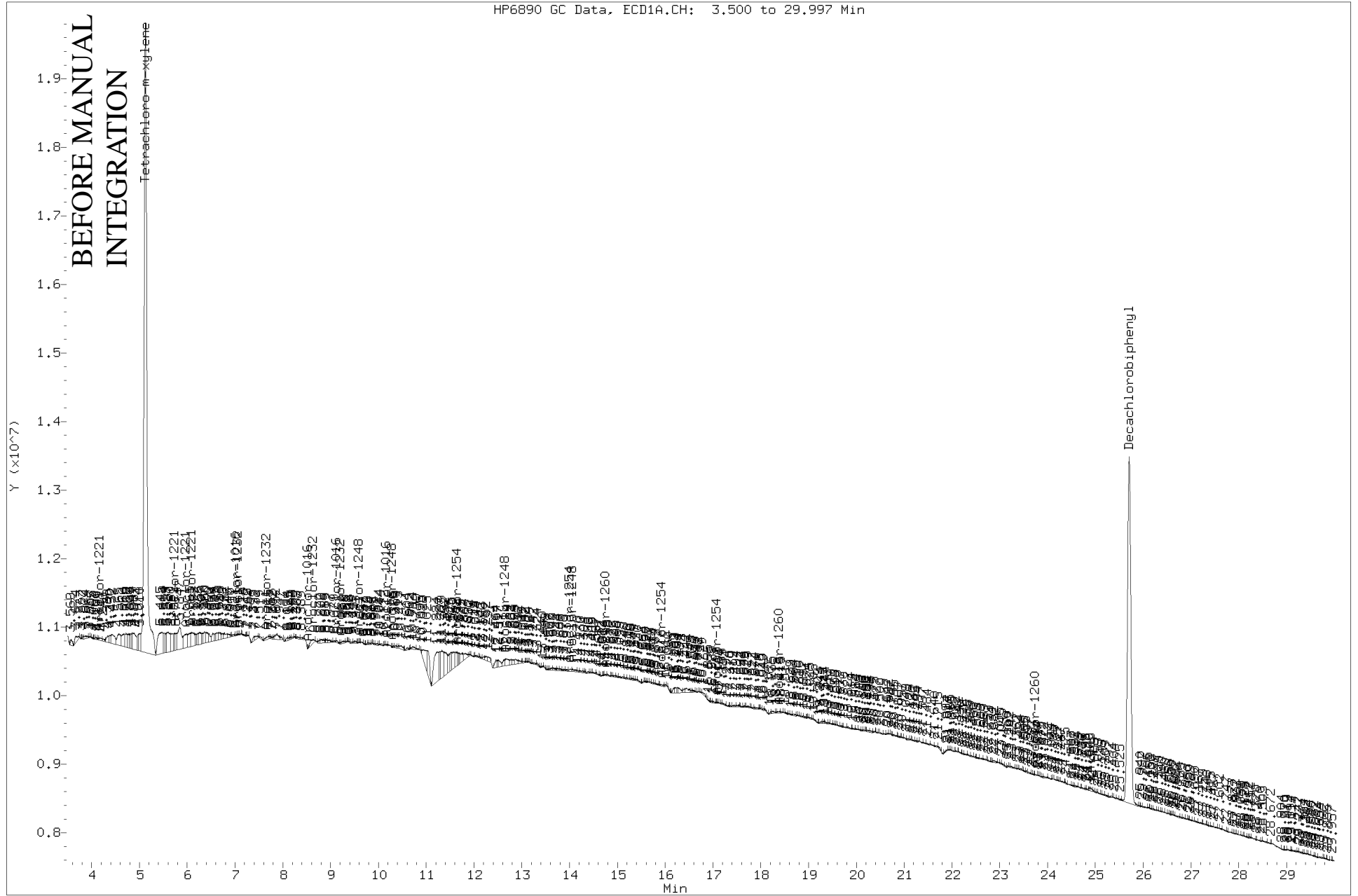
2:36 pm, Dec 14, 2015

QC Flag Legend

M - Compound response manually integrated.

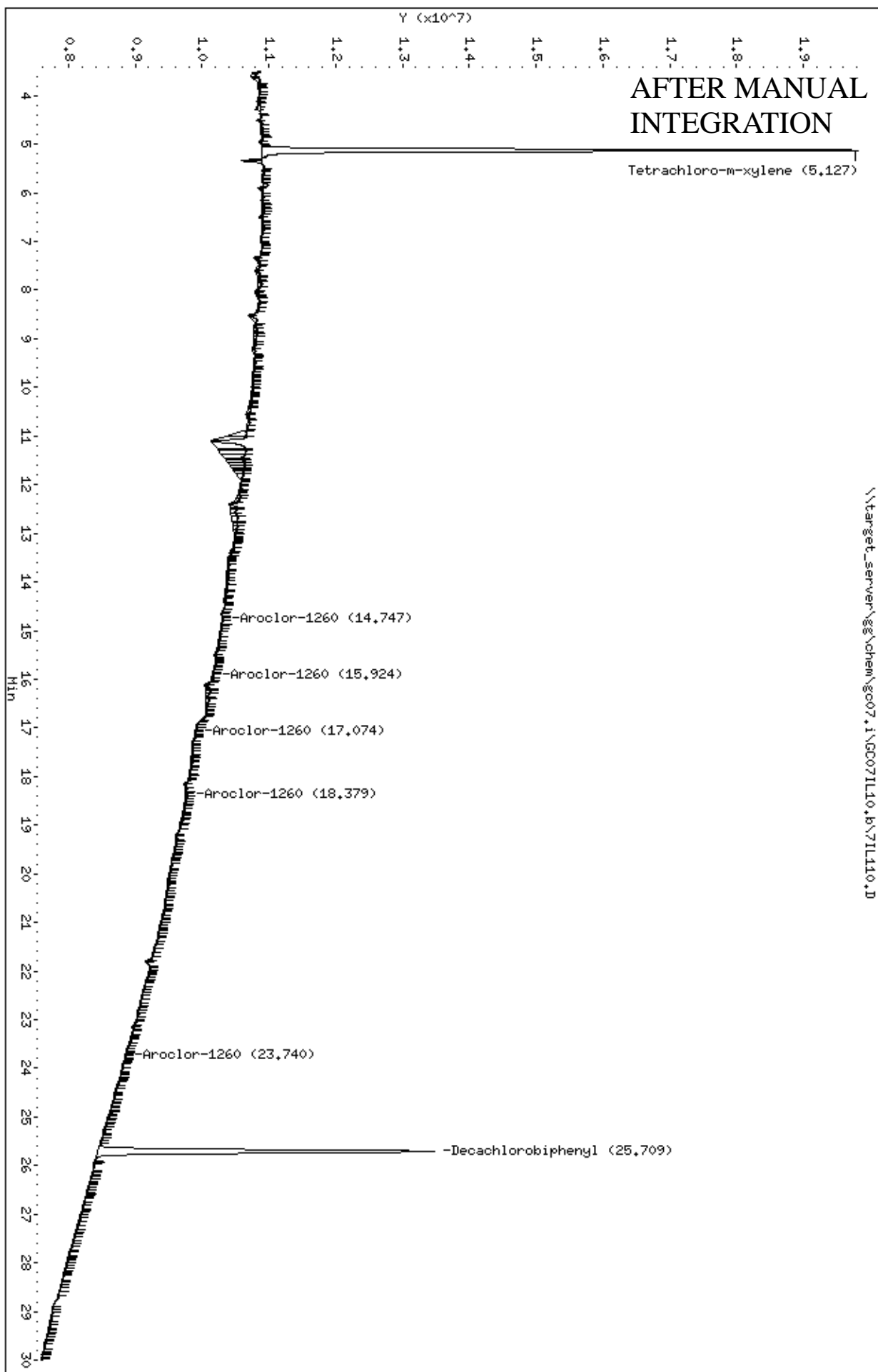
Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL110.D  
Injection Date: 10-DEC-2015 20:26  
Instrument: gc07.i  
Client Sample ID: MW-4A-120215

HP6890 GC Data, ECD1A.CH: 3.500 to 29.997 Min



Data File: \\target\_server\chem\gc07.i\GC071110.1\711110.D  
Date: 10-DEC-2015 20:26  
Client ID: MW-40-120215  
Sample Info: S19749-1  
Purge Volume: 1.1  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: AMS  
Column diameter: 0.53



Data File: 7IL110.D  
 Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL110.D  
 Lab Smp Id: SI9749-1 Client Smp ID: MW-4A-120215  
 Inj Date : 10-DEC-2015 20:26  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : SI9749-1  
 Misc Info : WG175876,WG175803,WG174334-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 12  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoD8082.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.050	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 2					CAS #: 877-09-8	
5.580	5.573	0.007	12413417	0.09826	0.936	(M) M4
-----						
\$ 12					CAS #: 2051-24-3	
27.066	27.065	0.001	6051125	0.08684	0.827	
-----						

AWS

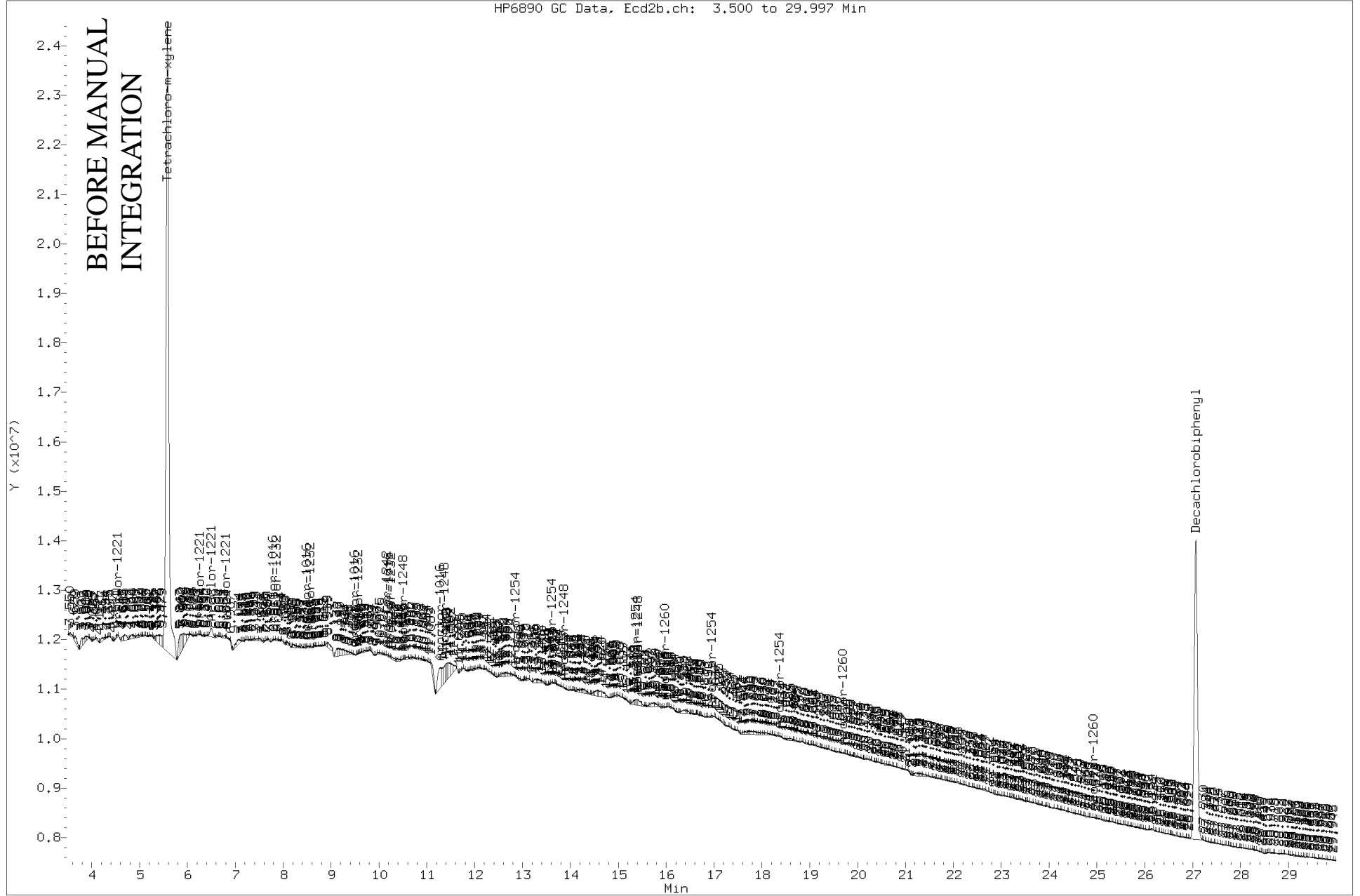
2:37 pm, Dec 14, 2015

QC Flag Legend

M - Compound response manually integrated.

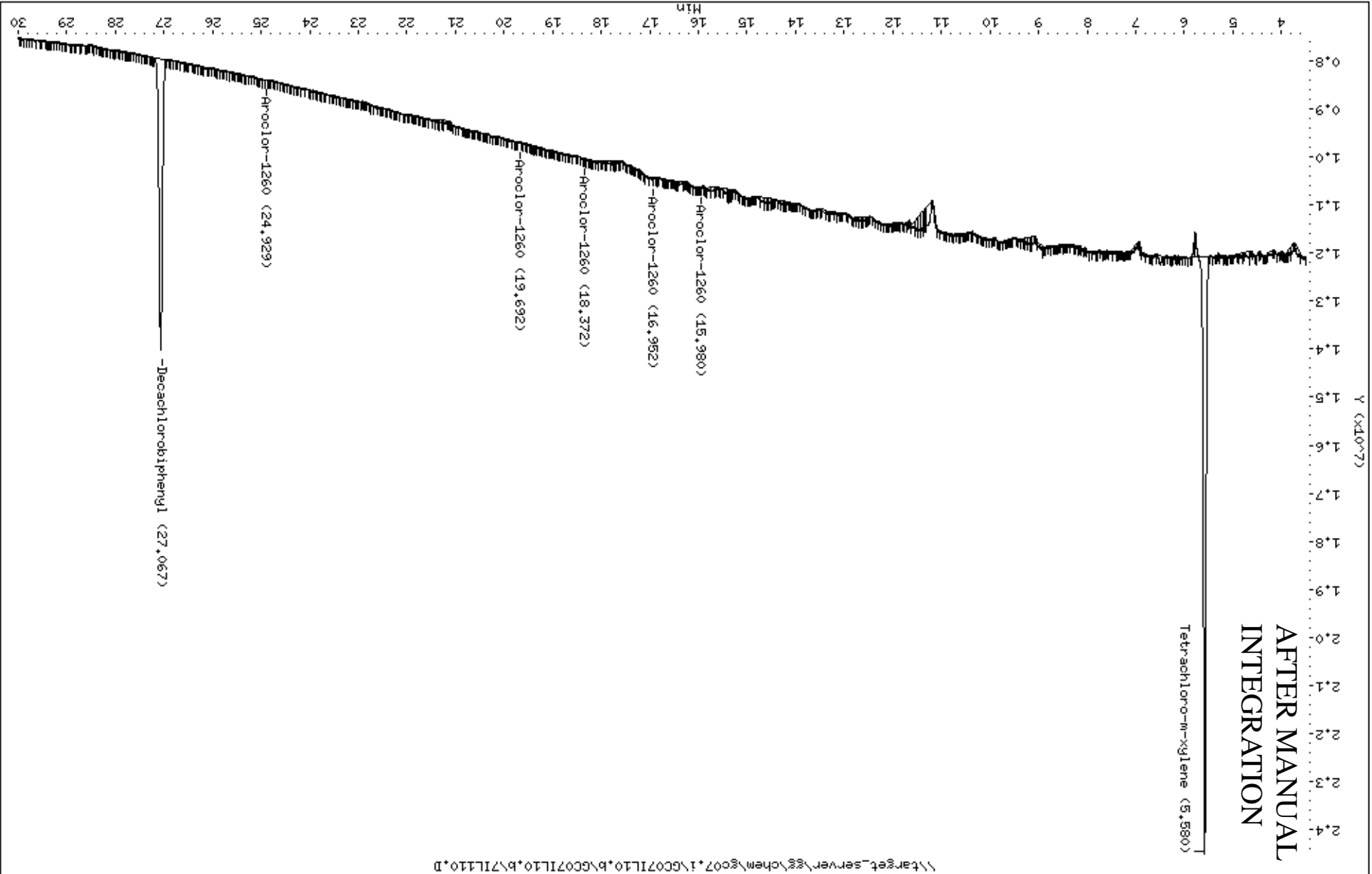
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Injection Date: 10-DEC-2015 20:26  
Instrument: gc07.i  
Client Sample ID: MW-4A-120215

HP6890 GC Data, Ecd2b.ch: 3.500 to 29.997 Min





**AFTER MANUAL  
INTEGRATION**



Data File: \\target\_server\chem\gc07\1\GC071110.B\GC071110.B\711110.D  
Date: 10-DEC-2015 20:26  
Client ID: MW-44-120215  
Sample Info: S19749-1  
Purge Volume: 1.1  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-2  
**Client ID:** MW-5-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL111.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 10-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.48	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.48	0.085	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.48	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.48	0.078	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.48	0.16	0.24
Total PCBs	U	2.1	ug/L	1	4.5	4.3	0.063	2.1
Tetrachloro-M-Xylene		91.4	%					
Decachlorobiphenyl		90.5	%					

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL111.D  
Report Date: 14-Dec-2015 14:08

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL111.D  
Lab Smp Id: SI9749-2 Client Smp ID: MW-5-120215  
Inj Date : 10-DEC-2015 21:01  
Operator : AWS Inst ID: gc07.i  
Smp Info : SI9749-2  
Misc Info : WG175876,WG175803,WG174334-1  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
Als bottle: 13  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: DoD8082.sub  
Target Version: 4.12 Sample Matrix: WATER  
Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.050	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 3					CAS #: 877-09-8	
5.127	5.118	0.009	7640563	0.09131	0.870	(M) M4
-----						
\$ 12					CAS #: 2051-24-3	
25.704	25.708	-0.004	5313680	0.08825	0.840	
-----						

AWS

2:37 pm, Dec 14, 2015

QC Flag Legend

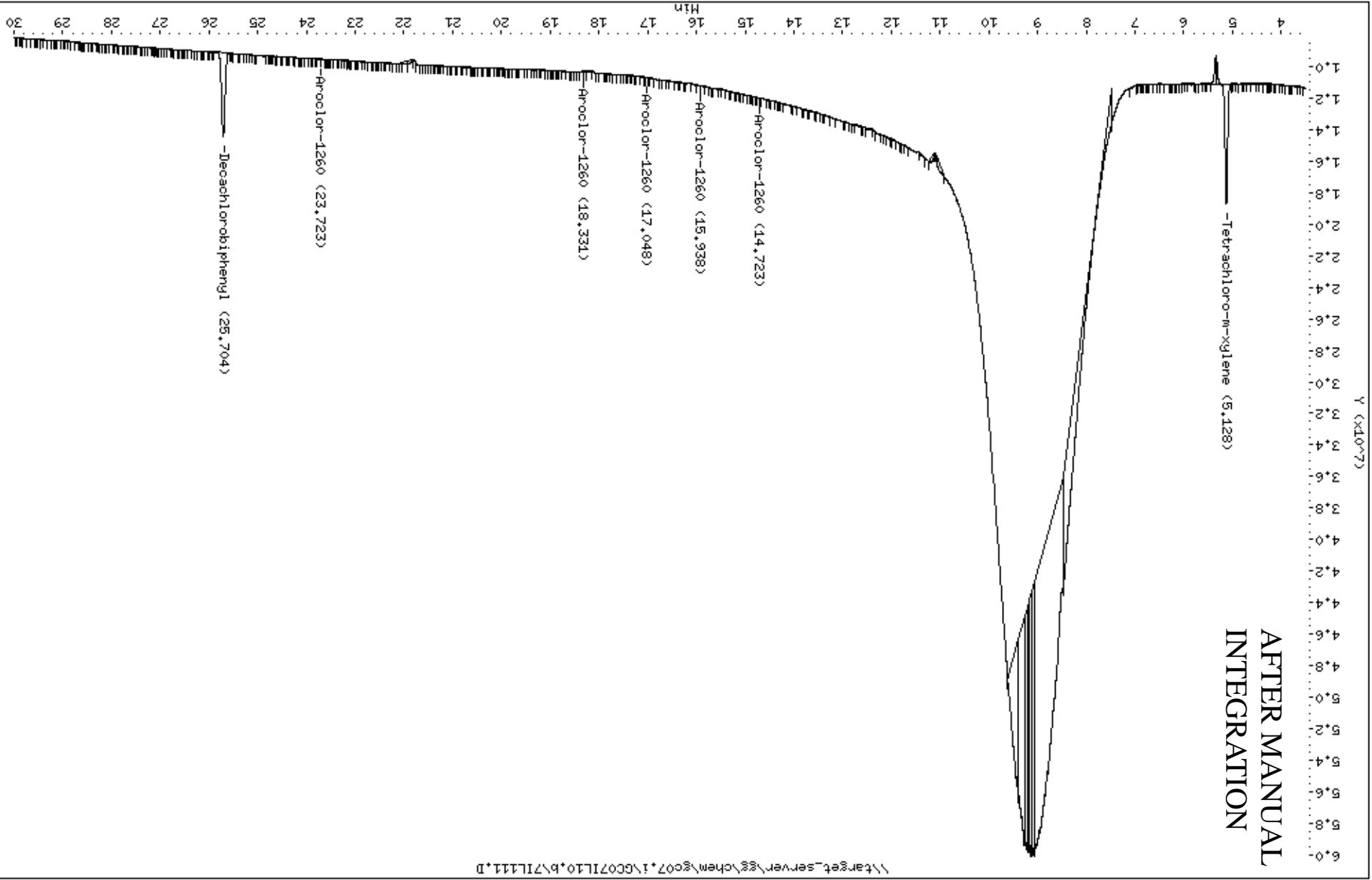
M - Compound response manually integrated.



Data File: \\target\_server\chem\gc07\1\GC071L10.B\71L111.D  
Date: 10-DEC-2015 21:01  
Client ID: HM-5-120215  
Sample Info: S19749-2  
Purge Volume: 1.1  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

### AFTER MANUAL INTEGRATION



Data File: 7IL111.D  
 Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL111.D  
 Lab Smp Id: SI9749-2 Client Smp ID: MW-5-120215  
 Inj Date : 10-DEC-2015 21:01  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : SI9749-2  
 Misc Info : WG175876,WG175803,WG174334-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 13  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoD8082.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.050	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 2					CAS #: 877-09-8	
5.580	5.573	0.007	10225758	0.08094	0.771	(M) M4
-----						
\$ 12					CAS #: 2051-24-3	
27.064	27.065	-0.001	6303585	0.09046	0.862	

AWS

2:37 pm, Dec 14, 2015

QC Flag Legend

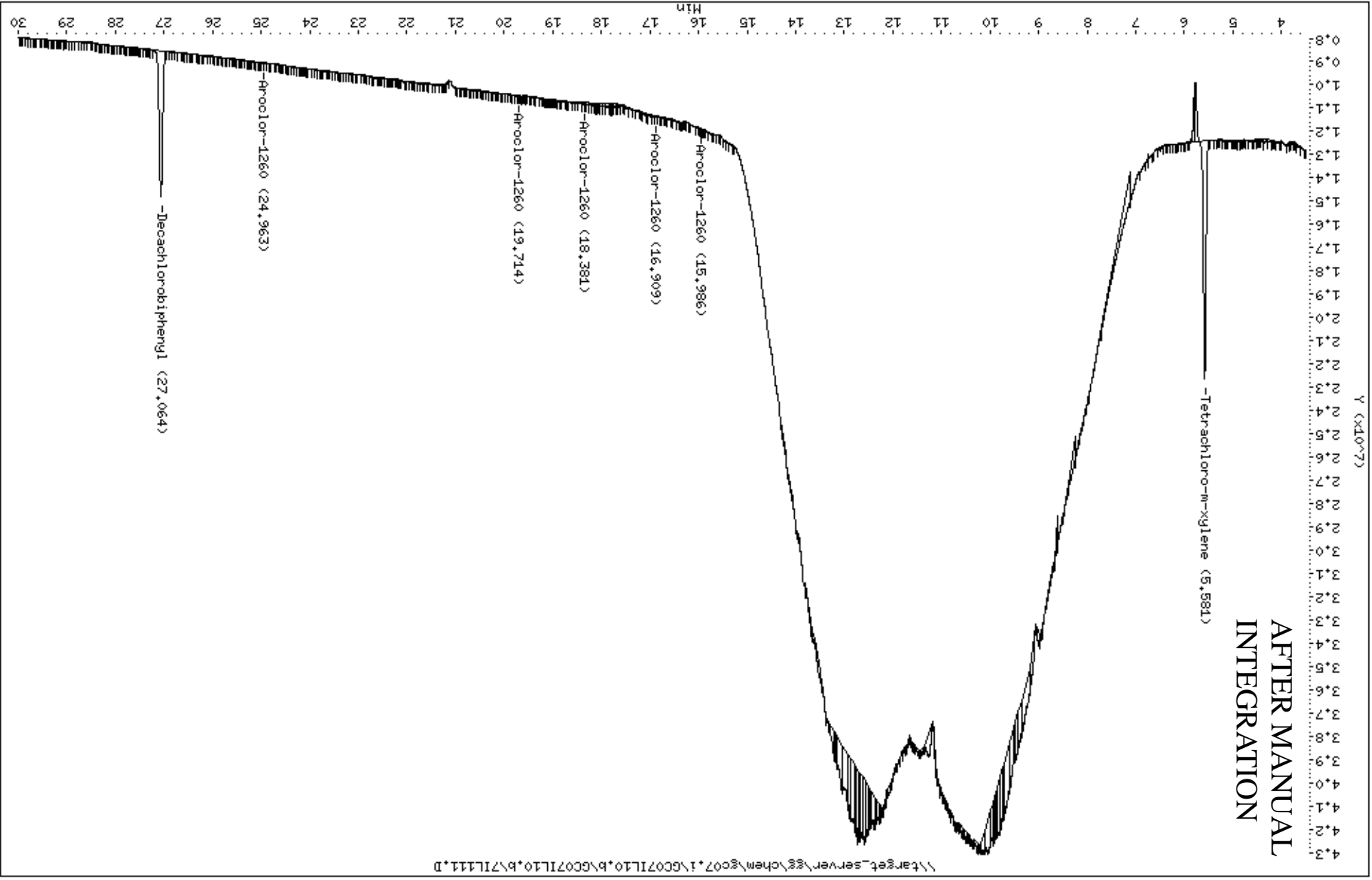
M - Compound response manually integrated.



# AFTER MANUAL INTEGRATION

Data File: \\target\_server\eg\chem\gc07.1\GC071L10.B\GC071L10.B\71L111.D  
Date: 10-DEC-2015 21:01  
Client ID: HM-5-120215  
Sample Info: SI9749-2  
Purge Volume: 1.1  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53





## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-3  
**Client ID:** MW-5-120215-REP  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL112.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 10-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.48	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.48	0.086	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.48	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.48	0.079	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.48	0.16	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.3	0.063	2.2
Tetrachloro-M-Xylene		93.6	%					
Decachlorobiphenyl		84.8	%					

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL112.D  
Report Date: 14-Dec-2015 14:08

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL112.D  
Lab Smp Id: SI9749-3 Client Smp ID: MW-5-120215-REP  
Inj Date : 10-DEC-2015 21:35  
Operator : AWS Inst ID: gc07.i  
Smp Info : SI9749-3  
Misc Info : WG175876,WG175803,WG174334-1  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
Als bottle: 14  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: DoD8082.sub  
Target Version: 4.12 Sample Matrix: WATER  
Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.040	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 3					CAS #: 877-09-8	
5.123	5.118	0.005	7832015 0.09360	0.900	(M)	M4
-----						
\$ 12					CAS #: 2051-24-3	
25.708	25.708	0.000	5066281 0.08414	0.809		

AWS

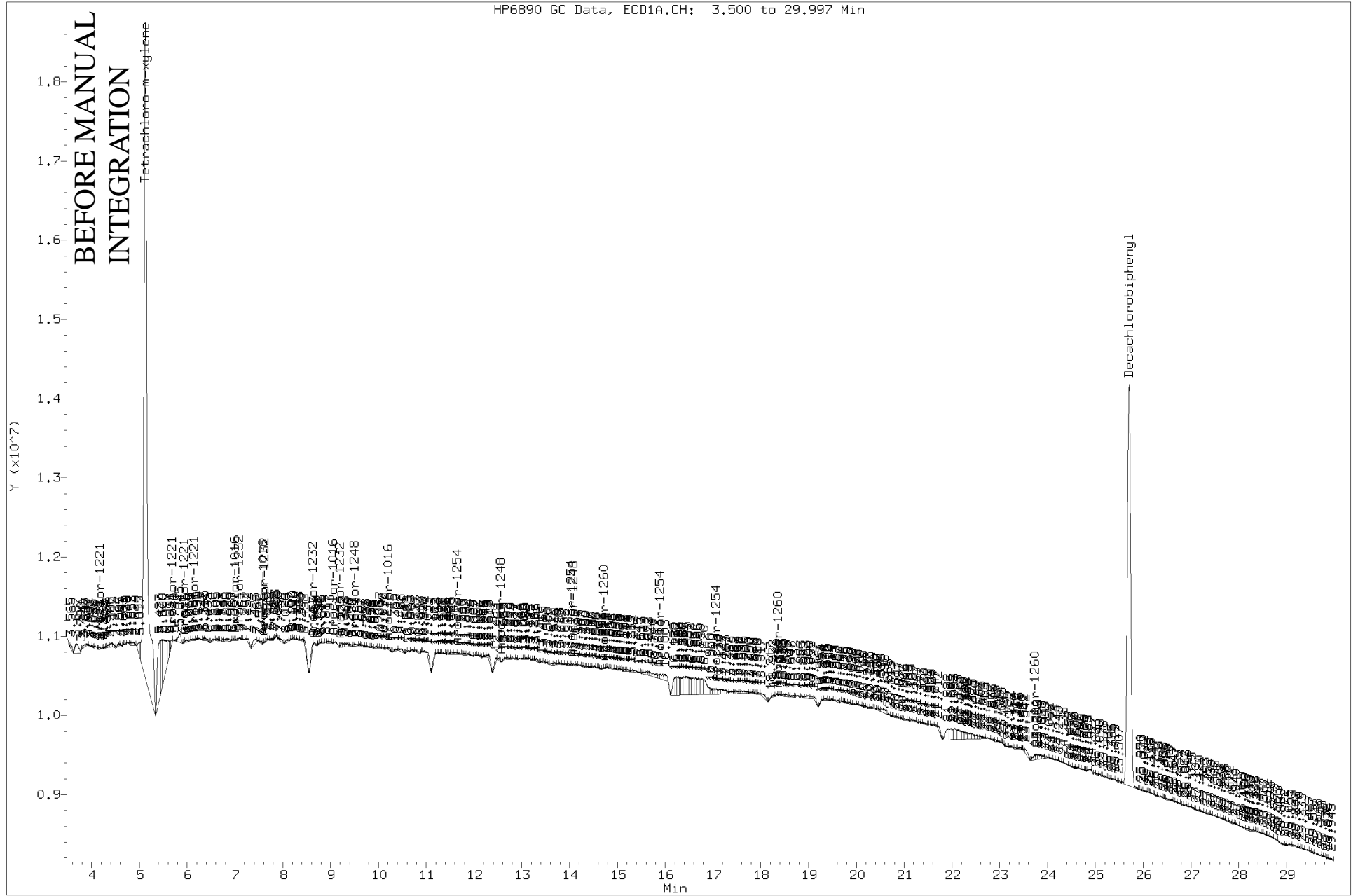
2:37 pm, Dec 14, 2015

QC Flag Legend

M - Compound response manually integrated.

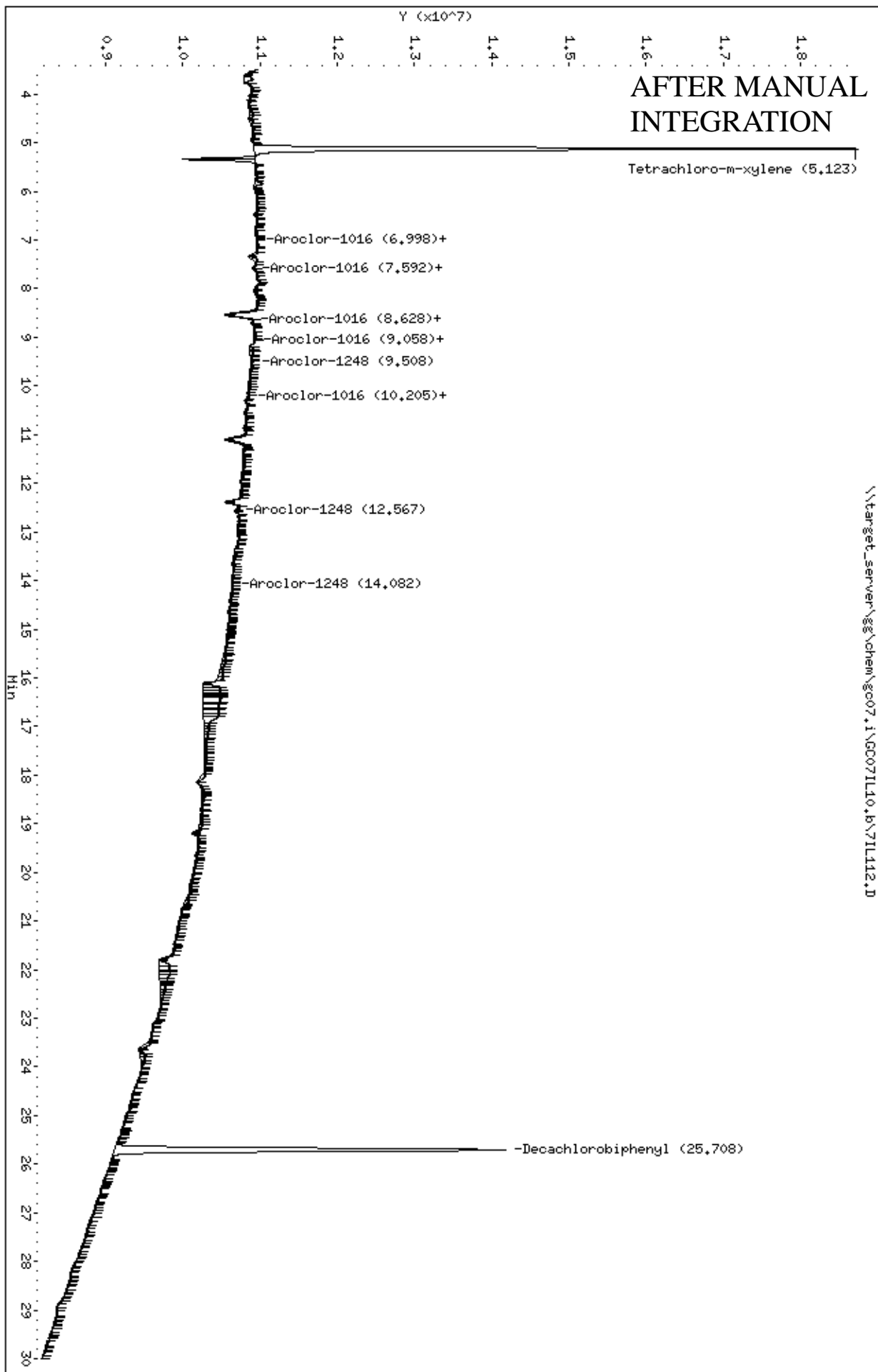
Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL112.D  
Injection Date: 10-DEC-2015 21:35  
Instrument: gc07.i  
Client Sample ID: MW-5-120215-REP

HP6890 GC Data, ECD1A.CH: 3.500 to 29.997 Min



Data File: \\target\_server\chem\gc07.i\GC071110.1\711112.D  
Date: 10-DEC-2015 21:35  
Client ID: MW-5-120215-REP  
Sample Info: S19749-3  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: AMS  
Column diameter: 0.53



Data File: 7IL112.D  
Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL112.D  
Lab Smp Id: SI9749-3 Client Smp ID: MW-5-120215-REP  
Inj Date : 10-DEC-2015 21:35  
Operator : AWS Inst ID: gc07.i  
Smp Info : SI9749-3  
Misc Info : WG175876,WG175803,WG174334-1  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
Als bottle: 14  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: DoD8082.sub  
Target Version: 4.12 Sample Matrix: WATER  
Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.040	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 2					CAS #: 877-09-8	
5.578	5.573	0.005	10858495	0.08595	0.826	(M) M4
-----						
\$ 12					CAS #: 2051-24-3	
27.063	27.065	-0.002	5911859	0.08484	0.816	

AWS

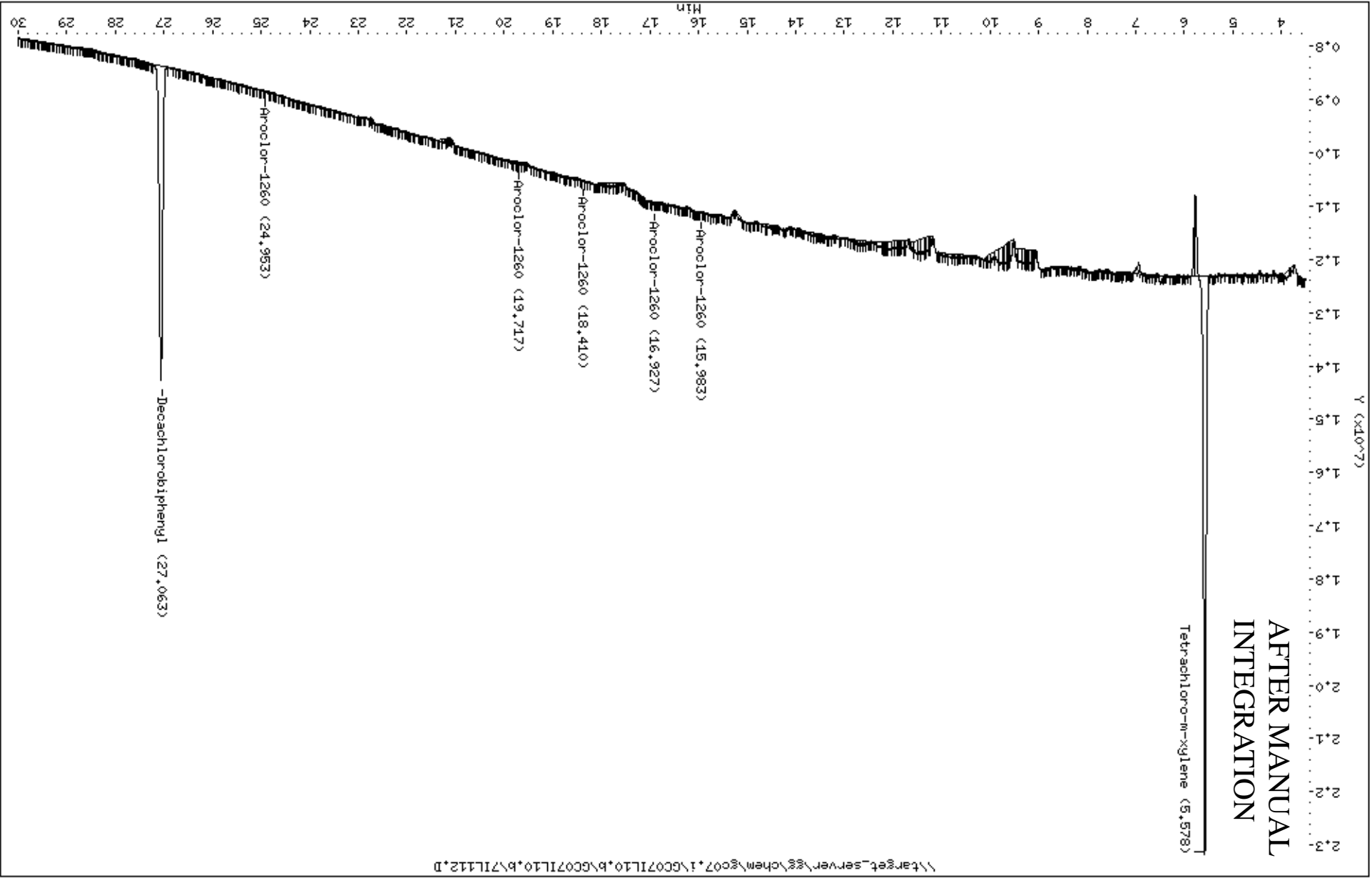
2:37 pm, Dec 14, 2015

QC Flag Legend

M - Compound response manually integrated.



# AFTER MANUAL INTEGRATION



Data File: \\target\_server\chem\gc07\1\GC071L10.B\GC071L10.B\71L112.D  
Date: 10-DEC-2015 21:35  
Client ID: HM-5-120215-REP  
Sample Info: S19749-3  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-4  
**Client ID:** MW-01-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL113.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 10-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.48	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.48	0.086	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.48	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.48	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.48	0.079	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.48	0.16	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.3	0.063	2.2
Tetrachloro-M-Xylene		102.	%					
Decachlorobiphenyl		95.1	%					



Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL113.D  
 Report Date: 14-Dec-2015 14:08

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL113.D  
 Lab Smp Id: SI9749-4 Client Smp ID: MW-01-120215  
 Inj Date : 10-DEC-2015 22:10  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : SI9749-4  
 Misc Info : WG175876,WG175803,WG174334-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
 Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 15  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoD8082.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.040	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 3					CAS #: 877-09-8	
5.121	5.118	0.003	8521348	0.10184	0.979	(M) M4
-----						
\$ 12					CAS #: 2051-24-3	
25.702	25.708	-0.006	5459069	0.09066	0.872	
-----						

AWS

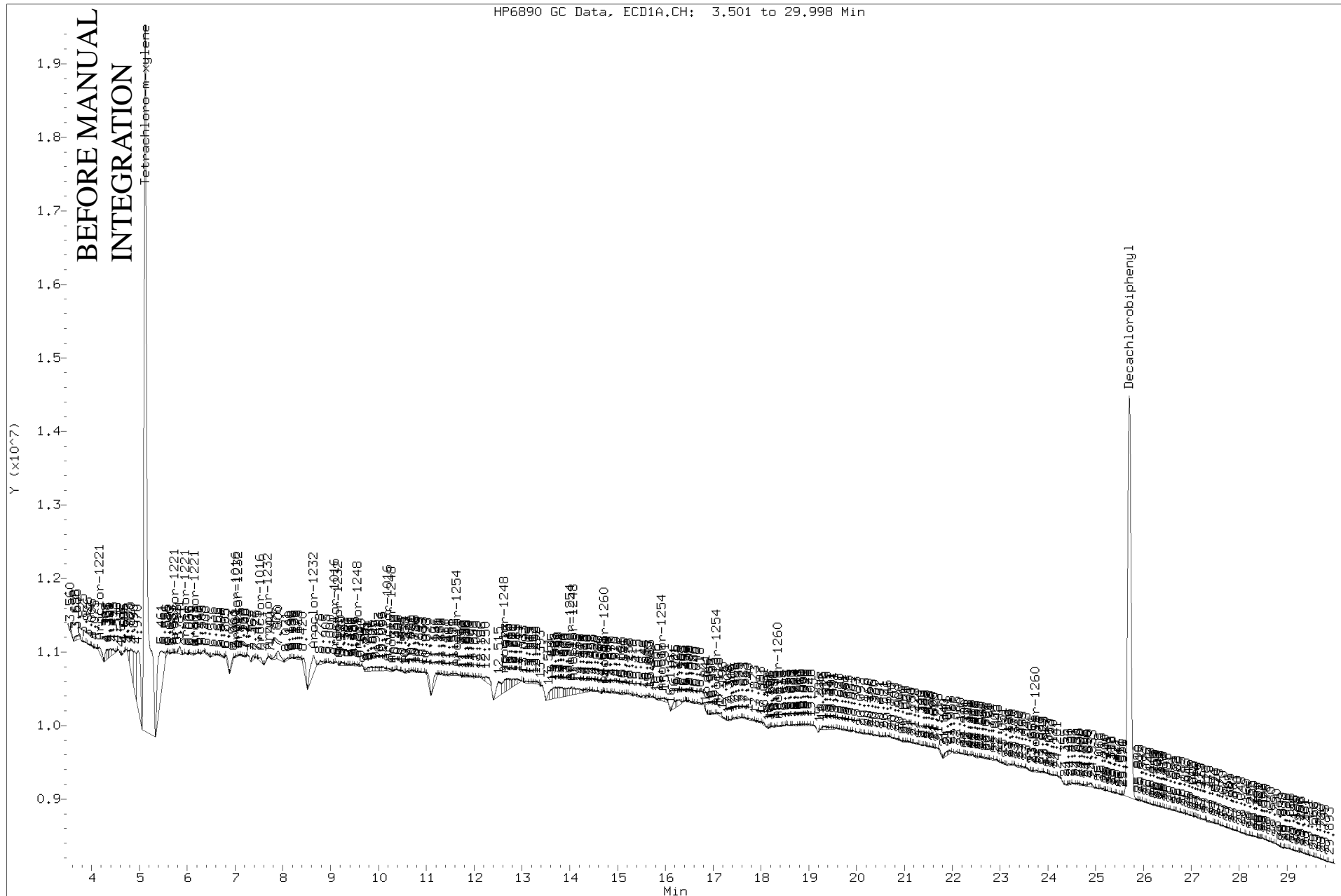
2:38 pm, Dec 14, 2015

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL113.D  
Injection Date: 10-DEC-2015 22:10  
Instrument: gc07.i  
Client Sample ID: MW-01-120215

HP6890 GC Data, ECD1A.CH: 3.501 to 29.998 Min

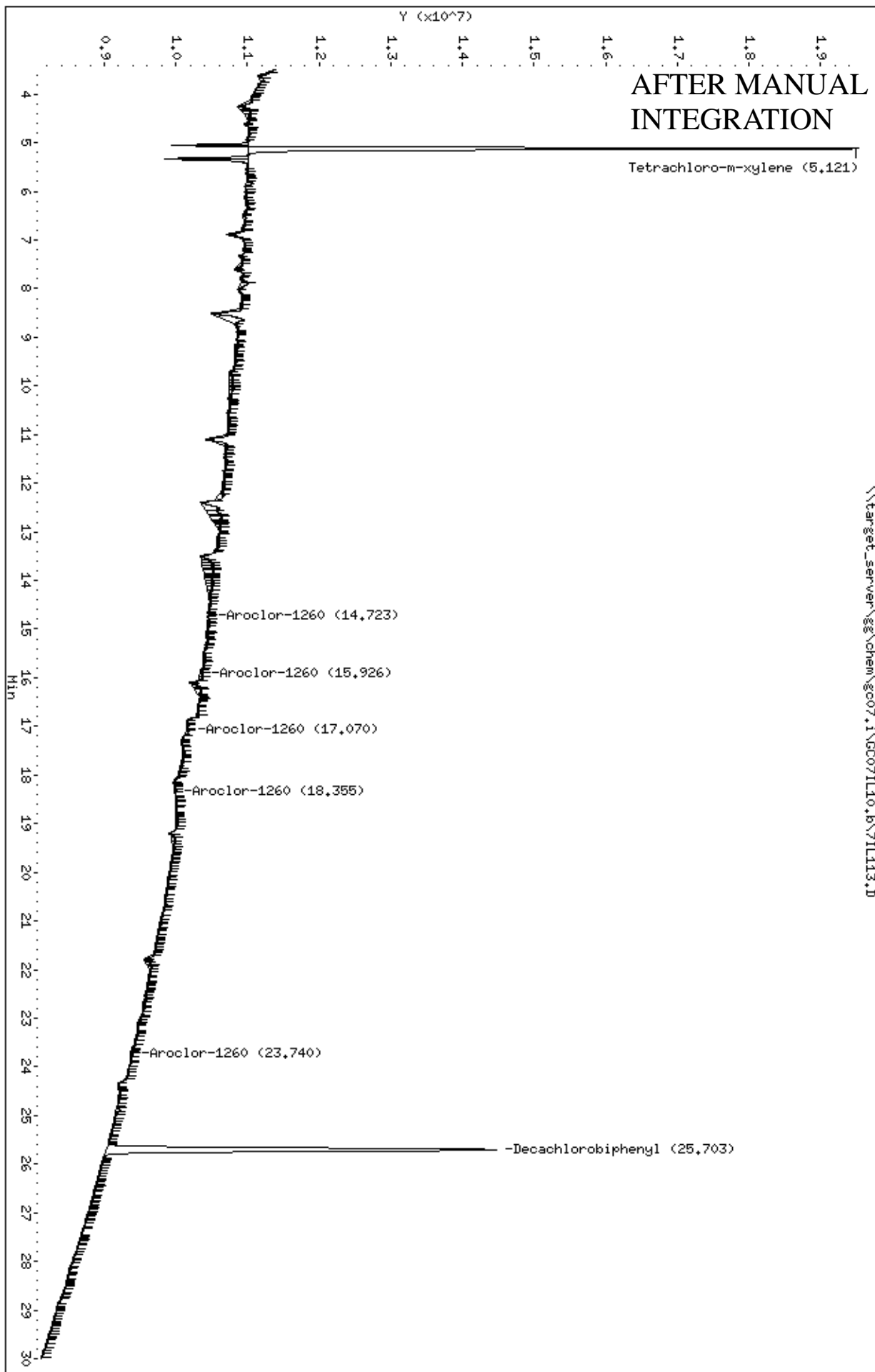


Data File: \\target\_server\gs\chem\gc07.i\GC071110.1\711113.D  
Date : 10-DEC-2015 22:10  
Client ID: MW-01-120215  
Sample Info: S19749-4  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: AMS  
Column diameter: 0.53

# AFTER MANUAL INTEGRATION

Tetrachloro-m-xylene (5.121)



Data File: 7IL113.D  
Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL113.D  
Lab Smp Id: SI9749-4 Client Smp ID: MW-01-120215  
Inj Date : 10-DEC-2015 22:10  
Operator : AWS Inst ID: gc07.i  
Smp Info : SI9749-4  
Misc Info : WG175876,WG175803,WG174334-1  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
Als bottle: 15  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: DoD8082.sub  
Target Version: 4.12 Sample Matrix: WATER  
Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.040	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS							
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	RATIO	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====	=====
\$ 2					CAS #: 877-09-8		
5.576	5.573	0.003	11887242	0.09409	0.905	(M)	M4
-----							
\$ 12					CAS #: 2051-24-3		
27.059	27.065	-0.006	6630925	0.09516	0.915		

AWS

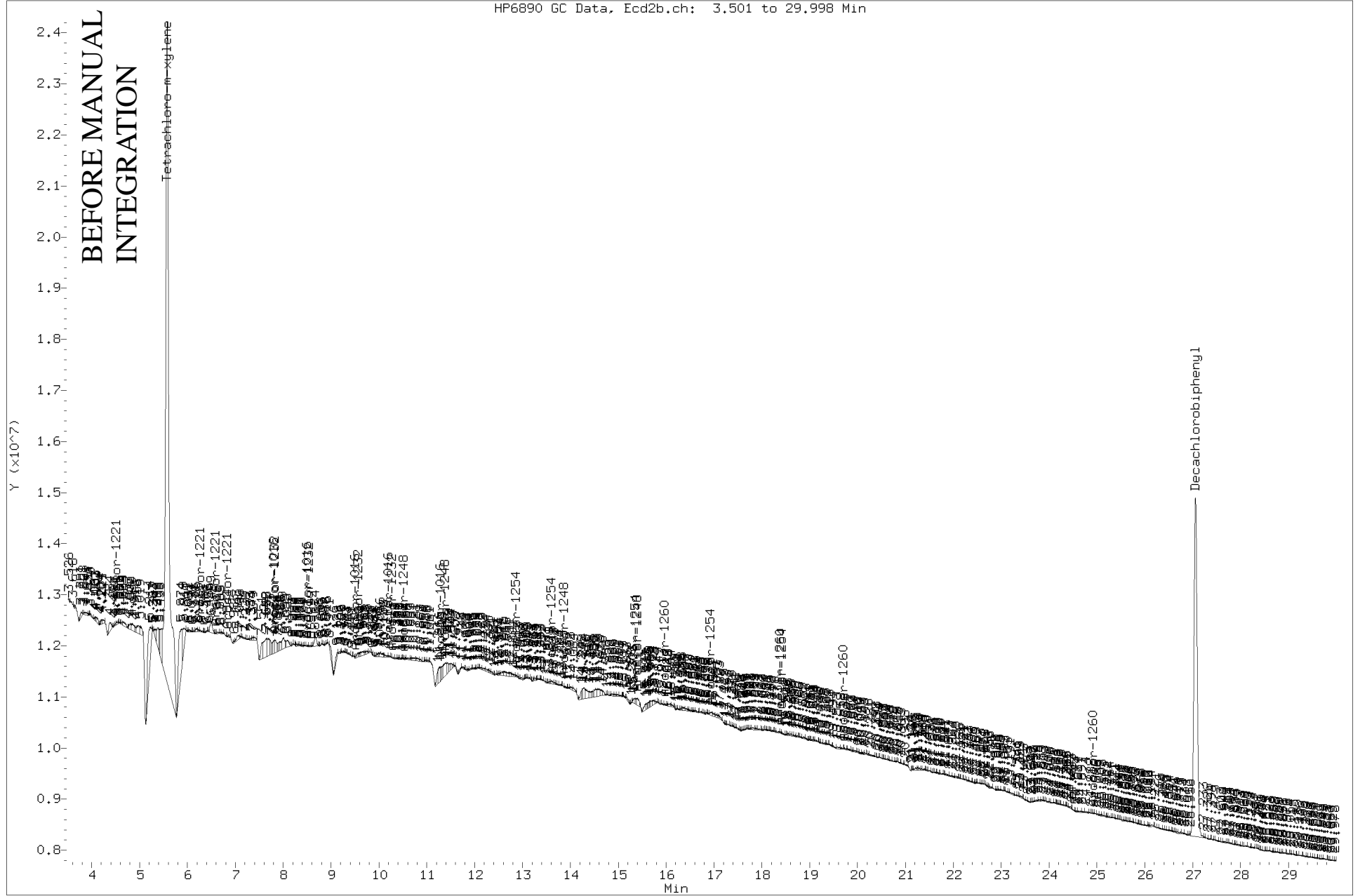
2:38 pm, Dec 14, 2015

QC Flag Legend

M - Compound response manually integrated.

Data File: \\TARGET\_SERVER\GG\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL113.D  
Injection Date: 10-DEC-2015 22:10  
Instrument: gc07.i  
Client Sample ID: MW-01-120215

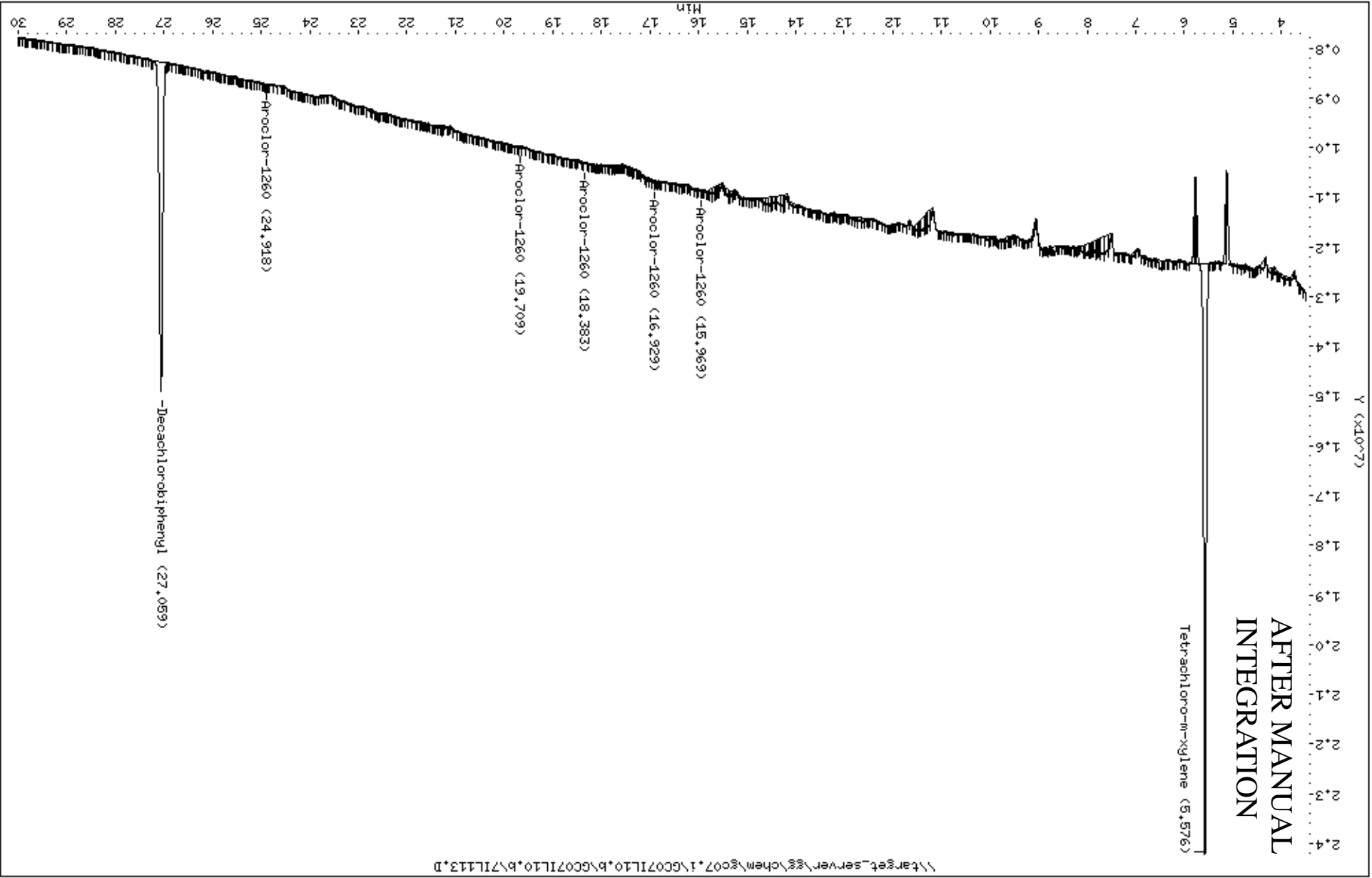
HP6890 GC Data, Ecd2b.ch: 3.501 to 29.998 Min



Data File: \\target\_server\eg\chem\gc07.1\GC071L10.B\GC071L10.B\71L113.D  
Date: 10-DEC-2015 22:10  
Client ID: MW-01-120215  
Sample Info: S19749-4  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53

# AFTER MANUAL INTEGRATION



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-5  
**Client ID:** MW-06-120215  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL117.D

**Sample Date:** 02-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 11-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.47	0.14	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.47	0.19	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.47	0.084	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.47	0.17	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.47	0.19	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.47	0.077	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.47	0.16	0.24
Total PCBs	U	2.1	ug/L	1	4.5	4.2	0.062	2.1
Tetrachloro-M-Xylene		95.9	%					
Decachlorobiphenyl		75.7	%					

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL117.D  
Report Date: 14-Dec-2015 14:08

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL117.D  
Lab Smp Id: SI9749-5 Client Smp ID: MW-06-120215  
Inj Date : 11-DEC-2015 00:28  
Operator : AWS Inst ID: gc07.i  
Smp Info : SI9749-5  
Misc Info : WG175876,WG175803,WG174334-1  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
Als bottle: 19  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: DoD8082.sub  
Target Version: 4.12 Sample Matrix: WATER  
Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.060	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 3					CAS #: 877-09-8	
5.123	5.118	0.005	8021089 0.09586	0.904	(M)	M4
-----						
\$ 12					CAS #: 2051-24-3	
25.698	25.708	-0.010	4555841 0.07566	0.714		

AWS

2:38 pm, Dec 14, 2015

QC Flag Legend

M - Compound response manually integrated.



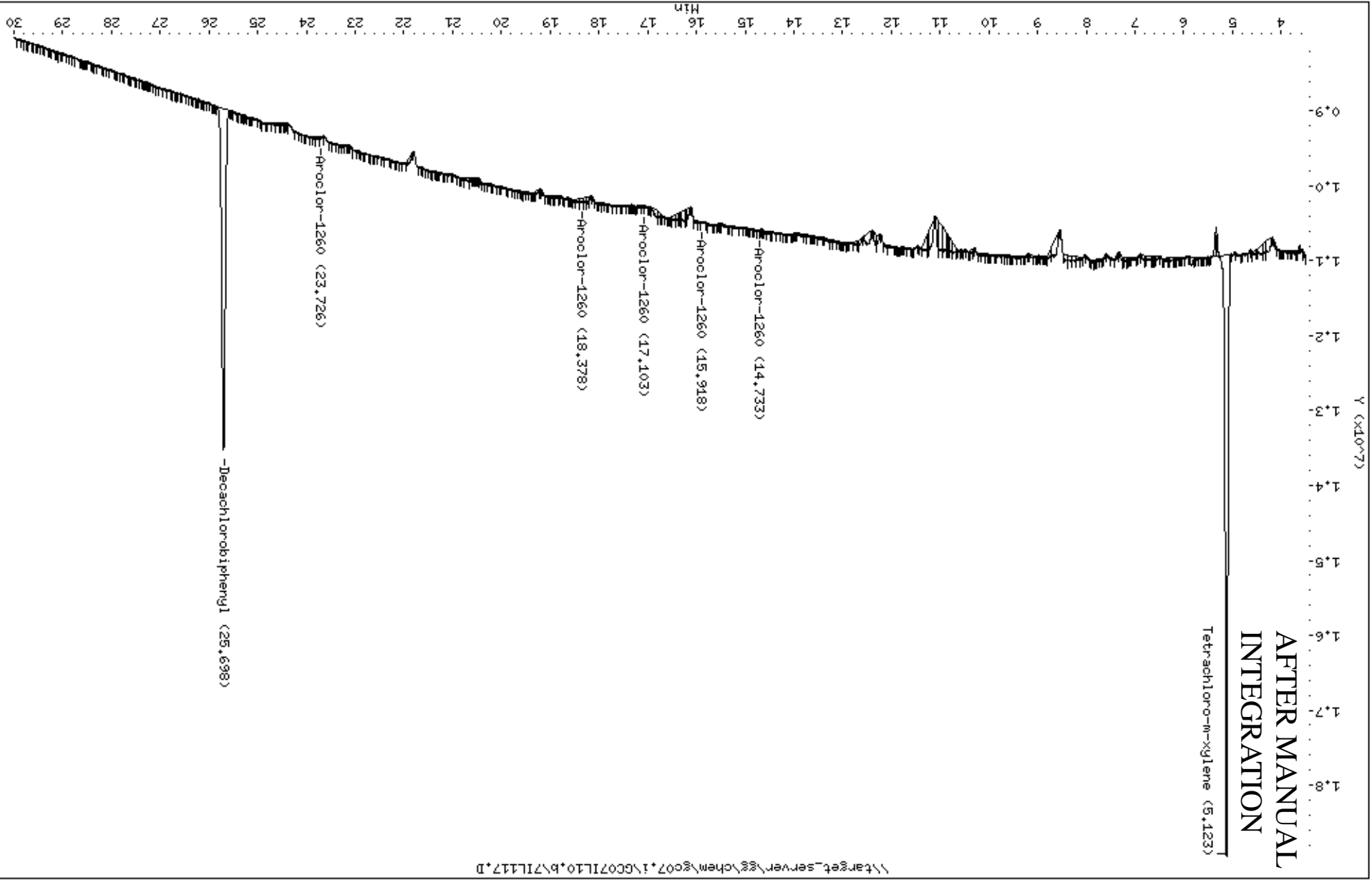


Data File: \\target\_server\chem\gc07\1\GC071L10.B\71L117.D  
Date: 11-DEC-2015 00:28  
Client ID: HM-06-120215  
Sample Info: SI9749-5  
Purge Volume: 1.1  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

# AFTER MANUAL INTEGRATION

Tetrachloro-m-xylene (5.123)



Data File: 7IL117.D  
 Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL117.D  
 Lab Smp Id: SI9749-5 Client Smp ID: MW-06-120215  
 Inj Date : 11-DEC-2015 00:28  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : SI9749-5  
 Misc Info : WG175876,WG175803,WG174334-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 19  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoD8082.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

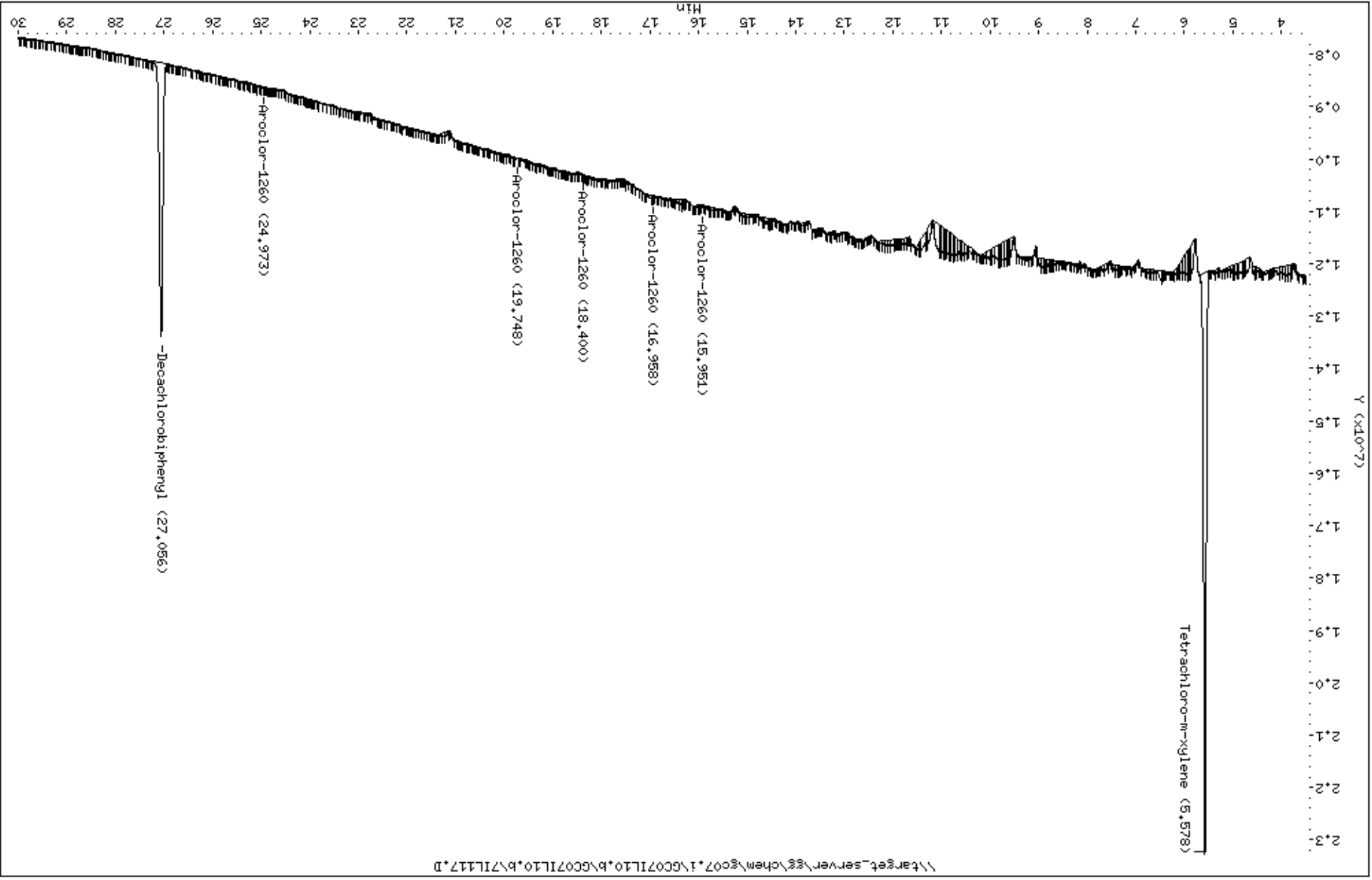
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.060	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS								
RT	EXP RT	DLT RT	RESPONSE (ug/mL)	ON-COL	FINAL ( ug/L)	TARGET RANGE	RATIO	REVIEW CODE
====	=====	=====	=====	=====	=====	=====	=====	=====
\$ 2								
5.577	5.573	0.004	11101839	0.08788	0.829			
-----								
\$ 12								
27.056	27.065	-0.009	5225788	0.07500	0.708			
-----								

Data File: \\target\_server\chem\gc07\1\GC071L10.B\GC071L10.B\71L117.D  
Date : 11-DEC-2015 00:28  
Client ID: HM-06-120215  
Sample Info: SI9749-5  
Purge Volume: 1.1  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-6  
**Client ID:** MW-7A-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL118.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 11-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.49	0.15	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.49	0.087	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.49	0.18	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.49	0.080	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.49	0.17	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.4	0.065	2.2
Tetrachloro-M-Xylene		101.	%					
Decachlorobiphenyl		98.4	%					

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL118.D  
Report Date: 14-Dec-2015 14:08

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL118.D  
Lab Smp Id: SI9749-6 Client Smp ID: MW-7A-120315  
Inj Date : 11-DEC-2015 01:03  
Operator : AWS Inst ID: gc07.i  
Smp Info : SI9749-6  
Misc Info : WG175876,WG175803,WG174334-1  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
Als bottle: 20  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: DoD8082.sub  
Target Version: 4.12 Sample Matrix: WATER  
Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.020	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 3					CAS #: 877-09-8	
5.124	5.118	0.006	8466466 0.10118	0.992	(M)	M4
-----						
\$ 12					CAS #: 2051-24-3	
25.699	25.708	-0.009	5811655 0.09652	0.946		

AWS

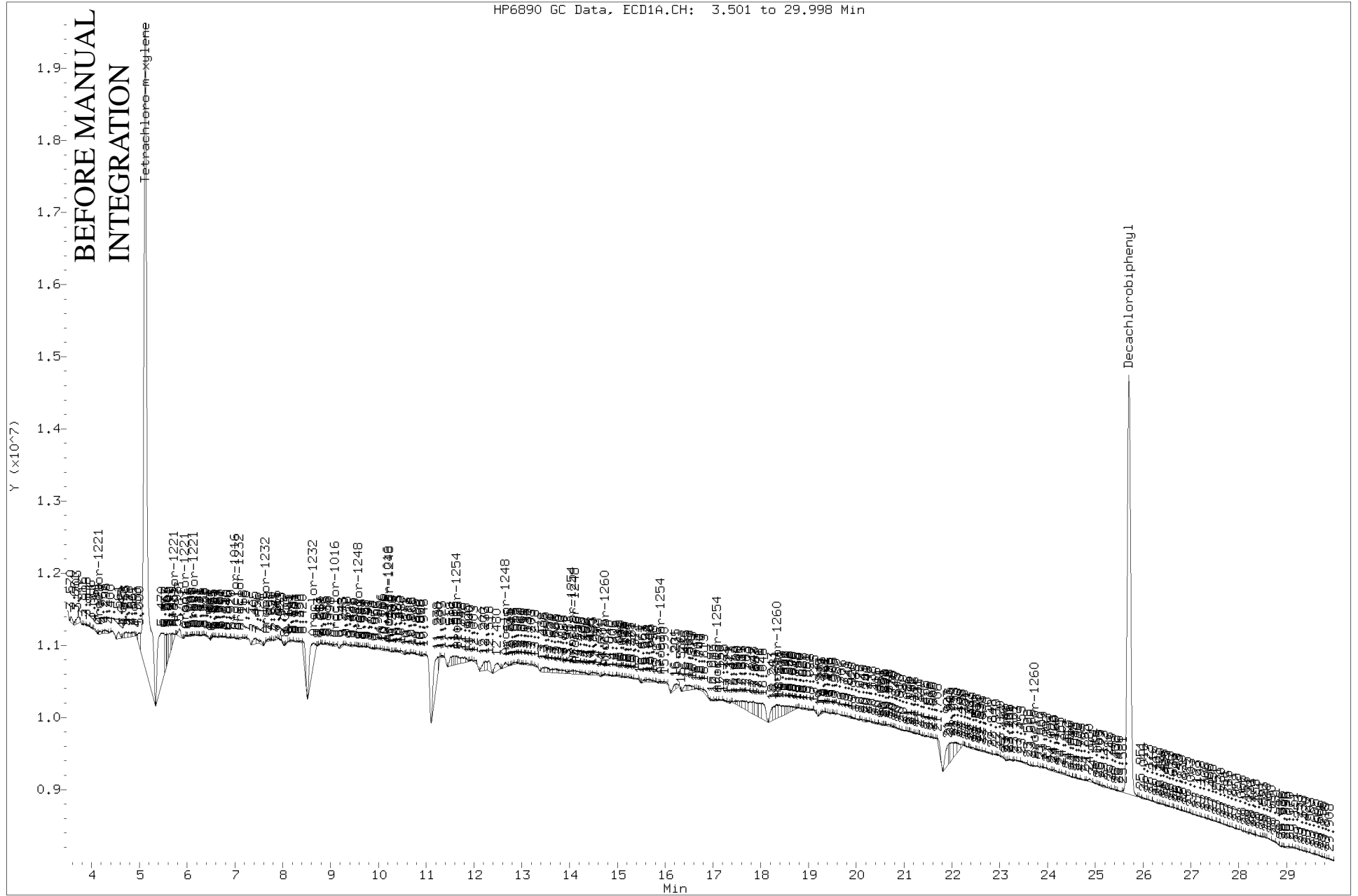
2:38 pm, Dec 14, 2015

QC Flag Legend

M - Compound response manually integrated.

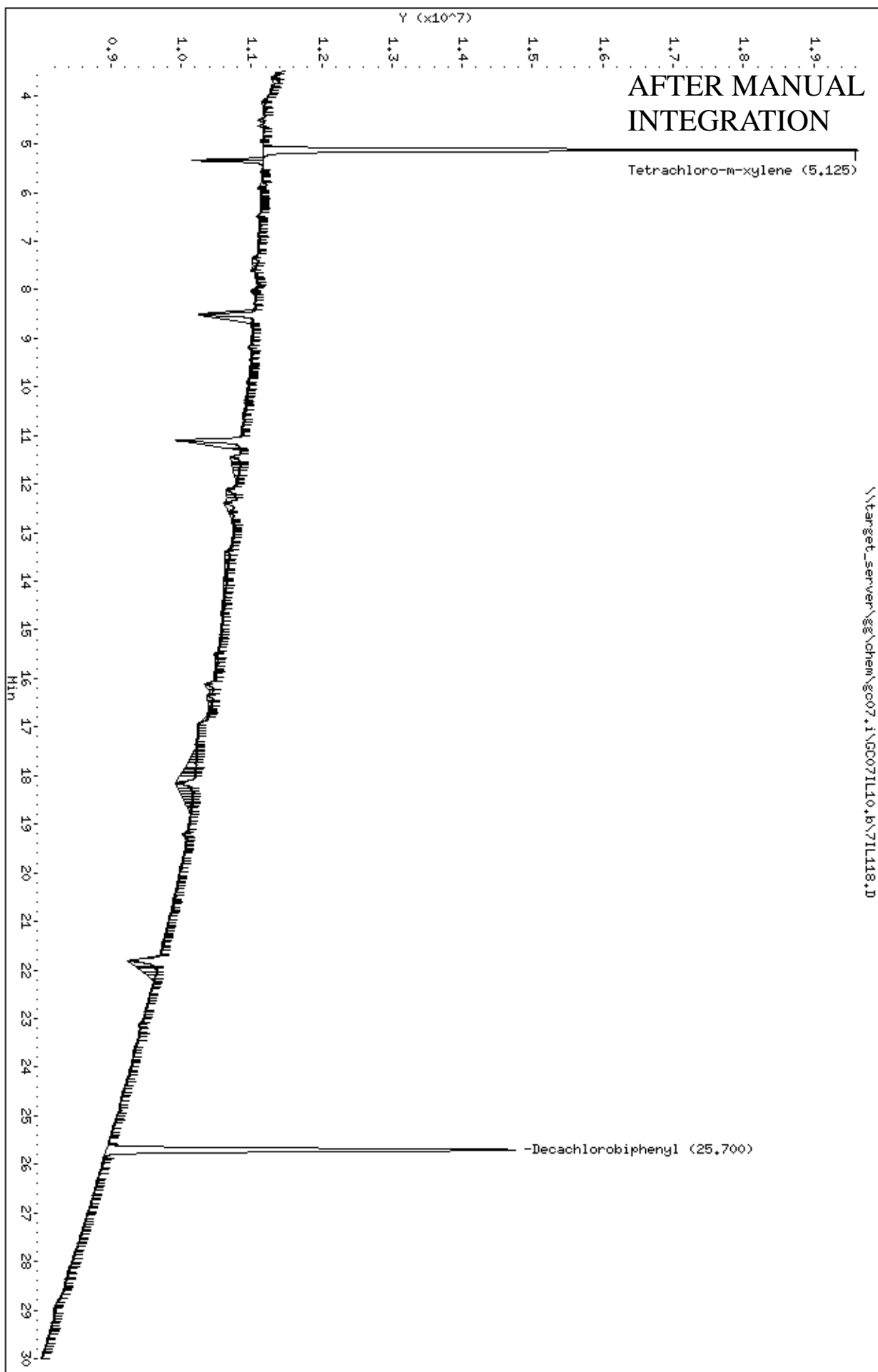
Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL118.D  
Injection Date: 11-DEC-2015 01:03  
Instrument: gc07.i  
Client Sample ID: MW-7A-120315

HP6890 GC Data, ECD1A.CH: 3.501 to 29.998 Min



Data File: \\target\_server\chem\gc07.i\GC071110.b\711118.D  
Date: 11-DEC-2015 01:03  
Client ID: MW-7A-120315  
Sample Info: S19749-6  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: AMS  
Column diameter: 0.53





Data File: 7IL118.D  
Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL118.D  
Lab Smp Id: SI9749-6 Client Smp ID: MW-7A-120315  
Inj Date : 11-DEC-2015 01:03  
Operator : AWS Inst ID: gc07.i  
Smp Info : SI9749-6  
Misc Info : WG175876,WG175803,WG174334-1  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
Als bottle: 20  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: DoD8082.sub  
Target Version: 4.12 Sample Matrix: WATER  
Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.020	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 2					CAS #: 877-09-8	
5.577	5.573	0.004	11688472 0.09252	0.907	(M)	M4
-----						
\$ 12					CAS #: 2051-24-3	
27.062	27.065	-0.003	6852011 0.09833	0.964		

AWS

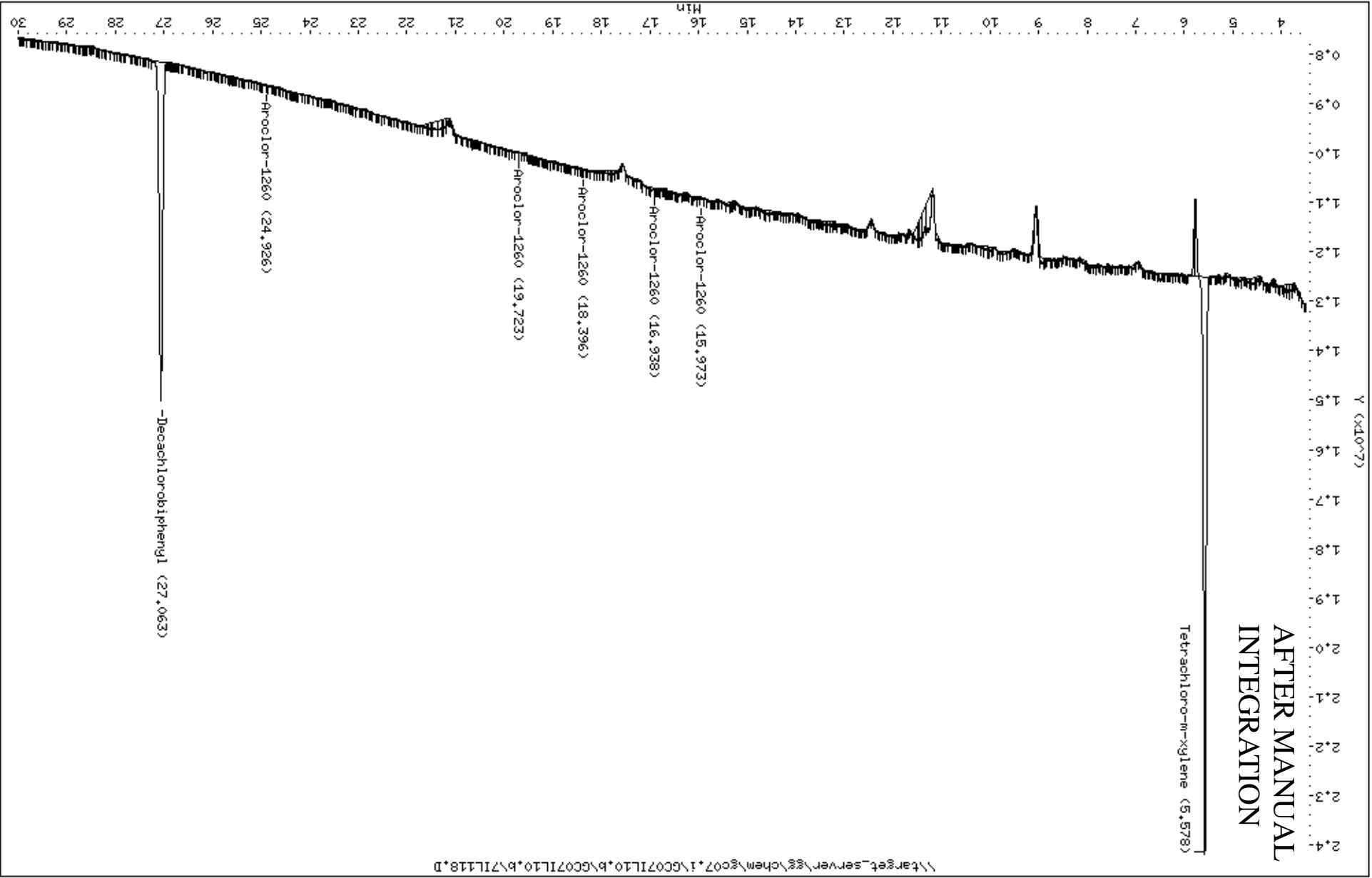
2:38 pm, Dec 14, 2015

QC Flag Legend

M - Compound response manually integrated.



# AFTER MANUAL INTEGRATION



Data File: \\target\_server\chem\gc07\1\GC071L10.B\GC071L10.B\71L118.D  
Date : 11-DEC-2015 01:03  
Client ID: MW-7A-120315  
Sample Info: S19749-6  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-7  
**Client ID:** MW-03-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL119.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 11-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.49	0.15	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.49	0.087	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.49	0.18	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.49	0.080	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.49	0.17	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.4	0.065	2.2
Tetrachloro-M-Xylene		104.	%					
Decachlorobiphenyl		88.8	%					

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL119.D  
 Report Date: 14-Dec-2015 14:08

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL119.D  
 Lab Smp Id: SI9749-7 Client Smp ID: MW-03-120315  
 Inj Date : 11-DEC-2015 01:38  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : SI9749-7  
 Misc Info : WG175876,WG175803,WG174334-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
 Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 21  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoD8082.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.020	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 3					CAS #: 877-09-8	
5.123	5.118	0.005	8695028	0.10391	1.02	(M) M4
-----						
\$ 12					CAS #: 2051-24-3	
25.705	25.708	-0.003	5344701	0.08877	0.870	
-----						

AWS

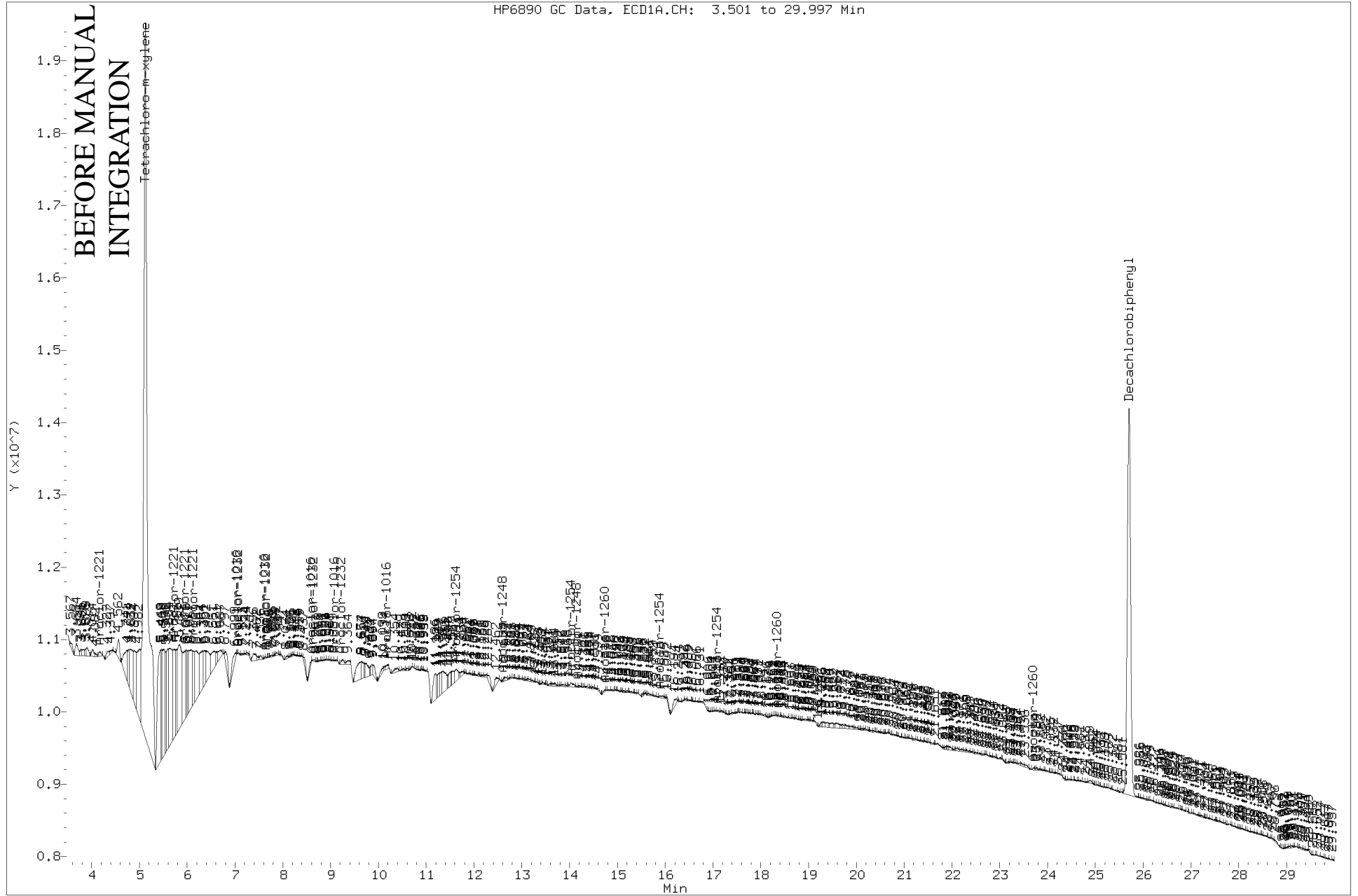
2:39 pm, Dec 14, 2015

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL119.D  
Injection Date: 11-DEC-2015 01:38  
Instrument: gc07.i  
Client Sample ID: MW-03-120315

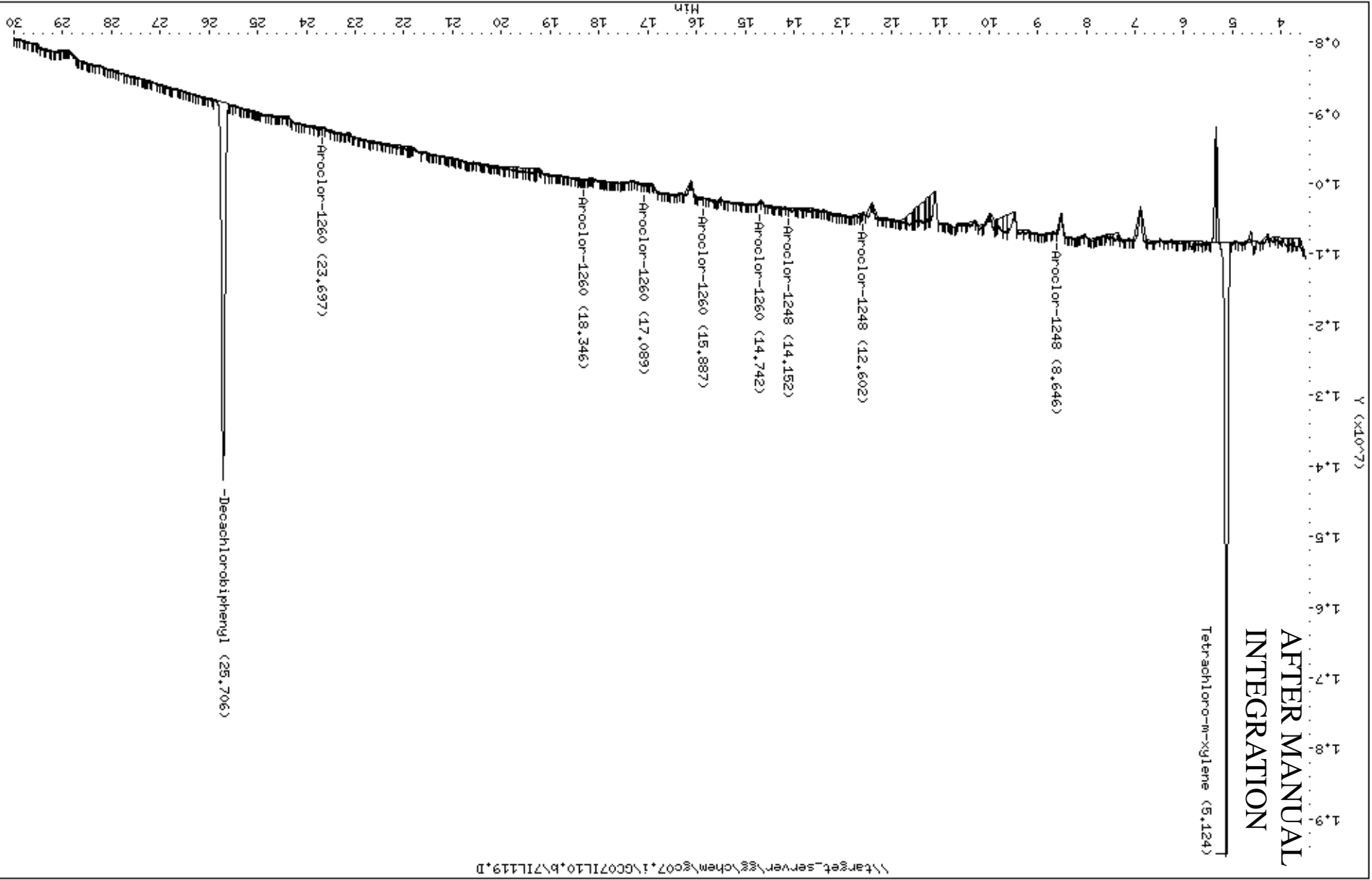
HP6890 GC Data, ECD1A.CH: 3.501 to 29.997 Min



AFTER MANUAL  
INTEGRATION

Data File: \\target\_server\chem\gc07\1\GC071L10.B\71L119.D  
Date : 11-DEC-2015 01:38  
Client ID: MW-03-120315  
Sample Info: S19749-7  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53



Data File: 7IL119.D  
Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL119.D  
Lab Smp Id: SI9749-7 Client Smp ID: MW-03-120315  
Inj Date : 11-DEC-2015 01:38  
Operator : AWS Inst ID: gc07.i  
Smp Info : SI9749-7  
Misc Info : WG175876,WG175803,WG174334-1  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
Als bottle: 21  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: DoD8082.sub  
Target Version: 4.12 Sample Matrix: WATER  
Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.020	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 2					CAS #: 877-09-8	
5.578	5.573	0.005	11882619 0.09406	0.922	(M)	M4
-----						
\$ 12					CAS #: 2051-24-3	
27.058	27.065	-0.007	6127033 0.08793	0.862		

AWS

2:39 pm, Dec 14, 2015

QC Flag Legend

M - Compound response manually integrated.

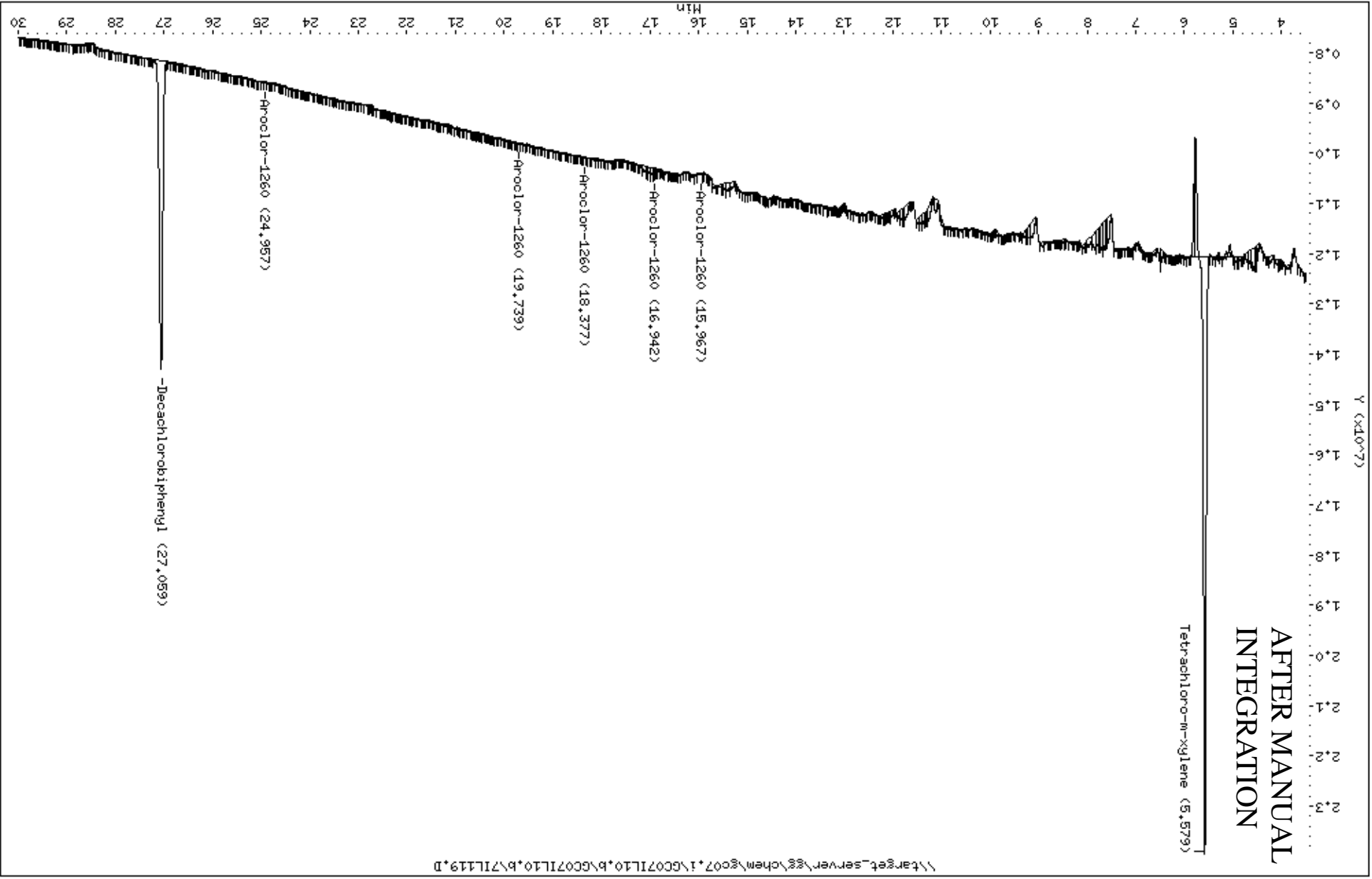




Data File: \\target\_server\chem\gc07.1\GC071L10.B\GC071L10.B\71L119.D  
Date : 11-DEC-2015 01:38  
Client ID: HM-03-120315  
Sample Info: S19749-7  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53

# AFTER MANUAL INTEGRATION



## Report of Analytical Results

**Client:** Battelle  
**Lab ID:** SI9749-8  
**Client ID:** EB-001-120315  
**Project:** New Bedford Harbor Superfund Site  
**SDG:** SI9749  
**Lab File ID:** 7IL120.D

**Sample Date:** 03-DEC-15  
**Received Date:** 04-DEC-15  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 11-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.24	ug/L	1	.5	0.49	0.15	0.24
Aroclor-1221	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1232	U	0.24	ug/L	1	.5	0.49	0.087	0.24
Aroclor-1242	U	0.24	ug/L	1	.5	0.49	0.18	0.24
Aroclor-1248	U	0.24	ug/L	1	.5	0.49	0.20	0.24
Aroclor-1254	U	0.24	ug/L	1	.5	0.49	0.080	0.24
Aroclor-1260	U	0.24	ug/L	1	.5	0.49	0.17	0.24
Total PCBs	U	2.2	ug/L	1	4.5	4.4	0.065	2.2
Tetrachloro-M-Xylene		101.	%					
Decachlorobiphenyl		85.2	%					

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL120.D  
Report Date: 14-Dec-2015 14:08

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL120.D  
Lab Smp Id: SI9749-8 Client Smp ID: EB-001-120315  
Inj Date : 11-DEC-2015 02:12  
Operator : AWS Inst ID: gc07.i  
Smp Info : SI9749-8  
Misc Info : WG175876,WG175803,WG174334-1  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
Als bottle: 22  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: 8082.sub  
Target Version: 4.12 Sample Matrix: WATER

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.020	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 3					CAS #: 877-09-8	
5.125	5.118	0.007	8477561 0.10131	0.993	(M)	M4
-----						
\$ 12					CAS #: 2051-24-3	
25.705	25.708	-0.003	5028905 0.08352	0.819		
-----						

AWS

2:39 pm, Dec 14, 2015

QC Flag Legend

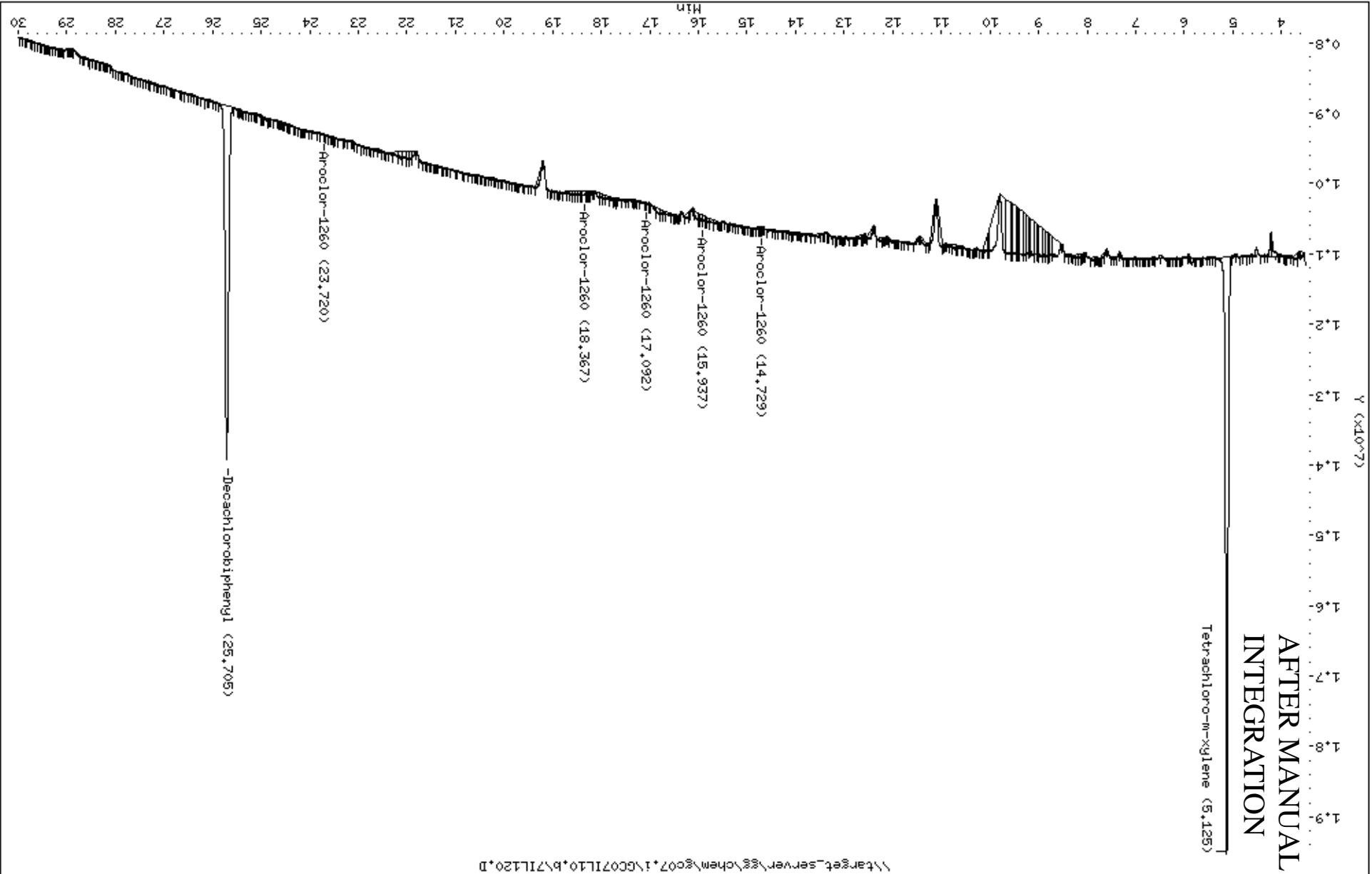
M - Compound response manually integrated.



# AFTER MANUAL INTEGRATION

Data File: \\target\_server\chem\gc07\1\GC071110.B\711120.D  
Date: 11-DEC-2015 02:12  
Client ID: EB-001-120315  
Sample Info: S19749-8  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53



Data File: 7IL120.D  
 Report Date: 14-Dec-2015 14:10

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL120.D  
 Lab Smp Id: SI9749-8 Client Smp ID: EB-001-120315  
 Inj Date : 11-DEC-2015 02:12  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : SI9749-8  
 Misc Info : WG175876,WG175803,WG174334-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 22  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: 8082.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

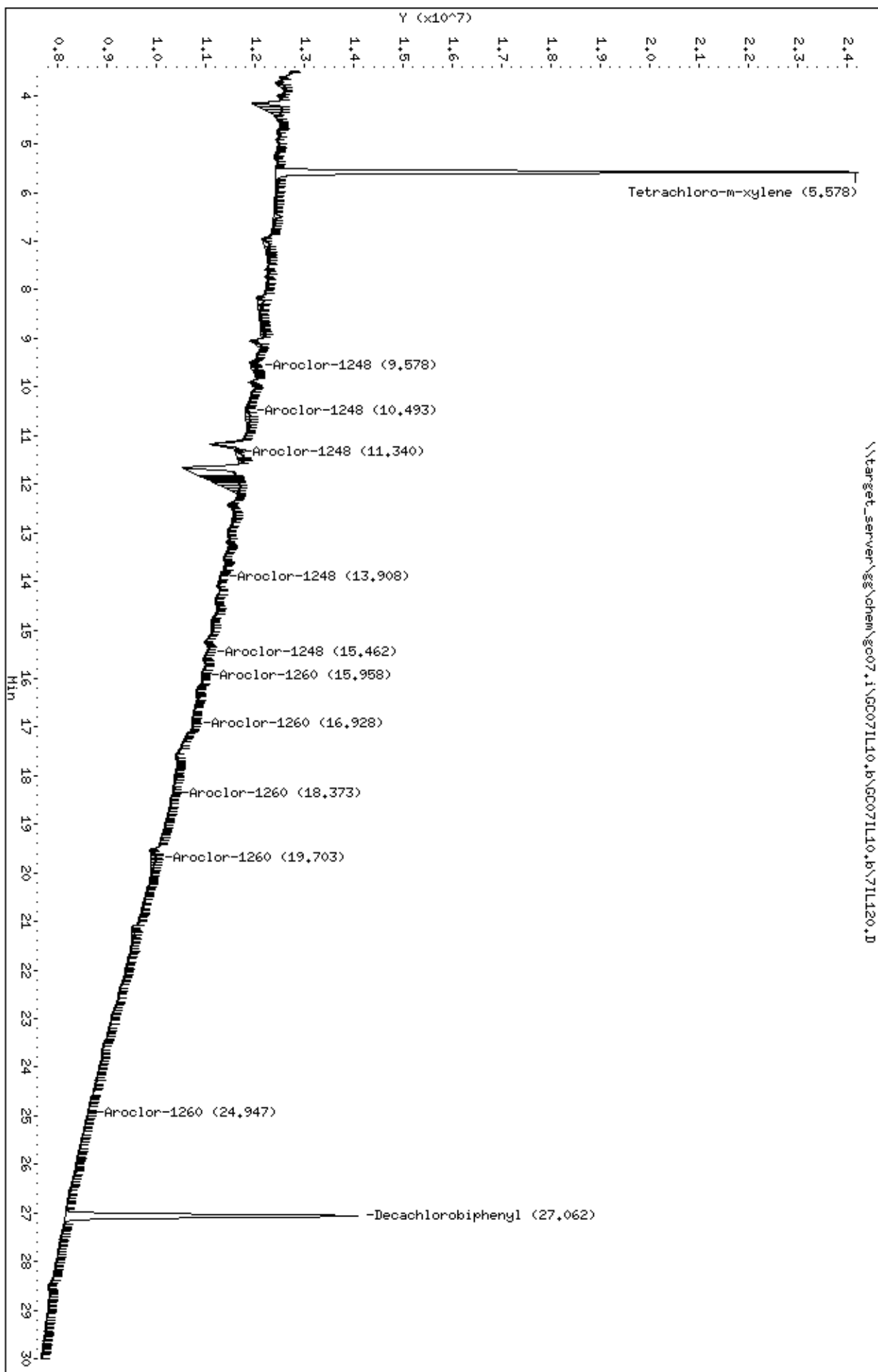
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.020	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS								
RT	EXP RT	DLT RT	RESPONSE (ug/mL)	ON-COL	FINAL ( ug/L)	TARGET RANGE	RATIO	REVIEW CODE
====	=====	=====	=====	=====	=====	=====	=====	=====
\$ 2								
5.578	5.573	0.005	11804012 0.09343		0.916			
-----								
\$ 12								
27.061	27.065	-0.004	5936900 0.08520		0.835			
-----								

Data File: \\target\_server\gs\chem\gc07.i\GC071110.b\GC071110.D  
Date: 11-DEC-2015 02:12  
Client ID: EB-001-120315  
Sample Info: S19749-8  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: AMS  
Column diameter: 0.53





## **Standards Data Section**







**Form 6**  
**Initial Calibration Summary**

**Lab Name :** Katahdin Analytical Services **SDG:** SI9749  
**Project :** New Bedford Harbor Superfund Site **Instrument ID:** GC07  
**Lab File IDs :** 7IK289.D 7IK290.D 7IK291.D **Column ID:** B  
7IK299.D 7IK292.D 7IK293.D **Calibration Date(s):** 13-NOV-15 13:04  
14-NOV-15 04:16

Legend: O = Kept Original Curve  
Y = Failed Minimum RF  
W = Failed %RSD Value

Report Date: 18-Nov-2015 11:05

### Calibration History

Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
Start Cal Date: 13-NOV-2015 13:04  
End Cal Date : 14-NOV-2015 04:16  
Last Cal Level: 4  
Last Cal Type : Continuing Calibration

#### Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.05000		
13-NOV-2015 22:29	AR1254	7IK289.D
13-NOV-2015 18:27	AR1242	7IK282.D
13-NOV-2015 13:39	AR1660	7IK274.D
Cal Level: 2 , Cal Amount: 0.10000		
13-NOV-2015 23:04	AR1254	7IK290.D
13-NOV-2015 19:01	AR1242	7IK283.D
13-NOV-2015 14:14	AR1660	7IK275.D
Cal Level: 3 , Cal Amount: 0.25000		
13-NOV-2015 23:39	AR1254	7IK291.D
13-NOV-2015 19:36	AR1242	7IK284.D
13-NOV-2015 14:48	AR1660	7IK276.D
Cal Level: 4 , Cal Amount: 1.00000		
14-NOV-2015 04:16	AR1268	7IK299.D
14-NOV-2015 03:41	AR1262	7IK298.D
14-NOV-2015 03:06	AR1248	7IK297.D
14-NOV-2015 02:32	AR1232	7IK296.D
14-NOV-2015 01:57	AR1221	7IK295.D
13-NOV-2015 21:55	AR1254	7IK288.D
13-NOV-2015 17:52	AR1242	7IK281.D
13-NOV-2015 13:04	AR1660	7IK273.D
Cal Level: 5 , Cal Amount: 2.50000		
14-NOV-2015 00:13	AR1254	7IK292.D
13-NOV-2015 20:11	AR1242	7IK285.D
13-NOV-2015 15:23	AR1660	7IK277.D

Cal Level: 6 , Cal Amount: 10.00000		
14-NOV-2015 00:48	AR1254	7IK293.D
13-NOV-2015 20:45	AR1242	7IK286.D
13-NOV-2015 15:58	AR1660	7IK278.D

Continuing Calibration  
 Ccal Level Mode: BY SAMPLE

15-NOV-2015 07:58	AR1660	7IK347.D
15-NOV-2015 12:01	AR1254	7IK354.D
15-NOV-2015 11:26	AR1660	7IK353.D
15-NOV-2015 08:33	AR1254	7IK348.D
15-NOV-2015 01:37	AR1254	7IK336.D
15-NOV-2015 01:02	AR1660	7IK335.D
14-NOV-2015 18:41	AR1660	7IK324.D
14-NOV-2015 18:07	AR1254	7IK323.D
14-NOV-2015 17:32	AR1242	7IK322.D
14-NOV-2015 11:46	AR1242	7IK312.D
14-NOV-2015 11:11	AR1254	7IK311.D
14-NOV-2015 10:37	AR1660	7IK310.D
14-NOV-2015 04:16	AR1268	7IK299.D
14-NOV-2015 03:41	AR1262	7IK298.D
14-NOV-2015 03:06	AR1248	7IK297.D
14-NOV-2015 02:32	AR1232	7IK296.D
14-NOV-2015 01:57	AR1221	7IK295.D
13-NOV-2015 21:55	AR1254	7IK288.D
13-NOV-2015 17:52	AR1242	7IK281.D
13-NOV-2015 13:04	AR1660	7IK273.D

Report Date: 18-Nov-2015 11:09

### Calibration History

Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
Start Cal Date: 13-NOV-2015 13:04  
End Cal Date : 14-NOV-2015 04:16  
Last Cal Level: 4  
Last Cal Type : Continuing Calibration

#### Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.05000		
13-NOV-2015 22:29	AR1254	7IK289.D
13-NOV-2015 18:27	AR1242	7IK282.D
13-NOV-2015 13:39	AR1660	7IK274.D
Cal Level: 2 , Cal Amount: 0.10000		
13-NOV-2015 23:04	AR1254	7IK290.D
13-NOV-2015 19:01	AR1242	7IK283.D
13-NOV-2015 14:14	AR1660	7IK275.D
Cal Level: 3 , Cal Amount: 0.25000		
13-NOV-2015 23:39	AR1254	7IK291.D
13-NOV-2015 19:36	AR1242	7IK284.D
13-NOV-2015 14:48	AR1660	7IK276.D
Cal Level: 4 , Cal Amount: 1.00000		
14-NOV-2015 04:16	AR1268	7IK299.D
14-NOV-2015 03:41	AR1262	7IK298.D
14-NOV-2015 03:06	AR1248	7IK297.D
14-NOV-2015 02:32	AR1232	7IK296.D
14-NOV-2015 01:57	AR1221	7IK295.D
13-NOV-2015 21:55	AR1254	7IK288.D
13-NOV-2015 17:52	AR1242	7IK281.D
13-NOV-2015 13:04	AR1660	7IK273.D
Cal Level: 5 , Cal Amount: 2.50000		
14-NOV-2015 00:13	AR1254	7IK292.D
13-NOV-2015 20:11	AR1242	7IK285.D
13-NOV-2015 15:23	AR1660	7IK277.D



Cal Level: 6 , Cal Amount: 10.00000		
14-NOV-2015 00:48	AR1254	7IK293.D
13-NOV-2015 20:45	AR1242	7IK286.D
13-NOV-2015 15:58	AR1660	7IK278.D

Continuing Calibration  
Ccal Level Mode: BY SAMPLE

15-NOV-2015 07:58	AR1660	7IK347.D
14-NOV-2015 11:46	AR1242	7IK312.D
15-NOV-2015 12:01	AR1254	7IK354.D
15-NOV-2015 11:26	AR1660	7IK353.D
15-NOV-2015 08:33	AR1254	7IK348.D
15-NOV-2015 01:37	AR1254	7IK336.D
15-NOV-2015 01:02	AR1660	7IK335.D
14-NOV-2015 18:41	AR1660	7IK324.D
14-NOV-2015 18:07	AR1254	7IK323.D
14-NOV-2015 17:32	AR1242	7IK322.D
14-NOV-2015 11:11	AR1254	7IK311.D
14-NOV-2015 10:37	AR1660	7IK310.D
14-NOV-2015 04:16	AR1268	7IK299.D
14-NOV-2015 03:41	AR1262	7IK298.D
14-NOV-2015 03:06	AR1248	7IK297.D
14-NOV-2015 02:32	AR1232	7IK296.D
14-NOV-2015 01:57	AR1221	7IK295.D
13-NOV-2015 21:55	AR1254	7IK288.D
13-NOV-2015 17:52	AR1242	7IK281.D
13-NOV-2015 13:04	AR1660	7IK273.D

Data File: \\target\_server\gg\chem\gc07.i\GC07IK16.b\7IK363.D  
Report Date: 18-Nov-2015 10:44

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa01504  
Sample Matrix: LIQUID Fraction: PCB  
Lab Smp Id: WG174334-7  
Level: LOW Operator: AWS  
Data Type: GC MULTI COMP SampleType: LCS  
SpikeList File: 1016ind.spk Quant Type: ESTD  
Sublist File: AR1016.sub  
Method File: \\target\_server\gg\chem\gc07.i\GC07IK16.b\PCB096.m  
Misc Info: WG174334,WG174334,WG174334-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
6 Aroclor-1016	1.00	1.05	105.00	80-120

Data File: 7IK363.D  
Report Date: 18-Nov-2015 10:44

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa01504  
Sample Matrix: LIQUID Fraction: PCB  
Lab Smp Id: WG174334-7  
Level: LOW Operator: AWS  
Data Type: GC MULTI COMP SampleType: LCS  
SpikeList File: 1016ind.spk Quant Type: ESTD  
Sublist File: AR1016.sub  
Method File: \\target\_server\gg\chem\gc07.i\GC07IK16.b\PCB096.m\PCB096.m  
Misc Info: WG174334,WG174334,WG174334-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
5 Aroclor-1016	1.00	1.01	101.00	80-120

Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK280.D  
Report Date: 18-Nov-2015 10:42

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa01504  
Sample Matrix: LIQUID Fraction: PCB  
Lab Smp Id: WG174334-8  
Level: LOW Operator: AWS  
Data Type: GC MULTI COMP SampleType: LCS  
SpikeList File: 1260ind.spk Quant Type: ESTD  
Sublist File: AR1260.sub  
Method File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
Misc Info: WG174334,WG174334,WG174334-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
9 Aroclor-1260	1.00	1.07	107.00	80-120

Data File: 7IK280.D  
Report Date: 18-Nov-2015 10:43

Katahdin Analytical Services

RECOVERY REPORT

Client Name: Client SDG: SDGa01504  
Sample Matrix: LIQUID Fraction: PCB  
Lab Smp Id: WG174334-8  
Level: LOW Operator: AWS  
Data Type: GC MULTI COMP SampleType: LCS  
SpikeList File: 1260ind.spk Quant Type: ESTD  
Sublist File: AR1260.sub  
Method File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
Misc Info: WG174334,WG174334,WG174334-1

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
9 Aroclor-1260	1.00	1.08	108.00	80-120

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK273.D  
 Lab Smp Id: WG174334-1  
 Inj Date : 13-NOV-2015 13:04  
 Operator : AWS  
 Smp Info : WG174334-1  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 16-Nov-2015 08:53 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 21:55 Cal File: 7IK288.D  
 Als bottle: 2 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

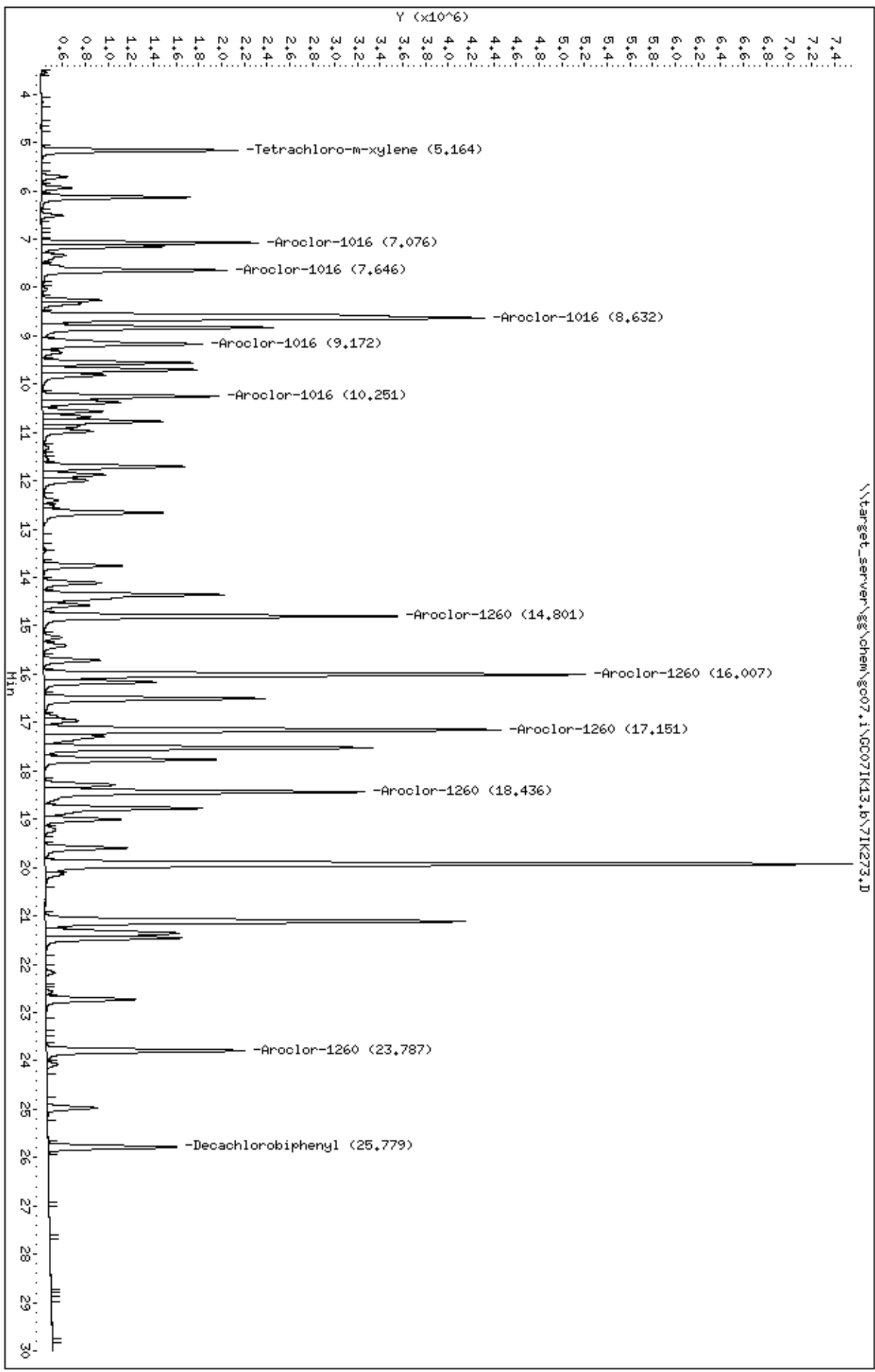
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 3	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.164	5.160	0.004	1734009	0.02000	0.0200				
-----									
6	Aroclor-1016					CAS #: 12674-11-2			
7.075	7.070	0.005	1906538	1.00000	1.00	80.00- 120.00	100.00		
7.645	7.636	0.009	1629151	1.00000	1.00	158.77- 238.15	85.45		
8.632	8.621	0.011	3903556	1.00000	1.00	296.98- 445.46	204.75		
9.172	9.153	0.019	1410698	1.00000	1.00	114.78- 172.16	73.99		
10.250	10.240	0.010	1560597	1.00000	1.00	112.32- 168.48	81.86		
Average of Peak Amounts =				1.00000					
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
14.800	14.790	0.010	3123077	1.00000	1.00	80.00- 120.00	100.00		
16.007	15.988	0.019	4775933	1.00000	1.00	94.69- 142.03	152.92		
17.150	17.133	0.017	4028071	1.00000	1.00	89.28- 133.92	128.98		
18.435	18.420	0.015	2827684	1.00000	1.00	72.48- 108.72	90.54		
23.787	23.765	0.022	1745309	1.00000	1.00	0.00- 0.00	55.88		
Average of Peak Amounts =				1.00000					
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
25.779	25.766	0.013	1128732	0.02000	0.0200				
-----									

Data File: \\target\_server\eg\chem\gc07.i\GC07IK13.b\7IK273.D  
Date : 13-NOV-2015 13:04  
Client ID:  
Sample Info: M0174334-1  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: AMS  
Column diameter: 0.53



Data File: 7IK273.D  
 Report Date: 16-Nov-2015 11:12

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK273.D  
 Lab Smp Id: WG174334-1  
 Inj Date : 13-NOV-2015 13:04  
 Operator : AWS  
 Smp Info : WG174334-1  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
 Meth Date : 16-Nov-2015 08:55 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 17:52 Cal File: 7IK281.D  
 Als bottle: 2 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: Falcon  
 Target Version: 4.12  
 Processing Host: V200T5  
 Inst ID: gc07.i  
 Compound Sublist: AR1660.sub  
 Sample Matrix: WATER

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 2	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.628	5.624	0.004	2582252	0.02000	0.0200				
-----									
5	Aroclor-1016					CAS #: 12674-11-2			
7.858	7.851	0.007	2664210	1.00000	1.00	80.00- 120.00	100.00(M)	M5	
8.558	8.551	0.007	2568112	1.00000	1.00	158.77- 238.15	114.05	M5	
9.573	9.564	0.009	5207252	1.00000	1.00	296.98- 445.46	231.25	M5	
10.263	10.253	0.010	2426919	1.00000	1.00	114.78- 172.17	107.78	M5	
11.370	11.356	0.014	2312747	1.00000	1.00	112.32- 168.48	102.71	M5	
Average of Peak Amounts =			1.00000						
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
16.058	16.043	0.015	4588238	1.00000	1.00	80.00- 120.00	100.00		
17.035	17.016	0.019	5967274	1.00000	1.00	94.69- 142.03	130.06		
18.492	18.471	0.021	5556540	1.00000	1.00	89.28- 133.92	121.10		
19.823	19.803	0.020	4116648	1.00000	1.00	72.48- 108.72	89.72		
25.053	25.024	0.029	2379166	1.00000	1.00	0.00- 0.00	51.85		
Average of Peak Amounts =			1.00000						
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
27.175	27.151	0.024	1434308	0.02000	0.0200				
-----									

AWS

10:51 am, Nov 18, 2015



Data File: 7IK273.D  
Report Date: 16-Nov-2015 11:12

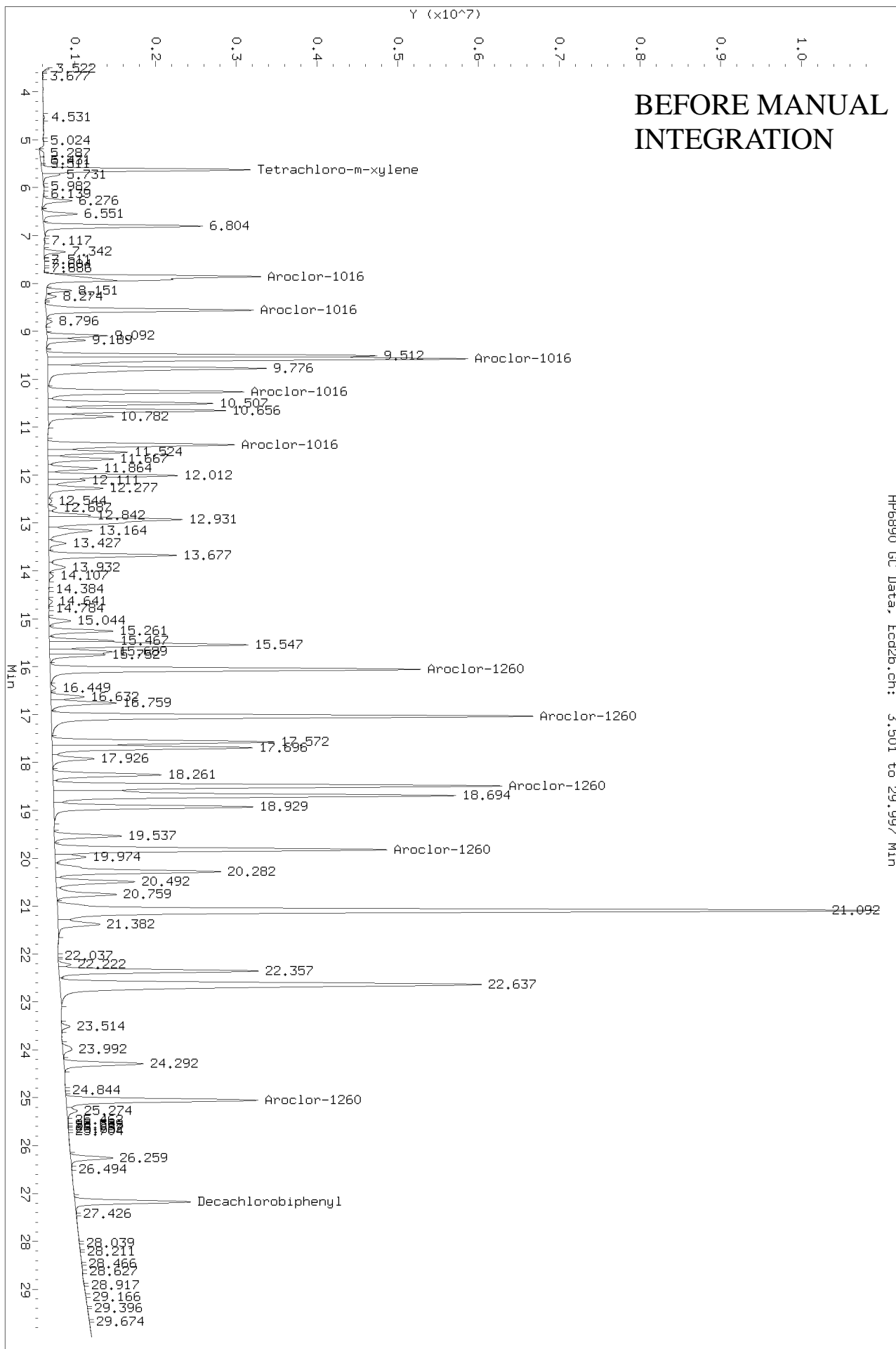
QC Flag Legend

M - Compound response manually integrated.

Data File: \\target-server\chem\gc07.1\GC07IK13.b\GC07IK13.D  
Injection Date: 13-NOV-2015 13:04  
Instrument: gc07.1  
Client Sample ID:

HP6890 GC Data, Ecd2b.ch: 3.501 to 29.997 Min

# BEFORE MANUAL INTEGRATION





Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK274.D  
 Lab Smp Id: WG174334-2  
 Inj Date : 13-NOV-2015 13:39  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG174334-2  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 16-Nov-2015 08:53 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 15:58 Cal File: 7IK278.D  
 Als bottle: 3 Calibration Sample, Level: 1  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
\$ 3 Tetrachloro-m-xylene CAS #: 877-09-8									
5.164	5.160	0.004	85629	0.00100	0.00102				
-----									
6 Aroclor-1016 CAS #: 12674-11-2									
7.074	7.070	0.004	103327	0.05000	0.0549	80.00- 120.00	100.00(M)	M5	
7.647	7.636	0.011	85594	0.05000	0.0536	158.77- 238.15	82.84	M5	
8.642	8.621	0.021	197948	0.05000	0.0520	296.98- 445.46	191.57	M5	
9.182	9.153	0.029	66124	0.05000	0.0481	114.78- 172.16	63.99	M5	
10.256	10.240	0.016	79673	0.05000	0.0518	112.32- 168.48	77.11	M5	
Average of Peak Amounts =					0.05208				
-----									
9 Aroclor-1260 CAS #: 11096-82-5									
14.806	14.790	0.016	171504	0.05000	0.0539	80.00- 120.00	100.00(M)	M5	
16.014	15.988	0.026	249065	0.05000	0.0521	94.69- 142.03	145.22	M5	
17.166	17.133	0.033	190352	0.05000	0.0490	89.28- 133.92	110.99	M5	
18.442	18.420	0.022	145473	0.05000	0.0528	72.48- 108.72	84.82	M5	
23.799	23.765	0.034	90156	0.05000	0.0507	0.00- 0.00	52.57	M5	
Average of Peak Amounts =					0.05170				
-----									
\$ 12 Decachlorobiphenyl CAS #: 2051-24-3									
25.784	25.766	0.018	67296	0.00100	0.00112				

AWS

10:51 am, Nov 18, 2015

Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK274.D  
Report Date: 16-Nov-2015 11:10

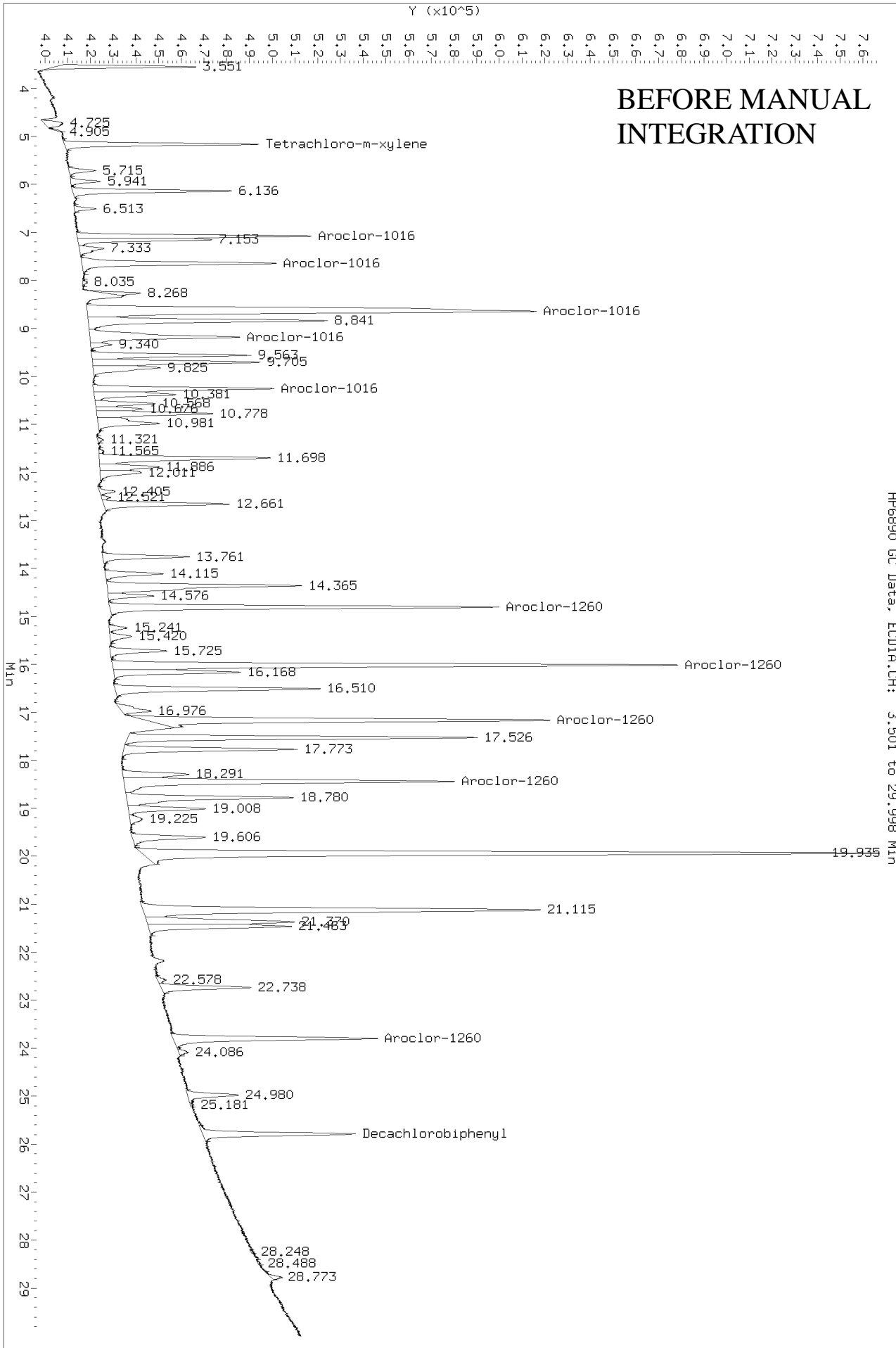
QC Flag Legend

M - Compound response manually integrated.

Data File: \\target-server\88\chem\gc07.1\GC07IK13.b\7IK274.D  
Injection Date: 13-NOV-2015 13:39  
Instrument: gc07.1  
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 3.501 to 29.998 Min

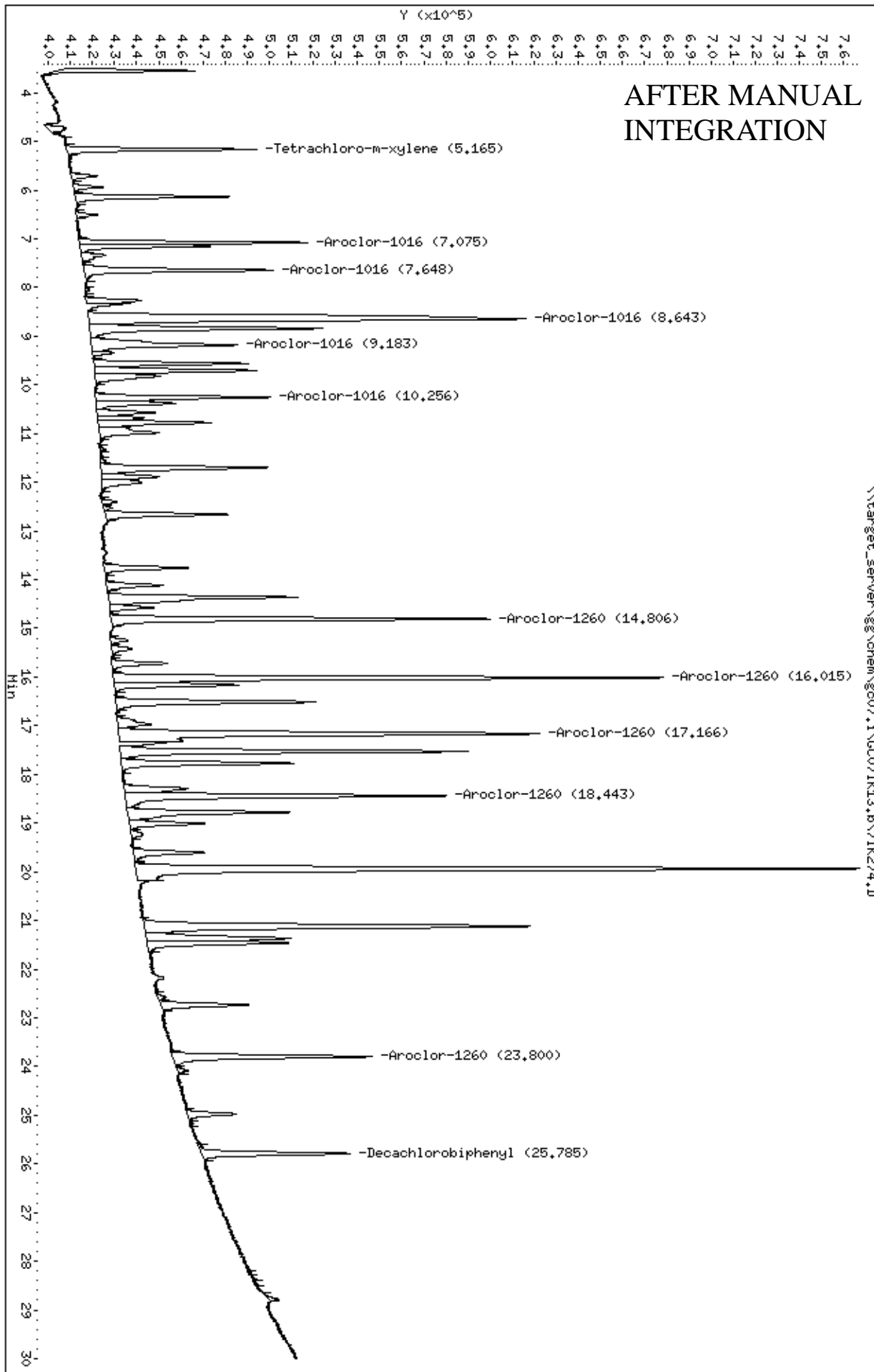
# BEFORE MANUAL INTEGRATION



Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK274.D  
Date: 13-NOV-2015 13:39  
Client ID:  
Sample Info: M0174334-2  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: AMS  
Column diameter: 0.53

# AFTER MANUAL INTEGRATION



Data File: 7IK274.D  
 Report Date: 16-Nov-2015 11:12

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK274.D  
 Lab Smp Id: WG174334-2  
 Inj Date : 13-NOV-2015 13:39  
 Operator : AWS  
 Smp Info : WG174334-2  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
 Meth Date : 16-Nov-2015 08:55 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 13:39 Cal File: 7IK274.D  
 Als bottle: 3 Calibration Sample, Level: 1  
 Dil Factor: 1.00000  
 Integrator: Falcon  
 Target Version: 4.12  
 Processing Host: V200T5  
 Inst ID: gc07.i  
 Compound Sublist: AR1660.sub  
 Sample Matrix: WATER

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 2	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.626	5.624	0.002	130222	0.00100	0.00103				
-----									
5	Aroclor-1016					CAS #: 12674-11-2			
7.857	7.851	0.006	153722	0.05000	0.0604	80.00- 120.00	100.00(M)	M5	
8.559	8.551	0.008	144594	0.05000	0.0559	158.77- 238.15	110.01	M5	
9.581	9.564	0.017	263012	0.05000	0.0518	296.98- 445.46	200.10	M5	
10.271	10.253	0.018	118928	0.05000	0.0501	114.78- 172.17	90.48	M5	
11.371	11.356	0.015	123946	0.05000	0.0534	112.32- 168.48	94.30	M5	
Average of Peak Amounts =					0.05432				
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
16.061	16.043	0.018	236796	0.05000	0.0519	80.00- 120.00	100.00(M)	M5	
17.044	17.016	0.028	285616	0.05000	0.0488	94.69- 142.03	120.62	M5	
18.499	18.471	0.028	257055	0.05000	0.0472	89.28- 133.92	108.56	M5	
19.829	19.803	0.026	192158	0.05000	0.0481	72.48- 108.72	81.15	M5	
25.057	25.024	0.033	105686	0.05000	0.0453	0.00- 0.00	44.63	M5	
Average of Peak Amounts =					0.04826				
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
27.176	27.151	0.025	70515	0.00100	0.00101				
-----									

AWS

10:51 am, Nov 18, 2015



Data File: 7IK274.D  
Report Date: 16-Nov-2015 11:12

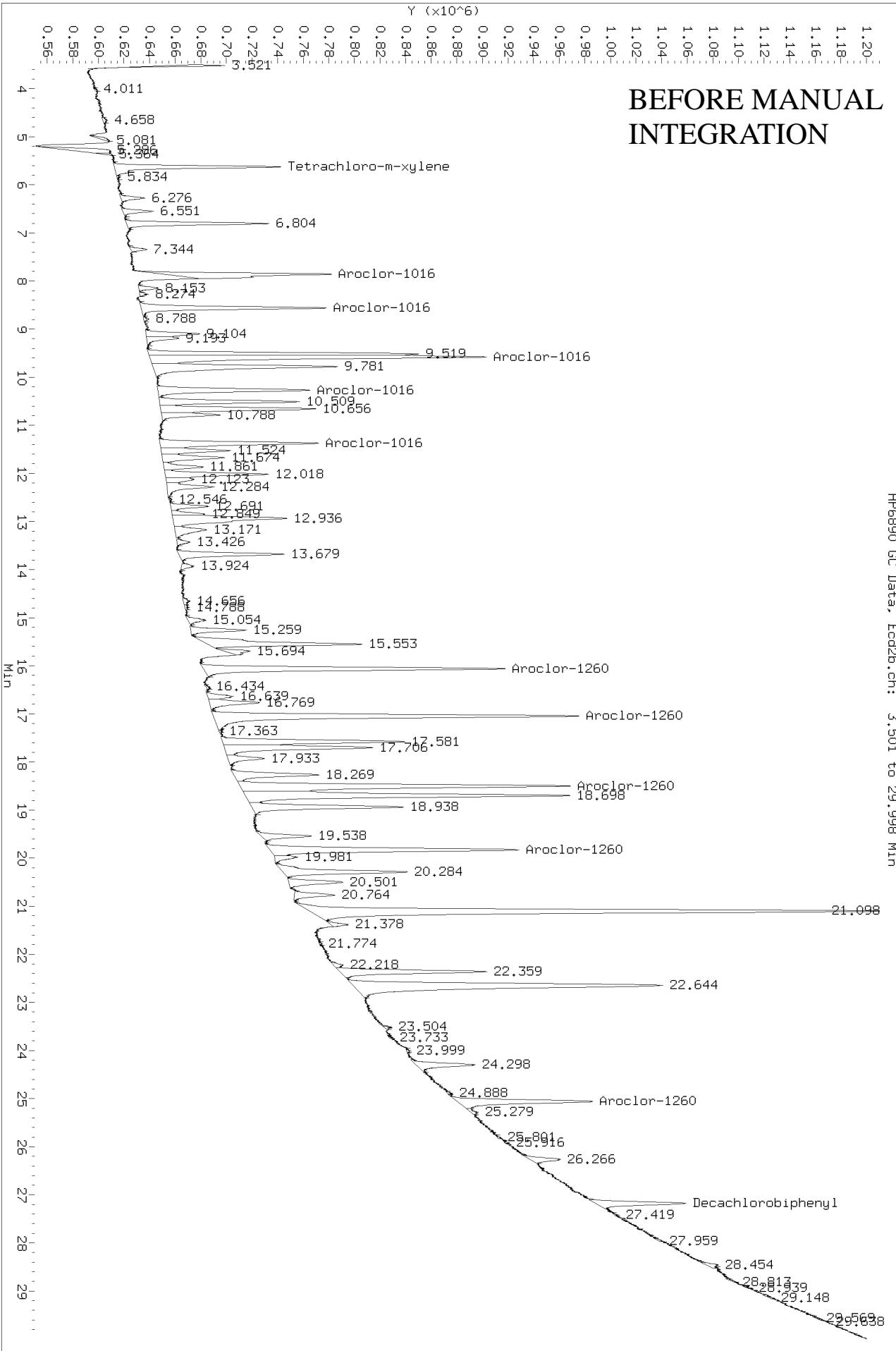
QC Flag Legend

M - Compound response manually integrated.

Data File: \\target-server\server\88\chem\gc07.1\GC07IK13.b\GC07IK13.b\7IK274.D  
Injection Date: 13-NOV-2015 13:39  
Instrument: gc07.1  
Client Sample ID:

HP6890 GC Data, Ecd2b.ch: 3.501 to 29.998 Min

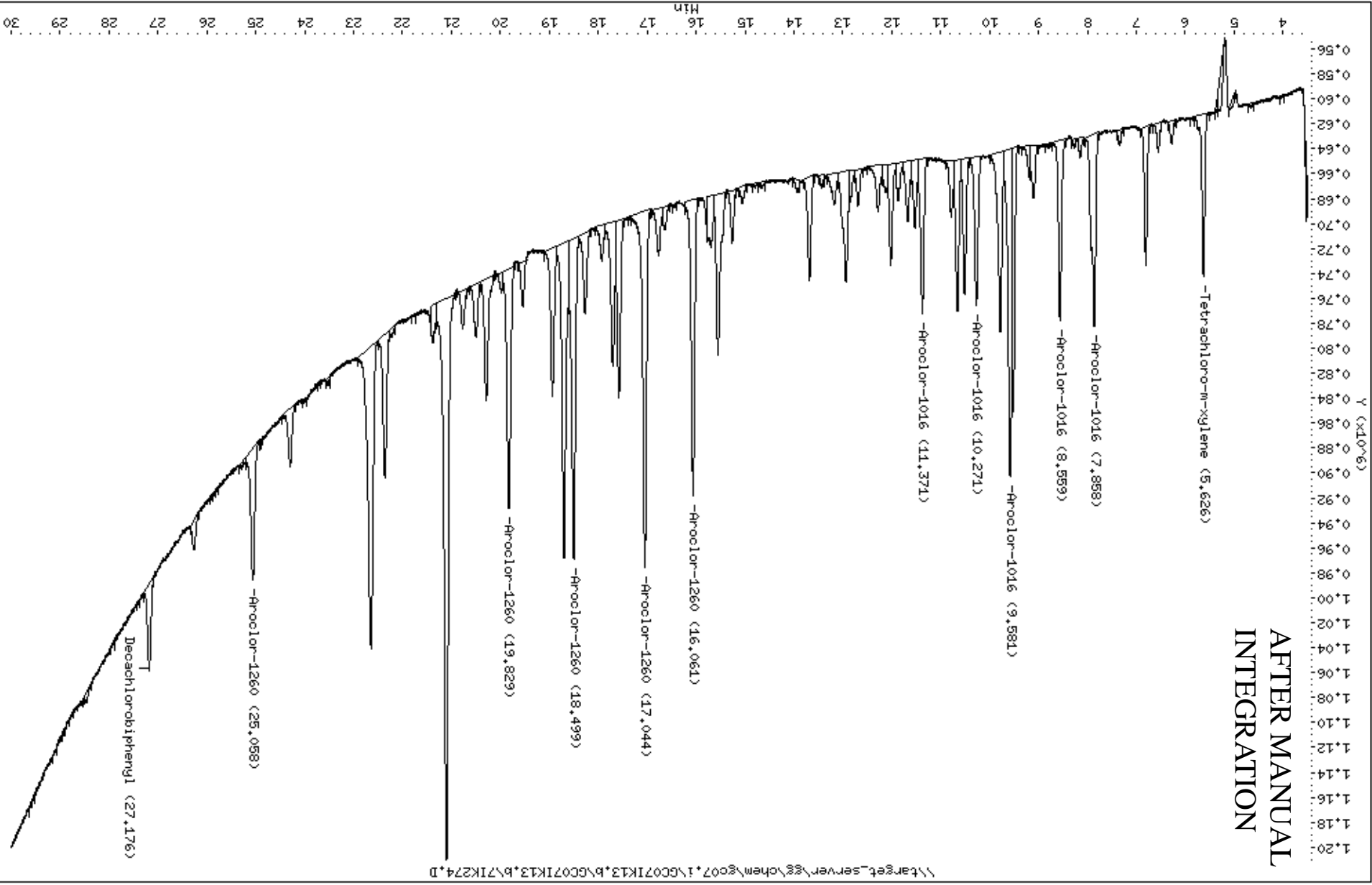
# BEFORE MANUAL INTEGRATION



# AFTER MANUAL INTEGRATION

Data File: \\target\_server\chem\gc07.1\GC07IK13.B\GC07IK13.B\7IK274.D  
Date: 13-NOV-2015 13:39  
Client ID:  
Sample Info: M6174334-2  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK275.D  
 Lab Smp Id: WG174334-3  
 Inj Date : 13-NOV-2015 14:14  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG174334-3  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 16-Nov-2015 08:53 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 15:58 Cal File: 7IK278.D  
 Als bottle: 4 Calibration Sample, Level: 2  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$	3	Tetrachloro-m-xylene				CAS #: 877-09-8			
5.165	5.160	0.005	167544	0.00200	0.00200				
-----									
	6	Aroclor-1016				CAS #: 12674-11-2			
7.079	7.070	0.009	197532	0.10000	0.105	80.00- 120.00	100.00		
7.647	7.636	0.011	165186	0.10000	0.103	158.77- 238.15	83.62		
8.644	8.621	0.023	376554	0.10000	0.0988	296.98- 445.46	190.63		
9.180	9.153	0.027	129706	0.10000	0.0944	114.78- 172.16	65.66		
10.257	10.240	0.017	151748	0.10000	0.0986	112.32- 168.48	76.82		
	Average of Peak Amounts =				0.09996				
-----									
	9	Aroclor-1260				CAS #: 11096-82-5			
14.810	14.790	0.020	327700	0.10000	0.103	80.00- 120.00	100.00(M)	M5	
16.017	15.988	0.029	465726	0.10000	0.0974	94.69- 142.03	142.12	M5	
17.170	17.133	0.037	360010	0.10000	0.0918	89.28- 133.92	109.86	M5	
18.439	18.420	0.019	261410	0.10000	0.0947	72.48- 108.72	79.77	M5	
23.799	23.765	0.034	170350	0.10000	0.0958	0.00- 0.00	51.98	M5	
	Average of Peak Amounts =				0.09654				
-----									
\$	12	Decachlorobiphenyl				CAS #: 2051-24-3			
25.790	25.766	0.024	126248	0.00200	0.00210				
-----									

AWS

10:52 am, Nov 18, 2015

Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK275.D  
Report Date: 16-Nov-2015 11:10

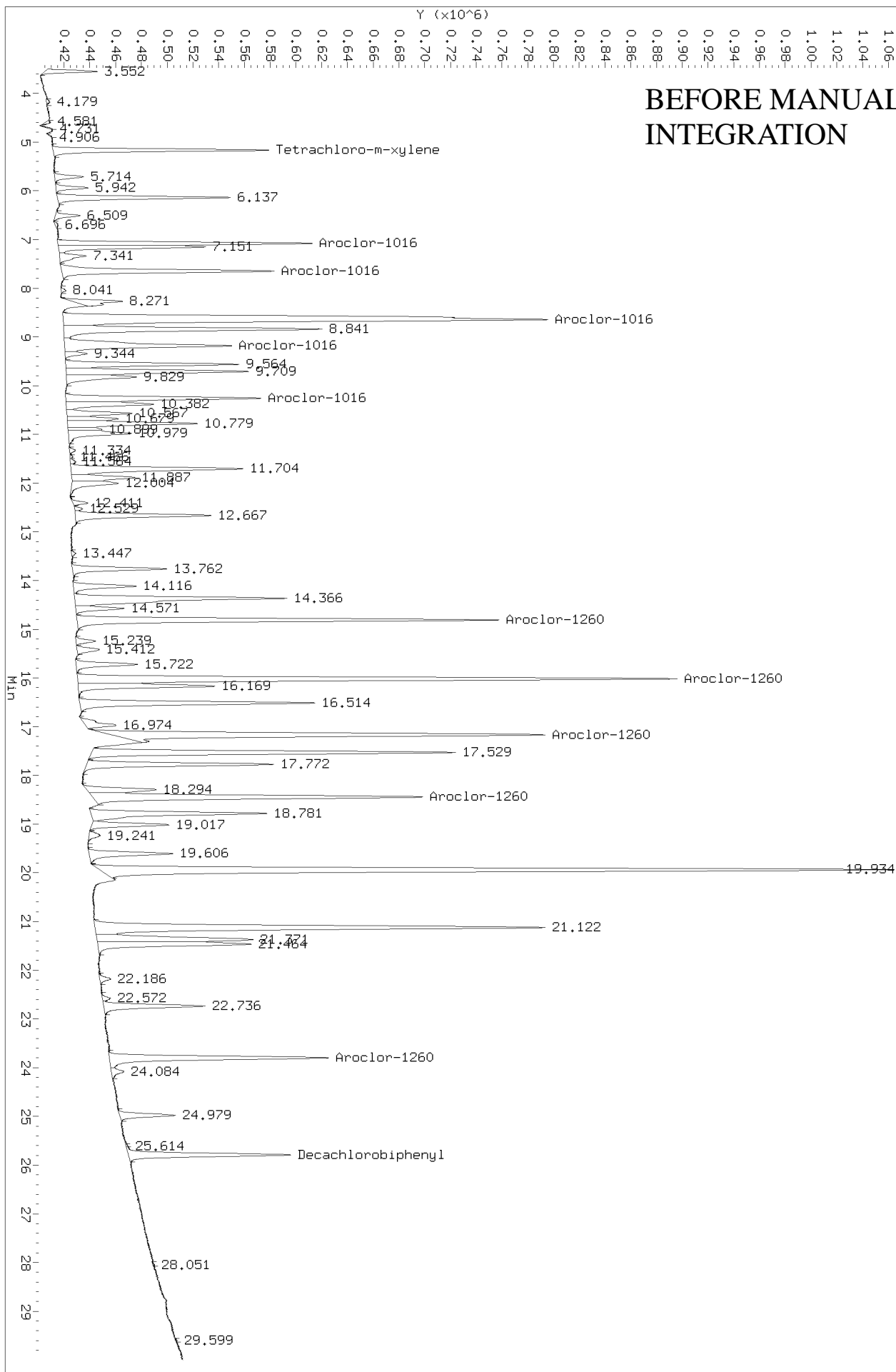
QC Flag Legend

M - Compound response manually integrated.

Data File: \\target-server\gg\chem\gc07.1\GC07IK13.b\7IK275.D  
Injection Date: 13-NOV-2015 14:14  
Instrument: gc07.1  
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 3.501 to 29.997 Min

# BEFORE MANUAL INTEGRATION



Data File: \\target\_server\chem\gc07.1\GC071K13.1\71K275.D

Date: 13-NOV-2015 14:14

Client ID:

Sample Info: M0174334-3

Purge Volume: 1.0

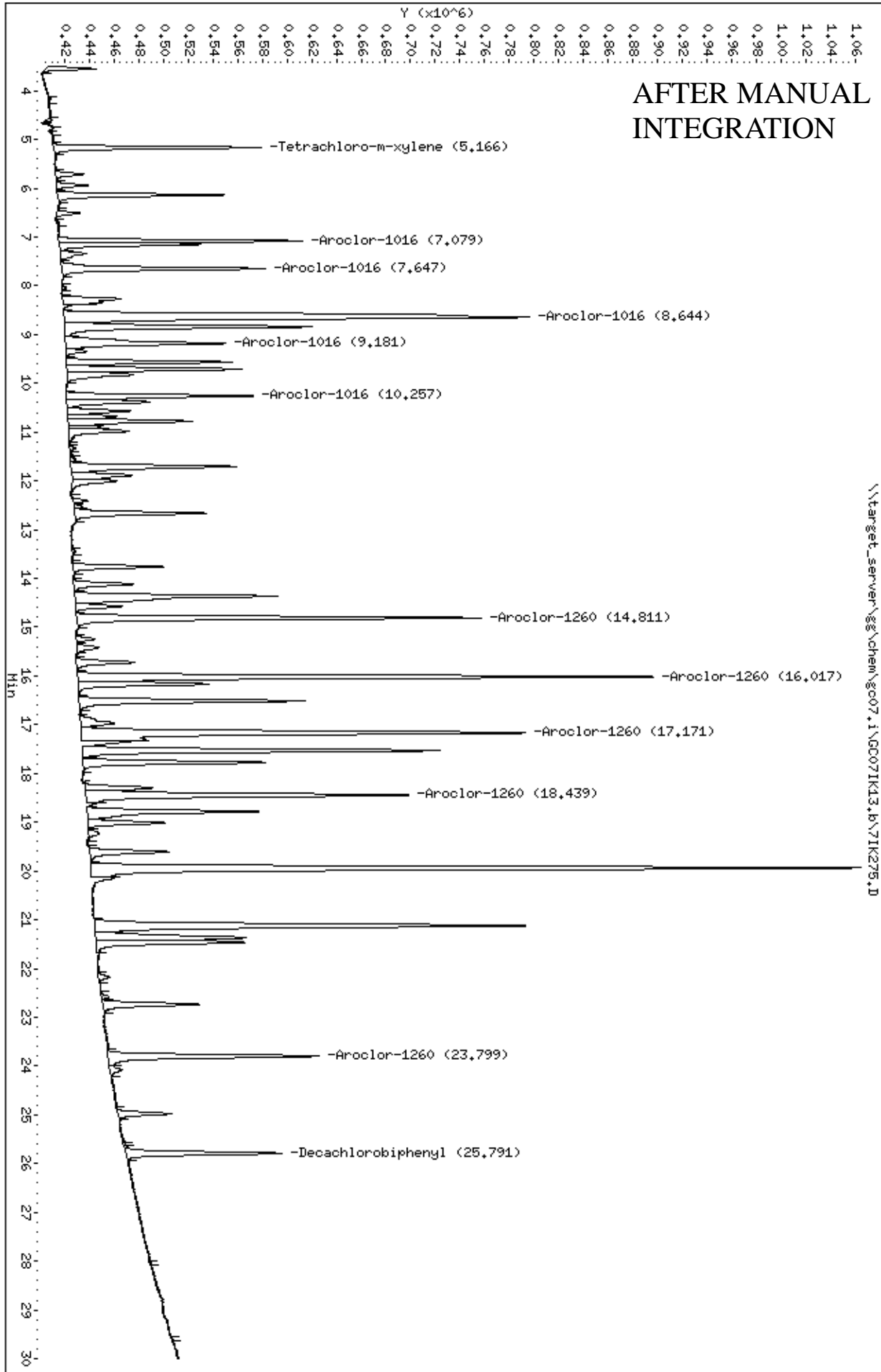
Column phase: ZB-MultiResidue-1

Instrument: gc07.1

Operator: AMS

Column diameter: 0.53

# AFTER MANUAL INTEGRATION



Data File: 7IK275.D  
 Report Date: 16-Nov-2015 11:12

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK275.D  
 Lab Smp Id: WG174334-3  
 Inj Date : 13-NOV-2015 14:14  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG174334-3  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
 Meth Date : 16-Nov-2015 08:55 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 14:14 Cal File: 7IK275.D  
 Als bottle: 4 Calibration Sample, Level: 2  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 2	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.627	5.624	0.003	241802	0.00200	0.00191				
-----									
5	Aroclor-1016					CAS #: 12674-11-2			
7.858	7.851	0.007	289113	0.10000	0.111	80.00- 120.00	100.00(M)		
8.563	8.551	0.012	274731	0.10000	0.106	158.77- 238.15	111.29		
9.580	9.564	0.016	492187	0.10000	0.0970	296.98- 445.46	199.39		
10.272	10.253	0.019	226438	0.10000	0.0954	114.78- 172.17	91.73		
11.373	11.356	0.017	236483	0.10000	0.102	112.32- 168.48	95.80		
Average of Peak Amounts =			0.10228						
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
16.065	16.043	0.022	451199	0.10000	0.0990	80.00- 120.00	100.00(M)	M5	
17.047	17.016	0.031	545695	0.10000	0.0932	94.69- 142.03	120.94	M5	
18.503	18.471	0.032	494328	0.10000	0.0908	89.28- 133.92	109.56	M5	
19.823	19.803	0.020	379986	0.10000	0.0950	72.48- 108.72	84.22	M5	
25.062	25.024	0.038	204225	0.10000	0.0876	0.00- 0.00	45.26	M5	
Average of Peak Amounts =			0.09312						
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
27.178	27.151	0.027	126477	0.00200	0.00182				
-----									

AWS

10:52 am, Nov 18, 2015



Data File: 7IK275.D  
Report Date: 16-Nov-2015 11:12

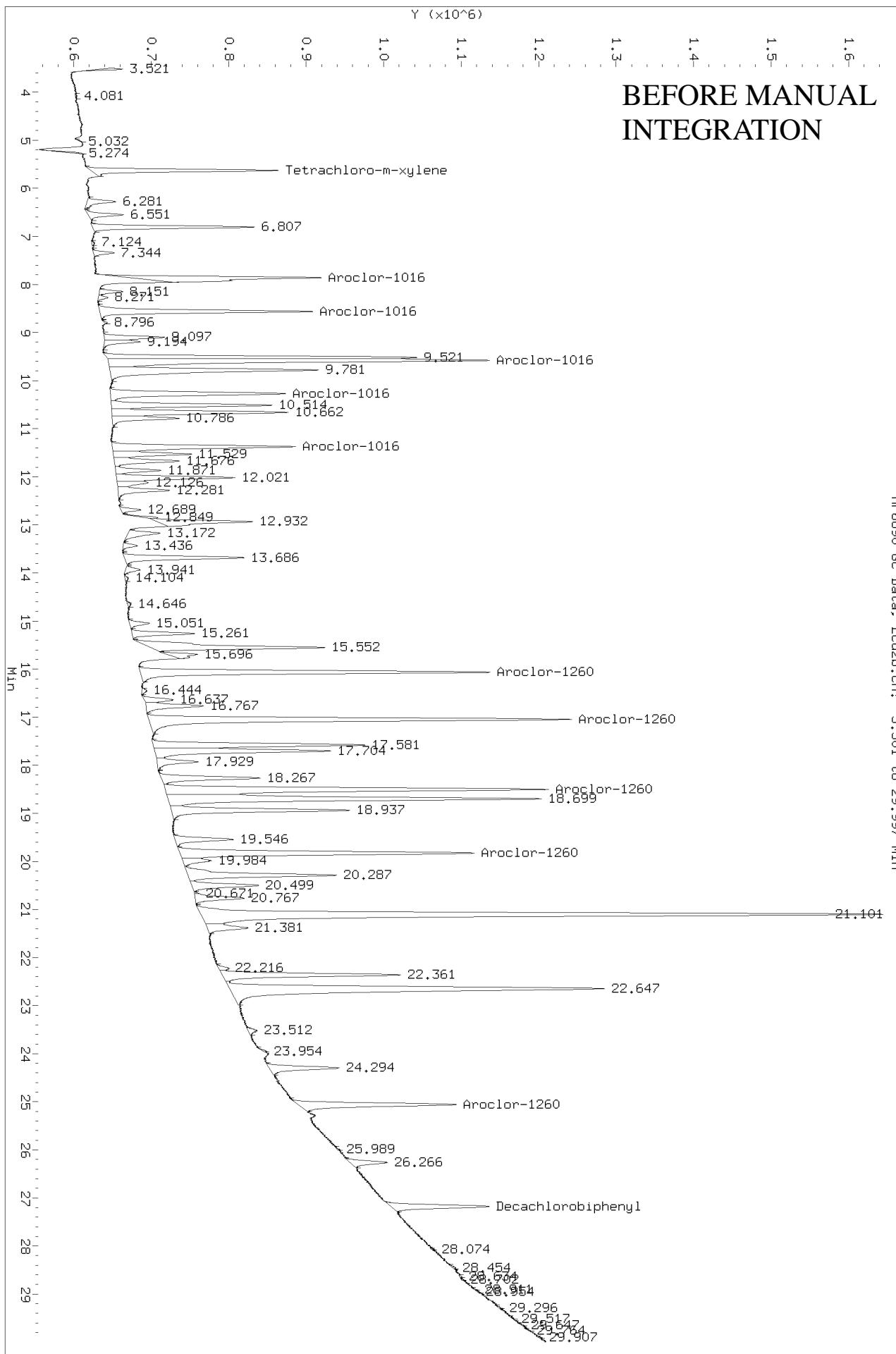
QC Flag Legend

M - Compound response manually integrated.

Data File: //target\_server/gg/chem/gc07.1/GC07IK13.b/GC07IK13.b/7IK275.D  
Injection Date: 13-NOV-2015 14:14  
Instrument: gc07.1  
Client Sample ID:

HP6890 GC Data, Ecd2b.ch: 3.501 to 29.997 Min

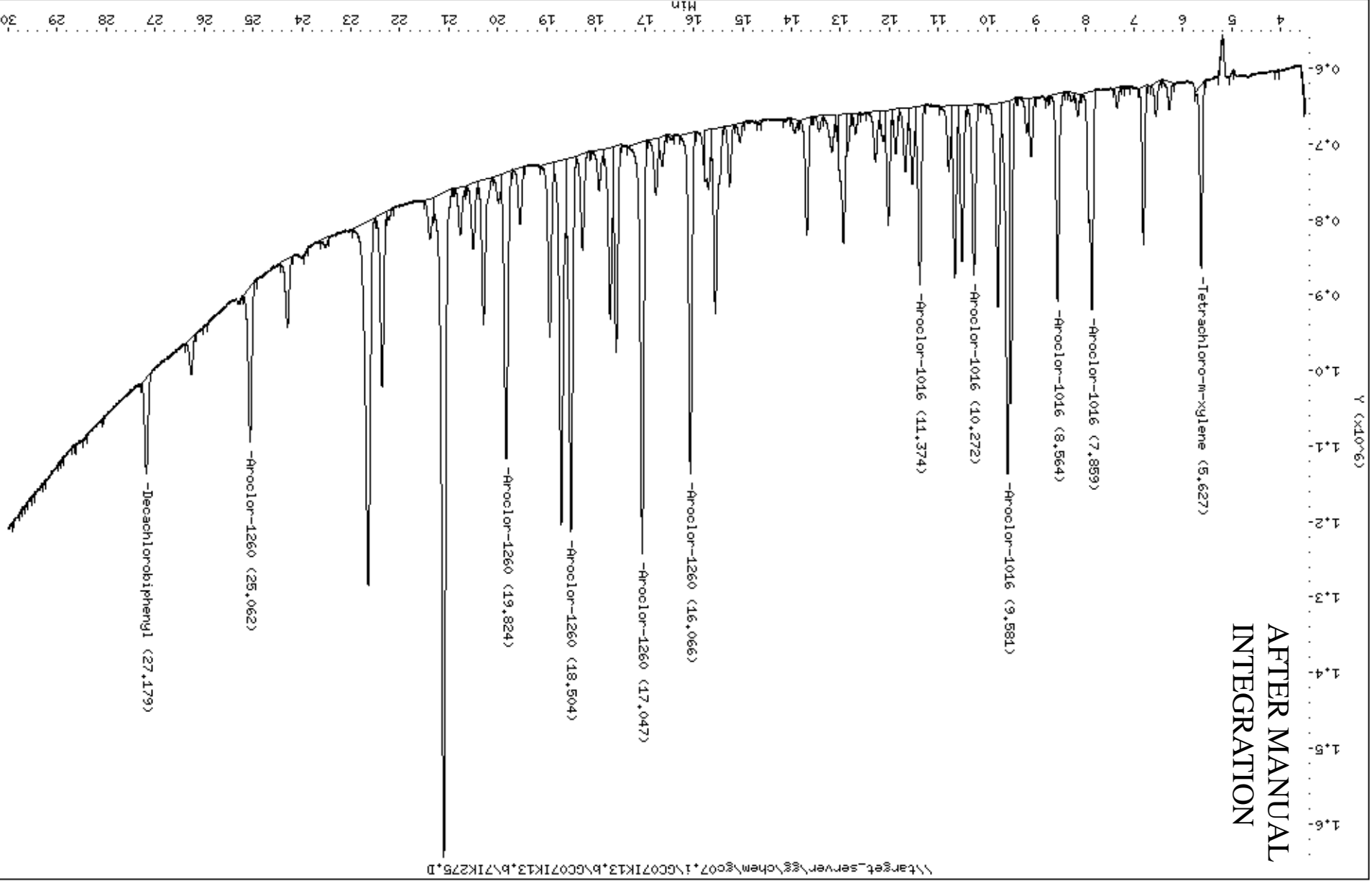
# BEFORE MANUAL INTEGRATION



# AFTER MANUAL INTEGRATION

Data File: \\target\_server\eg\chem\gc07.1\GC07IK13.B\GC07IK13.B\7IK275.D  
Date: 13-NOV-2015 14:14  
Client ID:  
Sample Info: M6174334-3  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK276.D  
 Report Date: 16-Nov-2015 11:10

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK276.D  
 Lab Smp Id: WG174334-4  
 Inj Date : 13-NOV-2015 14:48  
 Operator : AWS  
 Smp Info : WG174334-4  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 16-Nov-2015 08:53 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 15:58 Cal File: 7IK278.D  
 Als bottle: 5 Calibration Sample, Level: 3  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

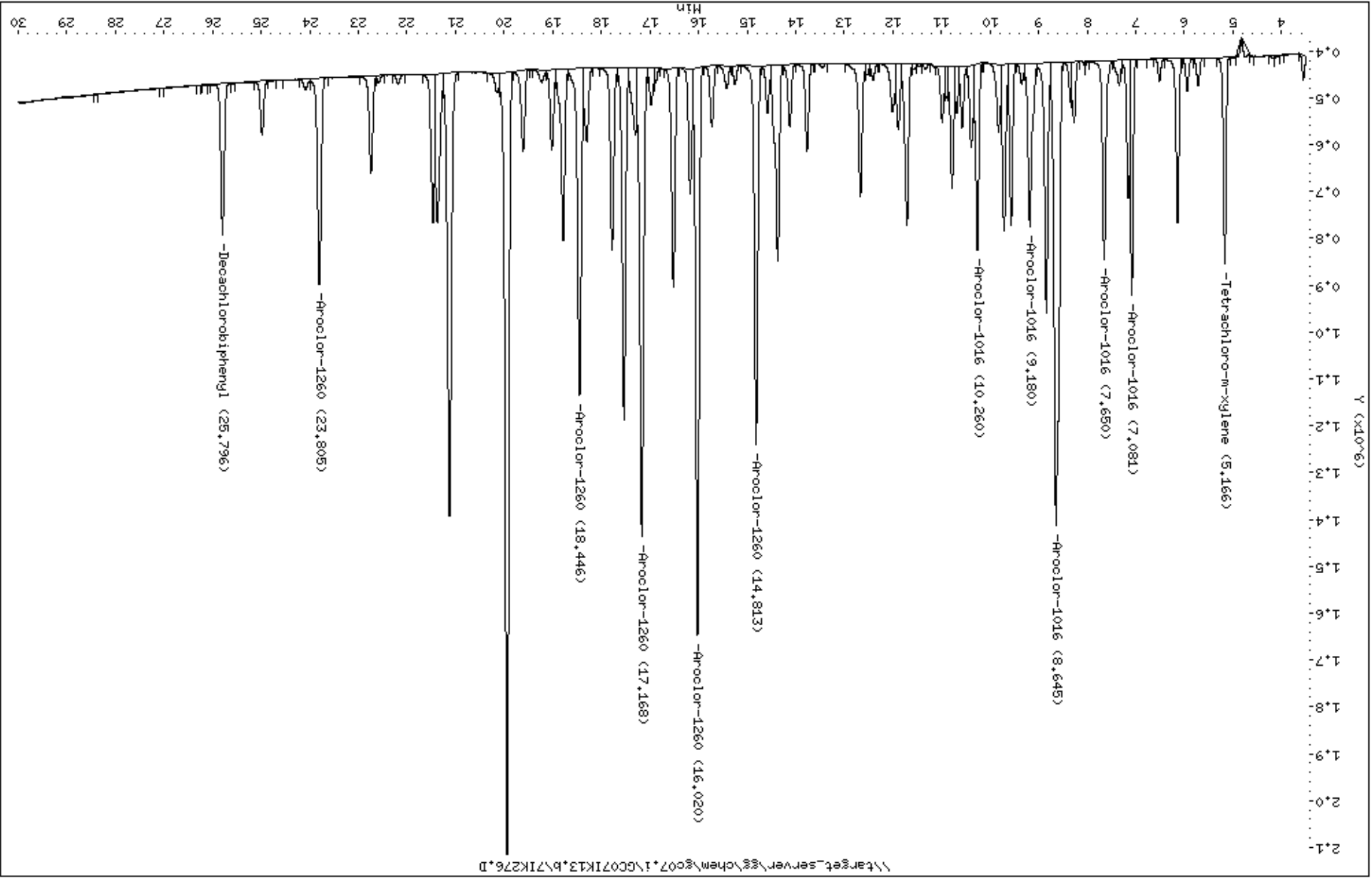
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 3	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.166	5.160	0.006	438303	0.00500	0.00524				
-----									
6	Aroclor-1016					CAS #: 12674-11-2			
7.081	7.070	0.011	503503	0.25000	0.268	80.00- 120.00	100.00		
7.649	7.636	0.013	424758	0.25000	0.266	158.77- 238.15	84.36		
8.644	8.621	0.023	986945	0.25000	0.259	296.98- 445.46	196.02		
9.179	9.153	0.026	347008	0.25000	0.252	114.78- 172.16	68.92		
10.259	10.240	0.019	397066	0.25000	0.258	112.32- 168.48	78.86		
Average of Peak Amounts =					0.26060				
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
14.812	14.790	0.022	808679	0.25000	0.254	80.00- 120.00	100.00		
16.019	15.988	0.031	1211842	0.25000	0.254	94.69- 142.03	149.85		
17.167	17.133	0.034	1000102	0.25000	0.260	89.28- 133.92	123.67		
18.446	18.420	0.026	698842	0.25000	0.254	72.48- 108.72	86.42		
23.804	23.765	0.039	440041	0.25000	0.248	0.00- 0.00	54.41		
Average of Peak Amounts =					0.25400				
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
25.796	25.766	0.030	321634	0.00500	0.00534				
-----									

Data File: \\target\_server\chem\gc07.1\GC07IK13.B\7IK276.D  
Date : 13-NOV-2015 14:48  
Client ID:  
Sample Info: M0174334-4  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



Data File: 7IK276.D  
 Report Date: 16-Nov-2015 11:12

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK276.D  
 Lab Smp Id: WG174334-4  
 Inj Date : 13-NOV-2015 14:48  
 Operator : AWS  
 Smp Info : WG174334-4  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
 Meth Date : 16-Nov-2015 08:55 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 14:48 Cal File: 7IK276.D  
 Als bottle: 5 Calibration Sample, Level: 3  
 Dil Factor: 1.00000  
 Integrator: Falcon  
 Target Version: 4.12  
 Processing Host: V200T5  
 Inst ID: gc07.i  
 Compound Sublist: AR1660.sub  
 Sample Matrix: WATER

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	CAL-AMT	ON-COL	TARGET RANGE	RATIO	REVIEW CODE		
=====	=====	=====	RESPONSE (ug/mL)	(ug/mL)	=====	=====	=====		
\$ 2 Tetrachloro-m-xylene CAS #: 877-09-8									
5.632	5.624	0.008	630001	0.00500	0.00499				
-----									
5 Aroclor-1016 CAS #: 12674-11-2									
7.862	7.851	0.011	724466	0.25000	0.268	80.00- 120.00	100.00(M)	M5	
8.564	8.551	0.013	695444	0.25000	0.269	158.77- 238.15	116.06	AWS	
9.582	9.564	0.018	1319377	0.25000	0.260	296.98- 445.46	220.18	10:53 am, Nov 18, 2015	
10.276	10.253	0.023	621679	0.25000	0.262	114.78- 172.17	103.75		
11.377	11.356	0.021	606873	0.25000	0.262	112.32- 168.48	101.28		
Average of Peak Amounts =			0.26420						
-----									
9 Aroclor-1260 CAS #: 11096-82-5									
16.067	16.043	0.024	1153551	0.25000	0.253	80.00- 120.00	100.00		
17.047	17.016	0.031	1499341	0.25000	0.256	94.69- 142.03	129.98		
18.501	18.471	0.030	1354416	0.25000	0.249	89.28- 133.92	117.41		
19.832	19.803	0.029	1025618	0.25000	0.256	72.48- 108.72	88.91		
25.061	25.024	0.037	587831	0.25000	0.252	0.00- 0.00	50.96		
Average of Peak Amounts =			0.25320						
-----									
\$ 12 Decachlorobiphenyl CAS #: 2051-24-3									
27.181	27.151	0.030	353687	0.00500	0.00508				
-----									

Data File: 7IK276.D  
Report Date: 16-Nov-2015 11:12

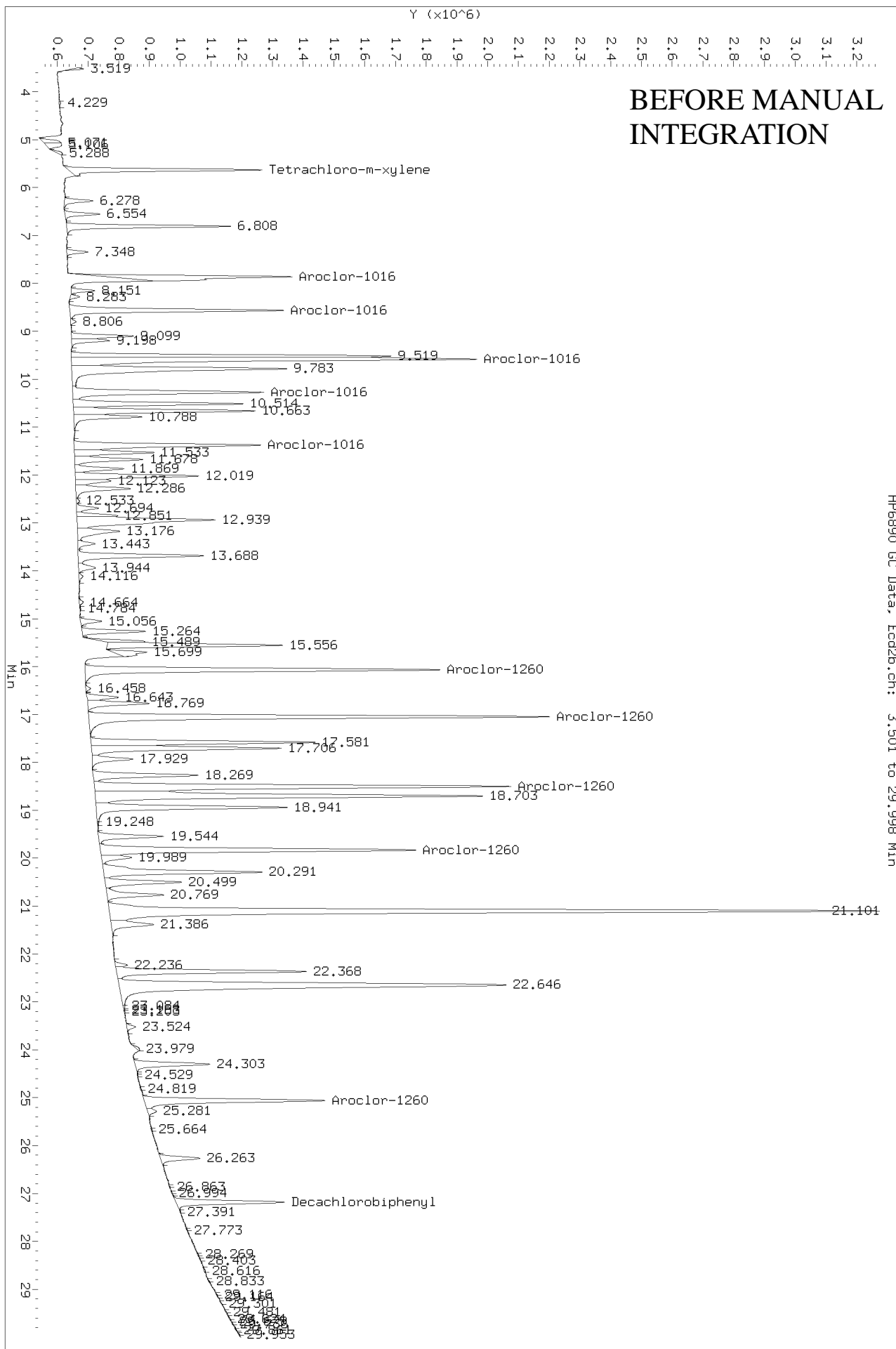
QC Flag Legend

M - Compound response manually integrated.

Data File: //target\_server/gg/chem/gc07.1/GC07IK13.b/GC07IK13.b/7IK276.D  
Injection Date: 13-NOV-2015 14:48  
Instrument: gc07.1  
Client Sample ID:

HP6890 GC Data, Ecd2b.ch: 3.501 to 29.998 Min

# BEFORE MANUAL INTEGRATION

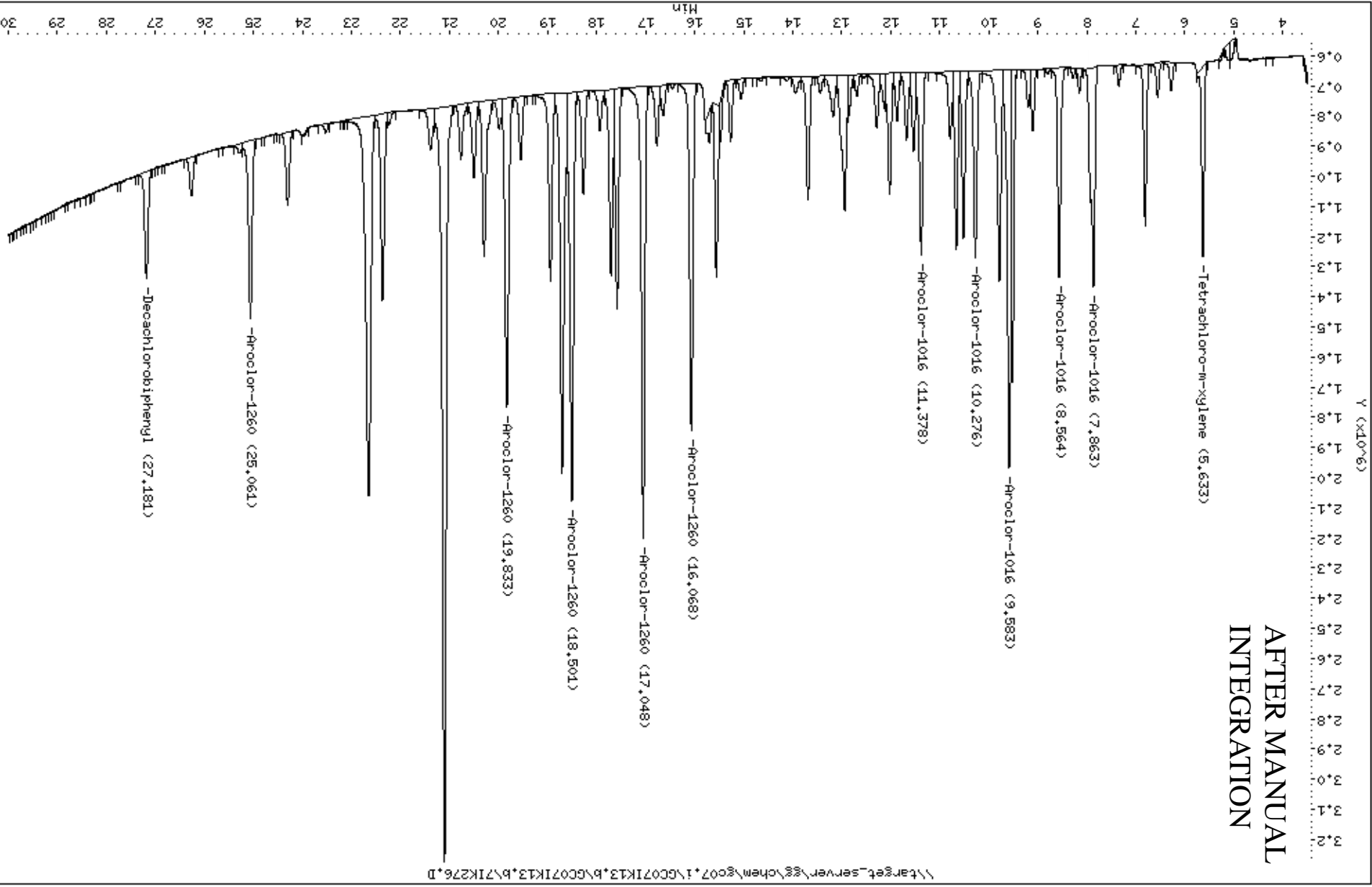




# AFTER MANUAL INTEGRATION

Data File: \\target\_server\eg\chem\gc07.1\GC07IK13.B\GC07IK13.B\7IK276.D  
Date : 13-NOV-2015 14:48  
Client ID:  
Sample Info: M6174334-4  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK277.D  
 Report Date: 16-Nov-2015 11:10

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK277.D  
 Lab Smp Id: WG174334-5  
 Inj Date : 13-NOV-2015 15:23  
 Operator : AWS  
 Smp Info : WG174334-5  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 16-Nov-2015 08:53 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 15:58 Cal File: 7IK278.D  
 Als bottle: 6 Calibration Sample, Level: 5  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

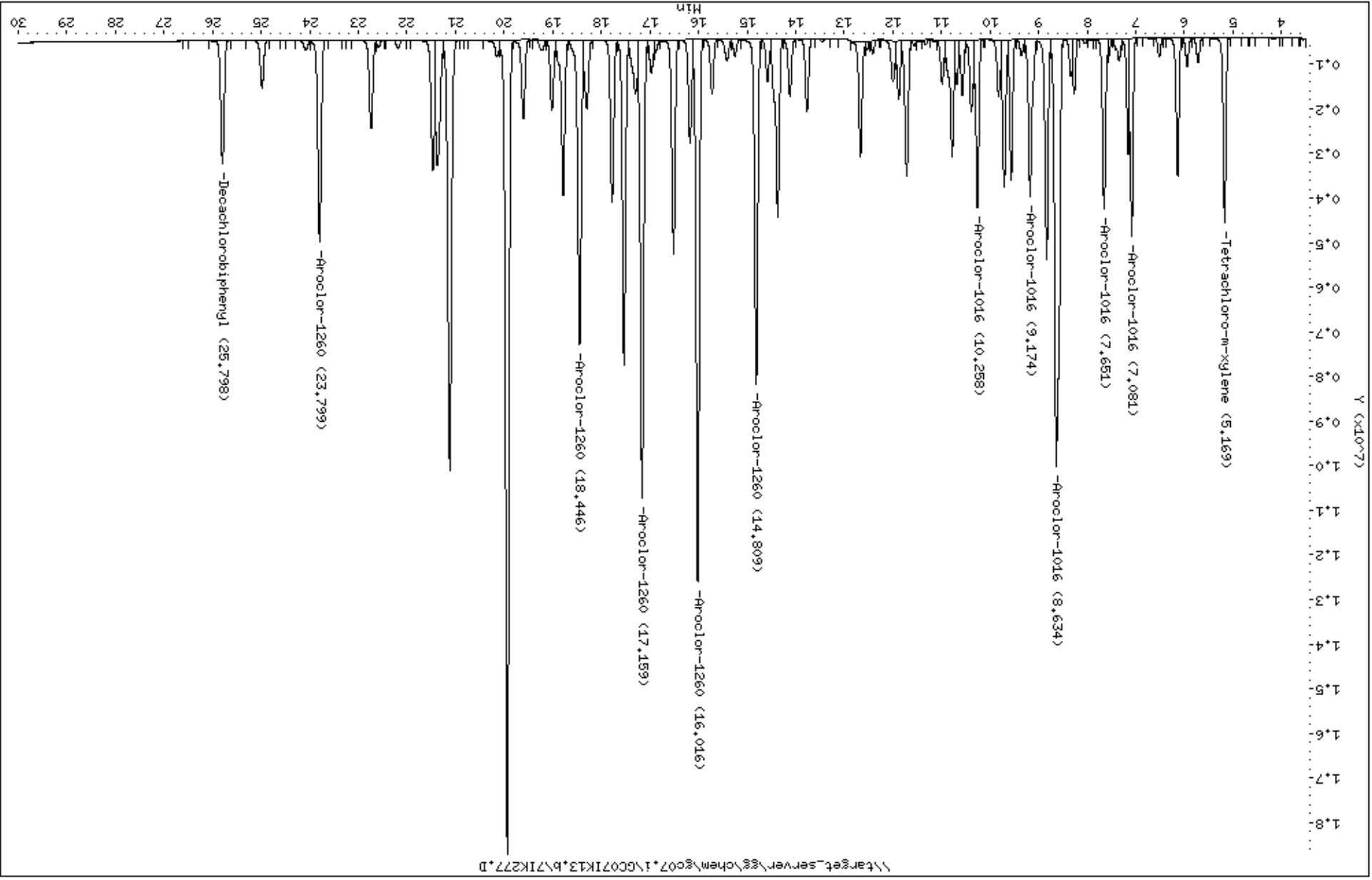
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 3	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.169	5.160	0.009	4141202	0.05000	0.0495				
-----									
6	Aroclor-1016					CAS #: 12674-11-2			
7.080	7.070	0.010	4430786	2.50000	2.36	80.00- 120.00	100.00		
7.650	7.636	0.014	3816146	2.50000	2.39	158.77- 238.15	86.13		
8.634	8.621	0.013	9570808	2.50000	2.51	296.98- 445.46	216.01		
9.174	9.153	0.021	3518418	2.50000	2.56	114.78- 172.16	79.41		
10.257	10.240	0.017	3775544	2.50000	2.45	112.32- 168.48	85.21		
	Average of Peak Amounts =				2.45400				
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
14.809	14.790	0.019	7733393	2.50000	2.43	80.00- 120.00	100.00		
16.015	15.988	0.027	12165108	2.50000	2.54	94.69- 142.03	157.31		
17.159	17.133	0.026	10270782	2.50000	2.67	89.28- 133.92	132.81		
18.445	18.420	0.025	6822669	2.50000	2.48	72.48- 108.72	88.22		
23.799	23.765	0.034	4505310	2.50000	2.53	0.00- 0.00	58.26		
	Average of Peak Amounts =				2.53000				
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
25.797	25.766	0.031	2750090	0.05000	0.0457				
-----									

Data File: \\target\_server\chem\gc07\1\GC07IK13.B\7IK277.D  
Date : 13-NOV-2015 15:23  
Client ID:  
Sample Info: M6174334-5  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53



Data File: 7IK277.D  
 Report Date: 16-Nov-2015 11:12

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK277.D  
 Lab Smp Id: WG174334-5  
 Inj Date : 13-NOV-2015 15:23  
 Operator : AWS  
 Smp Info : WG174334-5  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
 Meth Date : 16-Nov-2015 08:55 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 15:23 Cal File: 7IK277.D  
 Als bottle: 6 Calibration Sample, Level: 5  
 Dil Factor: 1.00000  
 Integrator: Falcon  
 Target Version: 4.12  
 Processing Host: V200T5  
 Inst ID: gc07.i  
 Compound Sublist: AR1660.sub  
 Sample Matrix: WATER

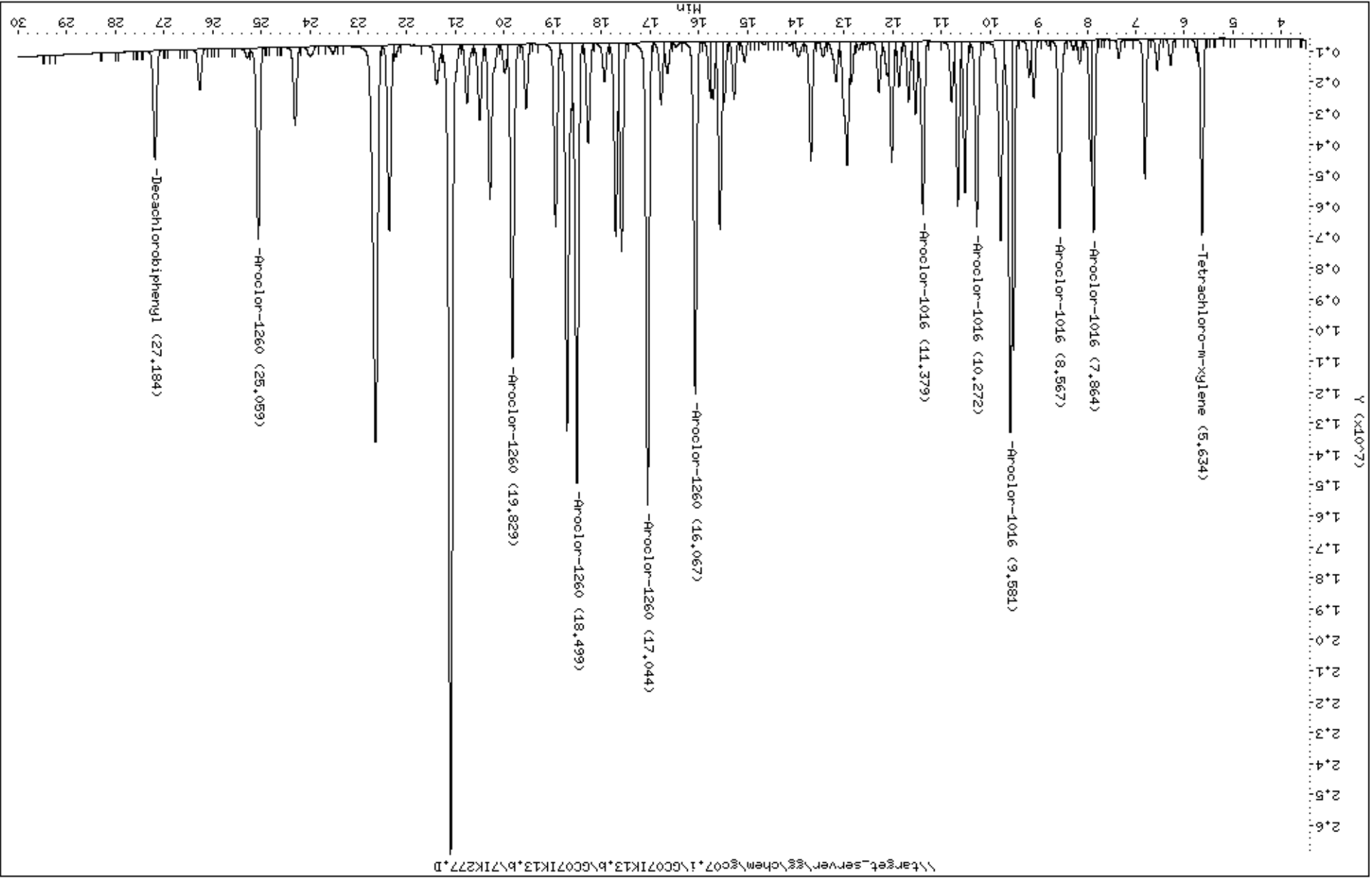
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 2	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.634	5.624	0.010	6319469	0.05000	0.0499				
-----									
5	Aroclor-1016					CAS #: 12674-11-2			
7.864	7.851	0.013	6224572	2.50000	2.46	80.00- 120.00	100.00		
8.567	8.551	0.016	6064369	2.50000	2.26	158.77- 238.15	97.43		
9.580	9.564	0.016	12651459	2.50000	2.46	296.98- 445.46	203.25		
10.272	10.253	0.019	5979450	2.50000	2.50	114.78- 172.17	96.06		
11.379	11.356	0.023	5586454	2.50000	2.36	112.32- 168.48	89.75		
	Average of Peak Amounts =				2.40800				
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
16.067	16.043	0.024	11342957	2.50000	2.47	80.00- 120.00	100.00		
17.044	17.016	0.028	14913258	2.50000	2.56	94.69- 142.03	131.48		
18.499	18.471	0.028	14199630	2.50000	2.65	89.28- 133.92	125.18		
19.829	19.803	0.026	10165426	2.50000	2.54	72.48- 108.72	89.62		
25.059	25.024	0.035	6162468	2.50000	2.71	0.00- 0.00	54.33		
	Average of Peak Amounts =				2.58600				
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
27.184	27.151	0.033	3524402	0.05000	0.0508				
-----									

Data File: \\target\_server\eg\chem\gc07.1\GC07IK13.B\GC07IK13.B\7IK277.D  
Date : 13-NOV-2015 15:23  
Client ID:  
Sample Info: M0174334-5  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK278.D  
 Lab Smp Id: WG174334-6  
 Inj Date : 13-NOV-2015 15:58  
 Operator : AWS  
 Smp Info : WG174334-6  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 16-Nov-2015 08:53 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 15:58 Cal File: 7IK278.D  
 Als bottle: 7 Calibration Sample, Level: 6  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 3	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.167	5.160	0.007	15094803	0.20000	0.180				
-----									
6	Aroclor-1016					CAS #: 12674-11-2			
7.077	7.070	0.007	15533990	10.0000	8.26	80.00- 120.00	100.00		
7.647	7.636	0.011	13622381	10.0000	8.53	158.77- 238.15	87.69		
8.625	8.621	0.004	34566688	10.0000	9.07	296.98- 445.46	222.52		
9.165	9.153	0.012	14194722	10.0000	10.3	114.78- 172.16	91.38		
10.250	10.240	0.010	14589747	10.0000	9.48	112.32- 168.48	93.92		
Average of Peak Amounts =					9.12800				
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
14.807	14.790	0.017	29172378	10.0000	9.18	80.00- 120.00	100.00		
16.005	15.988	0.017	45459618	10.0000	9.51	94.69- 142.03	155.83		
17.152	17.133	0.019	39950697	10.0000	10.4	89.28- 133.92	136.95		
18.437	18.420	0.017	26910624	10.0000	9.77	72.48- 108.72	92.25		
23.787	23.765	0.022	18494629	10.0000	10.4	0.00- 0.00	63.40		
Average of Peak Amounts =					9.85200				
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
25.789	25.766	0.023	11016736	0.20000	0.183				
-----									

Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK278.D

Date : 13-NOV-2015 15:58

Client ID:

Sample Info: M0174334-6

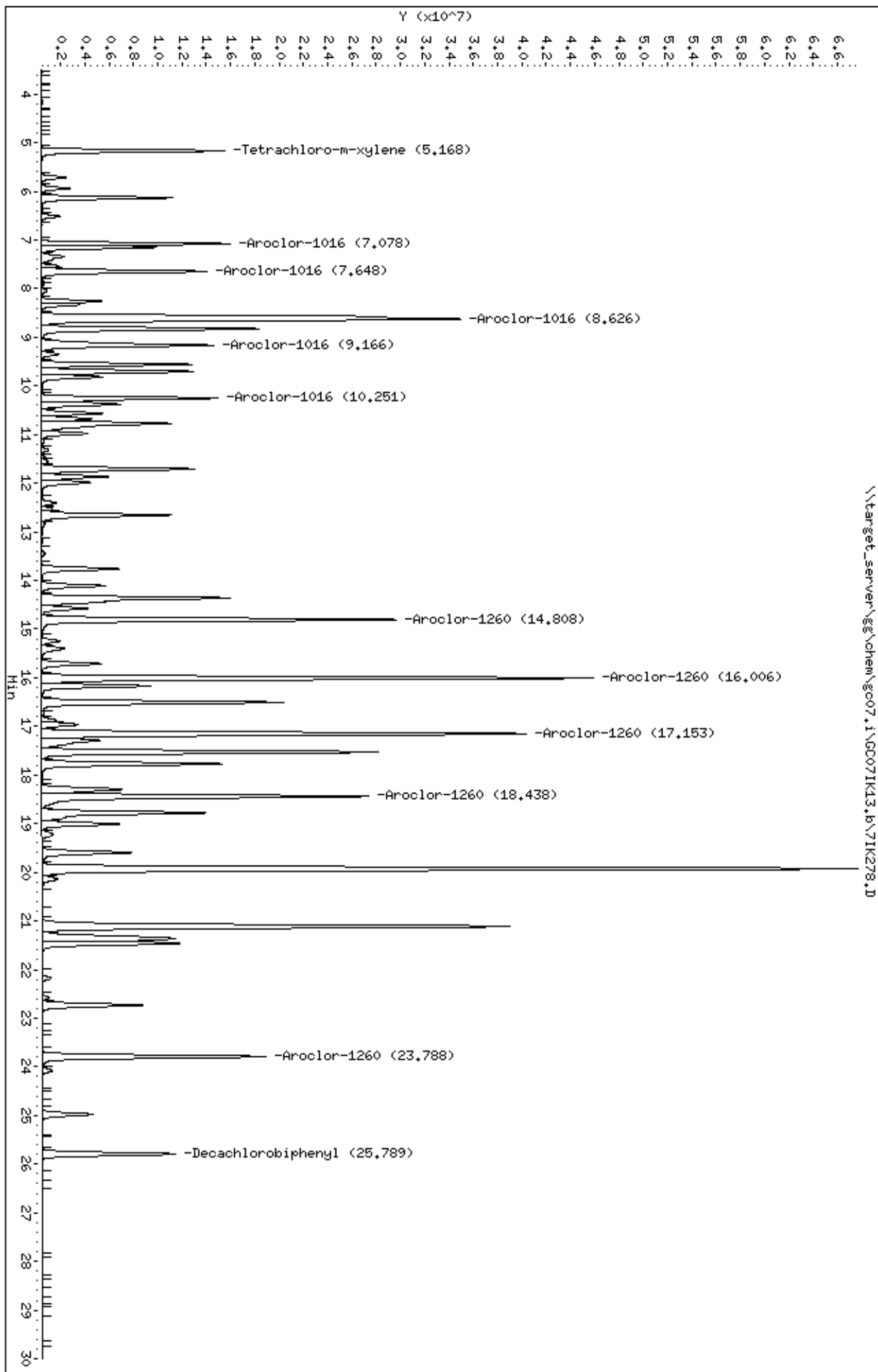
Purge Volume: 1.0

Column phase: ZB-MultiResidue-1

Instrument: gc07.i

Operator: AMS

Column diameter: 0.53



Data File: 7IK278.D  
 Report Date: 16-Nov-2015 11:12

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK278.D  
 Lab Smp Id: WG174334-6  
 Inj Date : 13-NOV-2015 15:58  
 Operator : AWS  
 Smp Info : WG174334-6  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
 Meth Date : 16-Nov-2015 08:55 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 15:58 Cal File: 7IK278.D  
 Als bottle: 7 Calibration Sample, Level: 6  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 2	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.632	5.624	0.008	25076794	0.20000	0.198				
-----									
5	Aroclor-1016					CAS #: 12674-11-2			
7.862	7.851	0.011	21673019	10.0000	8.78	80.00- 120.00	100.00		
8.564	8.551	0.013	21089296	10.0000	8.15	158.77- 238.15	97.31		
9.579	9.564	0.015	47146784	10.0000	9.29	296.98- 445.46	217.54		
10.269	10.253	0.016	22897814	10.0000	9.65	114.78- 172.17	105.65		
11.372	11.356	0.016	20975742	10.0000	9.04	112.32- 168.48	96.78		
Average of Peak Amounts =			8.98200						
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
16.064	16.043	0.021	43711019	10.0000	9.59	80.00- 120.00	100.00(A)		
17.040	17.016	0.024	60485561	10.0000	10.3	94.69- 142.03	138.38		
18.492	18.471	0.021	59084215	10.0000	10.8	89.28- 133.92	135.17		
19.825	19.803	0.022	40595828	10.0000	10.1	72.48- 108.72	92.87		
25.054	25.024	0.030	26354470	10.0000	11.3	0.00- 0.00	60.29		
Average of Peak Amounts =			10.4180						
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
27.177	27.151	0.026	14278700	0.20000	0.205				
-----									



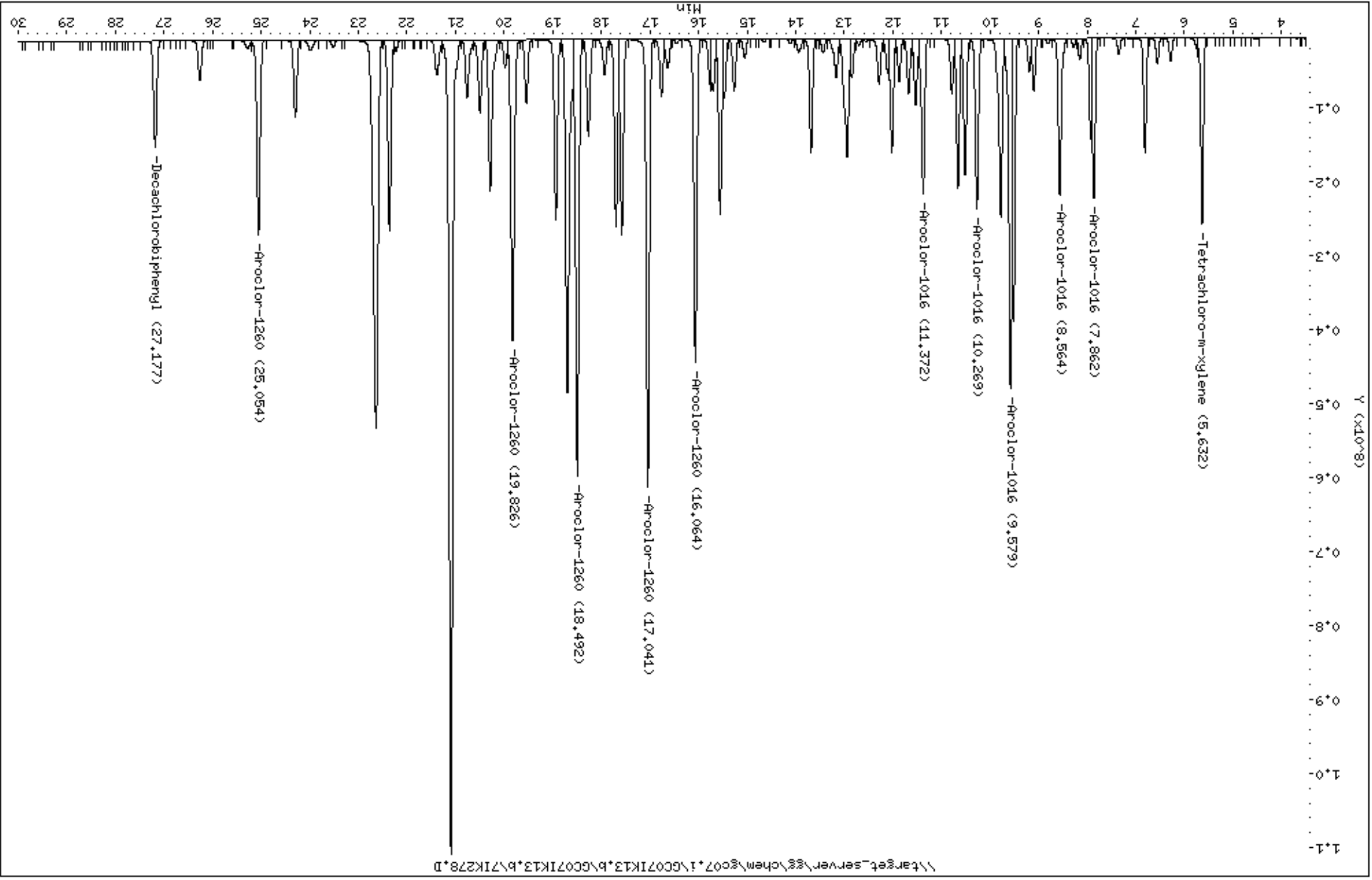
Data File: 7IK278.D  
Report Date: 16-Nov-2015 11:12

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\target\_server\eg\chem\gc07.1\GC07IK13.B\GC07IK13.B\7IK278.D  
Date : 13-NOV-2015 15:58  
Client ID:  
Sample Info: M0174334-6  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



Data File: \\target\_server\gg\chem\gc07.i\GC07IK16.b\7IK363.D  
 Report Date: 18-Nov-2015 10:44

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK16.b\7IK363.D  
 Lab Smp Id: WG174334-7  
 Inj Date : 16-NOV-2015 12:47  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG174334-7  
 Misc Info : WG174334,WG174334,WG174334-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK16.b\PCB096.m  
 Meth Date : 18-Nov-2015 10:15 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 6 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1016.sub  
 Target Version: 4.12 Sample Matrix: WATER

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

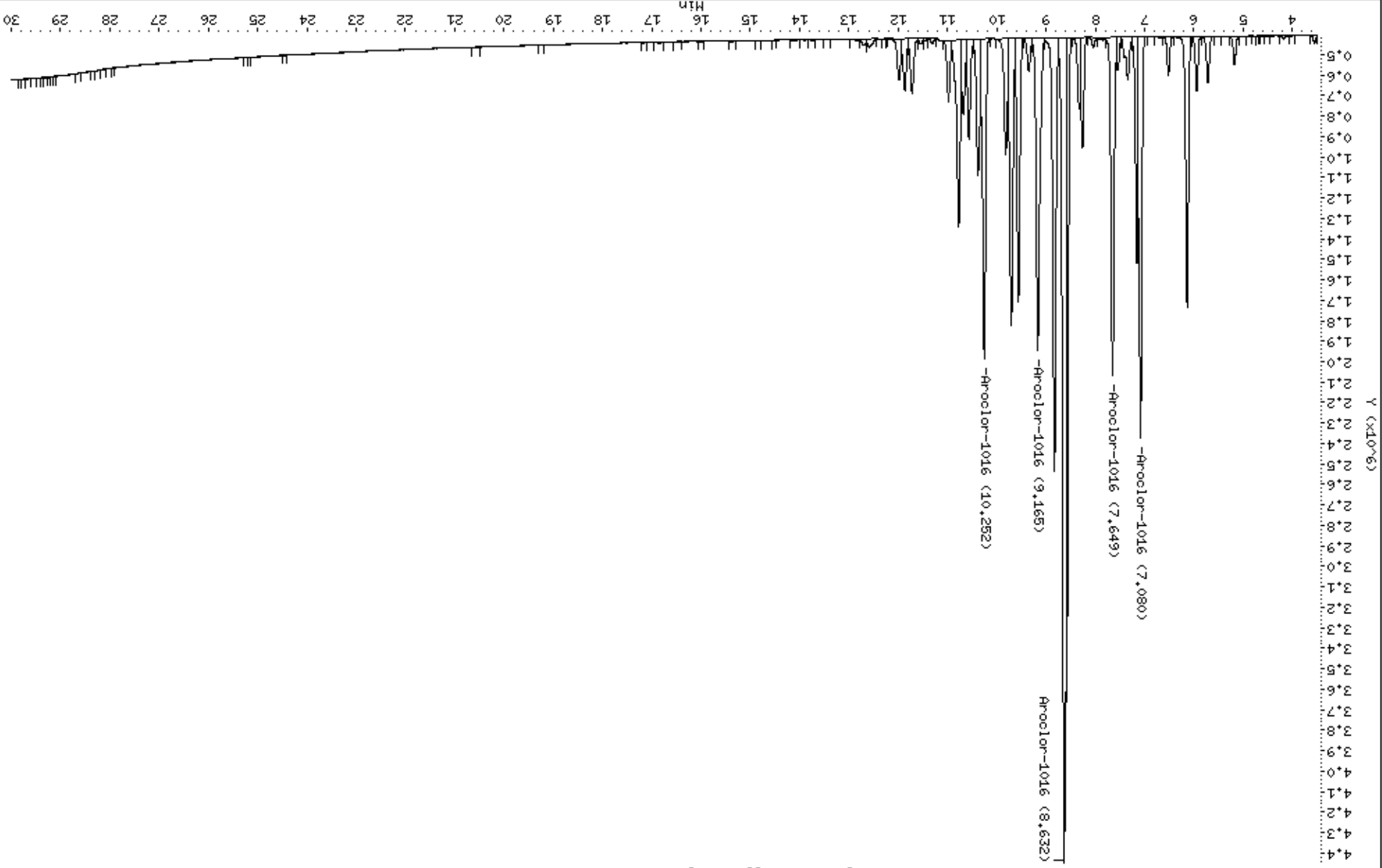
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS							
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	RATIO	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====	=====
6 Aroclor-1016			CAS #: 12674-11-2				
7.080	7.089	-0.009	1961540 1.04262	1.04	80.00- 120.00	100.00	
7.648	7.657	-0.009	1650268 1.03350	1.03	158.77- 238.15	84.13	
8.632	8.642	-0.010	4029505 1.05757	1.06	296.98- 445.46	205.43	
9.165	9.177	-0.012	1527167 1.11133	1.11	114.78- 172.16	77.86	
10.252	10.262	-0.010	1560462 1.01450	1.01	112.32- 168.48	79.55	
Average of Peak Concentrations =				1.05			

Data File: \\target\_server\g8\chem\g07\1\GC07IK16,B\7IK363.D  
Date: 16-NOV-2015 12:47  
Client ID:  
Sample Info: M0174334-7  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: g07.i  
Operator: RMS  
Column diameter: 0.53

\\target\_server\g8\chem\g07\1\GC07IK16,B\7IK363.D



Data File: 7IK363.D  
 Report Date: 18-Nov-2015 10:44

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK16.b\GC07IK16.b\7IK363.D  
 Lab Smp Id: WG174334-7  
 Inj Date : 16-NOV-2015 12:47  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG174334-7  
 Misc Info : WG174334,WG174334,WG174334-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK16.b\PCB096.m\PCB096.m  
 Meth Date : 18-Nov-2015 10:16 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 6 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1016.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

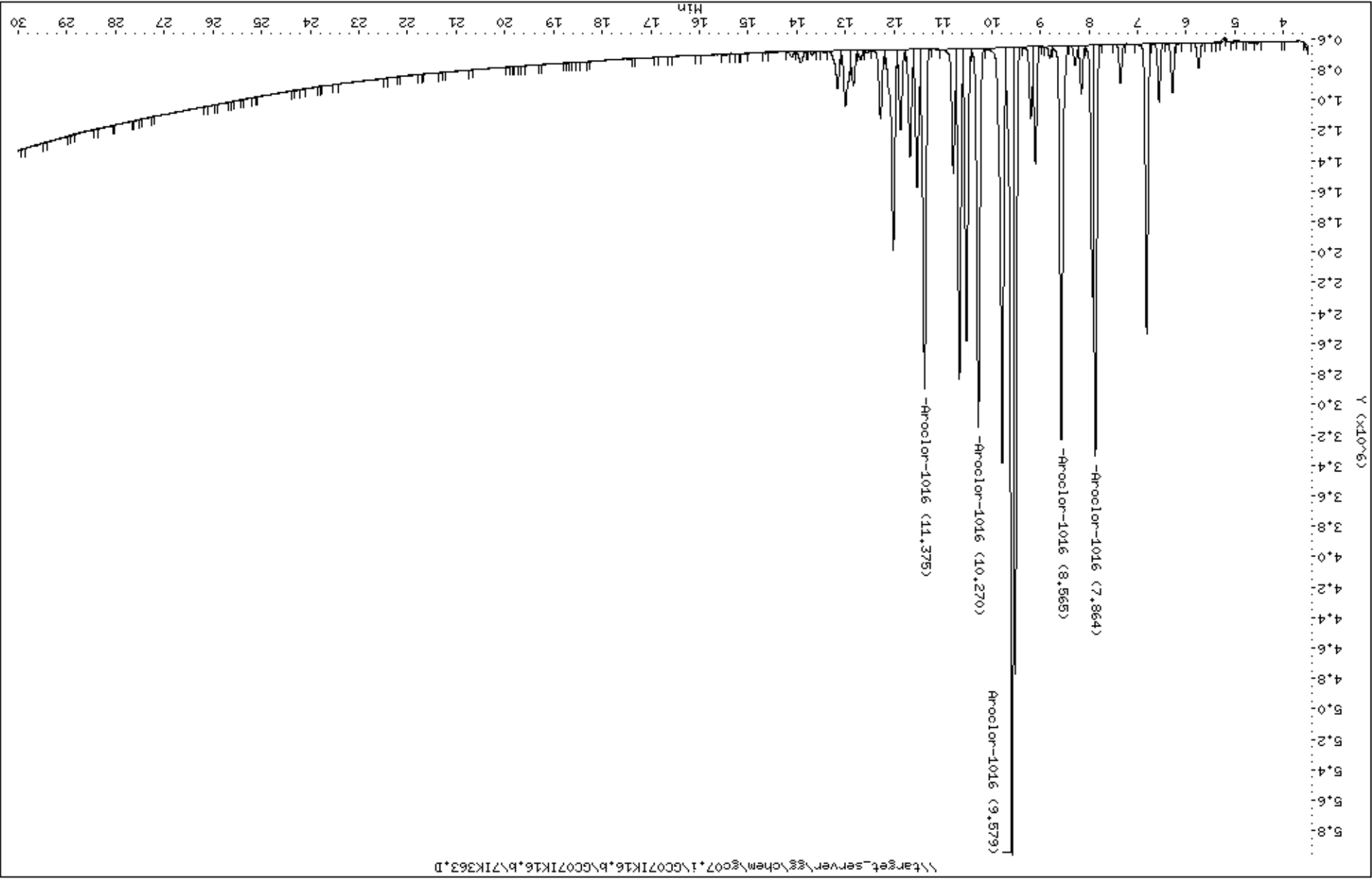
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS										
			ON-COL	FINAL					REVIEW CODE	
RT	EXP RT	DLT RT	RESPONSE (ug/mL)	( ug/L)	TARGET RANGE	RATIO				
====	=====	=====	=====	=====	=====	=====	=====	=====		
5 Aroclor-1016				CAS #: 12674-11-2						
7.863	7.849	0.014	2703217	1.00213	1.00	80.00- 120.00	100.00			
8.565	8.550	0.015	2587718	1.00016	1.00	158.77- 238.15	95.73			
9.578	9.564	0.014	5304734	1.04554	1.04	296.98- 445.46	196.24			
10.270	10.254	0.016	2487511	1.04825	1.05	114.78- 172.17	92.02			
11.375	11.357	0.018	2230674	0.96176	0.962	112.32- 168.48	82.52			
Average of Peak Concentrations =				1.01						

Data File: \\target\_server\gg\chem\gc07.1\GC07IK16.B\GC07IK16.B\7IK363.D  
Date : 16-NOV-2015 12:47  
Client ID:  
Sample Info: M0174334-7  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK280.D  
 Report Date: 18-Nov-2015 10:42

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK280.D  
 Lab Smp Id: WG174334-8  
 Inj Date : 13-NOV-2015 17:17  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG174334-8  
 Misc Info : WG174334,WG174334,WG174334-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 18-Nov-2015 10:22 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 9 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1260.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

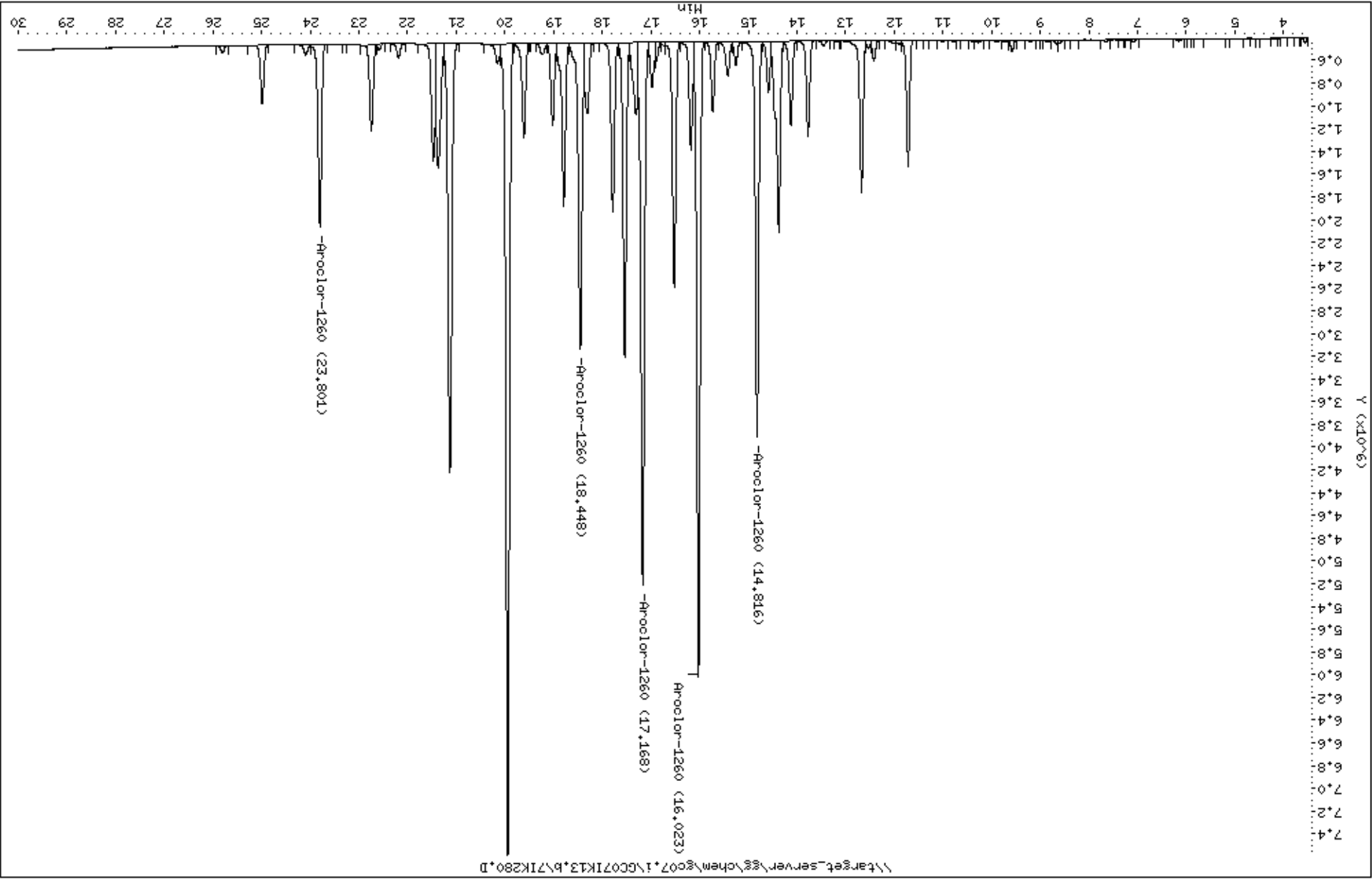
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS									
			ON-COL		FINAL				
RT	EXP RT	DLT RT	RESPONSE	(ug/mL)	( ug/L)	TARGET RANGE	RATIO	REVIEW CODE	
====	=====	=====	=====	=====	=====	=====	=====	=====	
9 Aroclor-1260					CAS #: 11096-82-5				
14.816	14.790	0.026	3481844	1.09518	1.10	80.00- 120.00	100.00		
16.022	15.988	0.034	5582769	1.16819	1.17	94.69- 142.03	160.34		
17.167	17.133	0.034	4773834	1.21683	1.22	89.28- 133.92	137.11		
18.447	18.420	0.027	2692915	0.97530	0.975	72.48- 108.72	77.34		
23.801	23.765	0.036	1601246	0.90095	0.901	0.00- 0.00	45.99		
Average of Peak Concentrations =					1.07				

Data File: \\target\_server\chem\g07\1\GC07IK13.B\7IK280.D  
Date : 13-NOV-2015 17:17  
Client ID:  
Sample Info: M0174334-8  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: g07.i  
Operator: RMS  
Column diameter: 0.53





Data File: 7IK280.D  
 Report Date: 18-Nov-2015 10:43

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK280.D  
 Lab Smp Id: WG174334-8  
 Inj Date : 13-NOV-2015 17:17  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG174334-8  
 Misc Info : WG174334,WG174334,WG174334-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
 Meth Date : 18-Nov-2015 10:24 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 9 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1260.sub  
 Target Version: 4.12 Sample Matrix: WATER

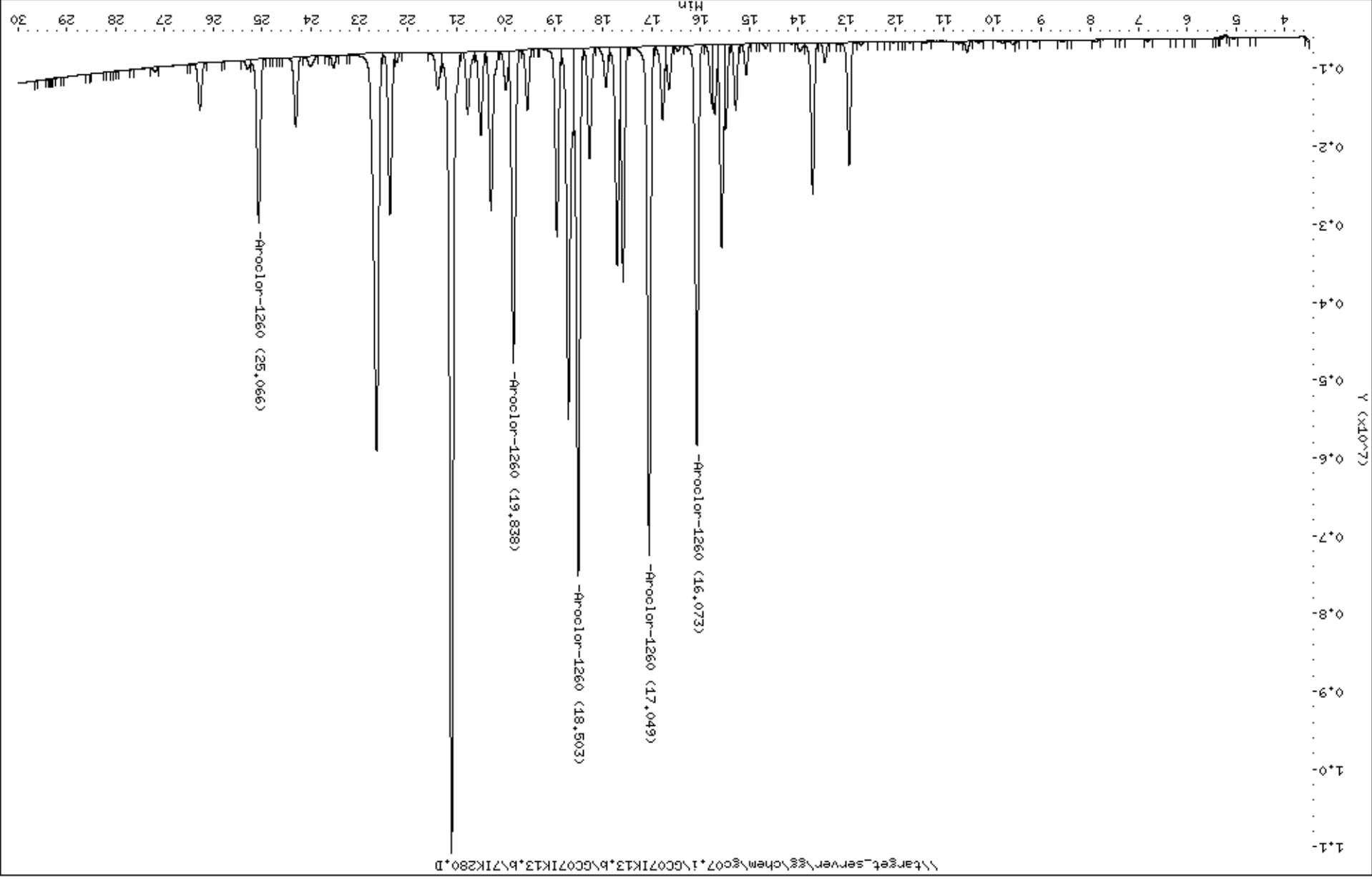
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS										
			ON-COL	FINAL					REVIEW CODE	
RT	EXP RT	DLT RT	RESPONSE (ug/mL)	( ug/L)	TARGET RANGE	RATIO				
====	=====	=====	=====	=====	=====	=====	=====	=====		
9 Aroclor-1260				CAS #: 11096-82-5						
16.072	16.043	0.029	5134873	1.12612	1.13	80.00- 120.00	100.00			
17.049	17.016	0.033	6525437	1.11394	1.11	94.69- 142.03	127.08			
18.502	18.471	0.031	6763380	1.24301	1.24	89.28- 133.92	131.71			
19.837	19.803	0.034	4006289	1.00208	1.00	72.48- 108.72	78.02			
25.066	25.024	0.042	2103877	0.90251	0.902	0.00- 0.00	40.97			
Average of Peak Concentrations =				1.08						

Data File: \\target\_server\eg\chem\gc07.1\GC07IK13.B\GC07IK13.B\7IK280.D  
Date : 13-NOV-2015 17:17  
Client ID:  
Sample Info: M6174334-8  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK281.D  
 Report Date: 16-Nov-2015 11:10

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK281.D  
 Lab Smp Id: WG174334-9  
 Inj Date : 13-NOV-2015 17:52  
 Operator : AWS  
 Smp Info : WG174334-9  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 16-Nov-2015 08:53 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 21:55 Cal File: 7IK288.D  
 Als bottle: 10 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1242.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

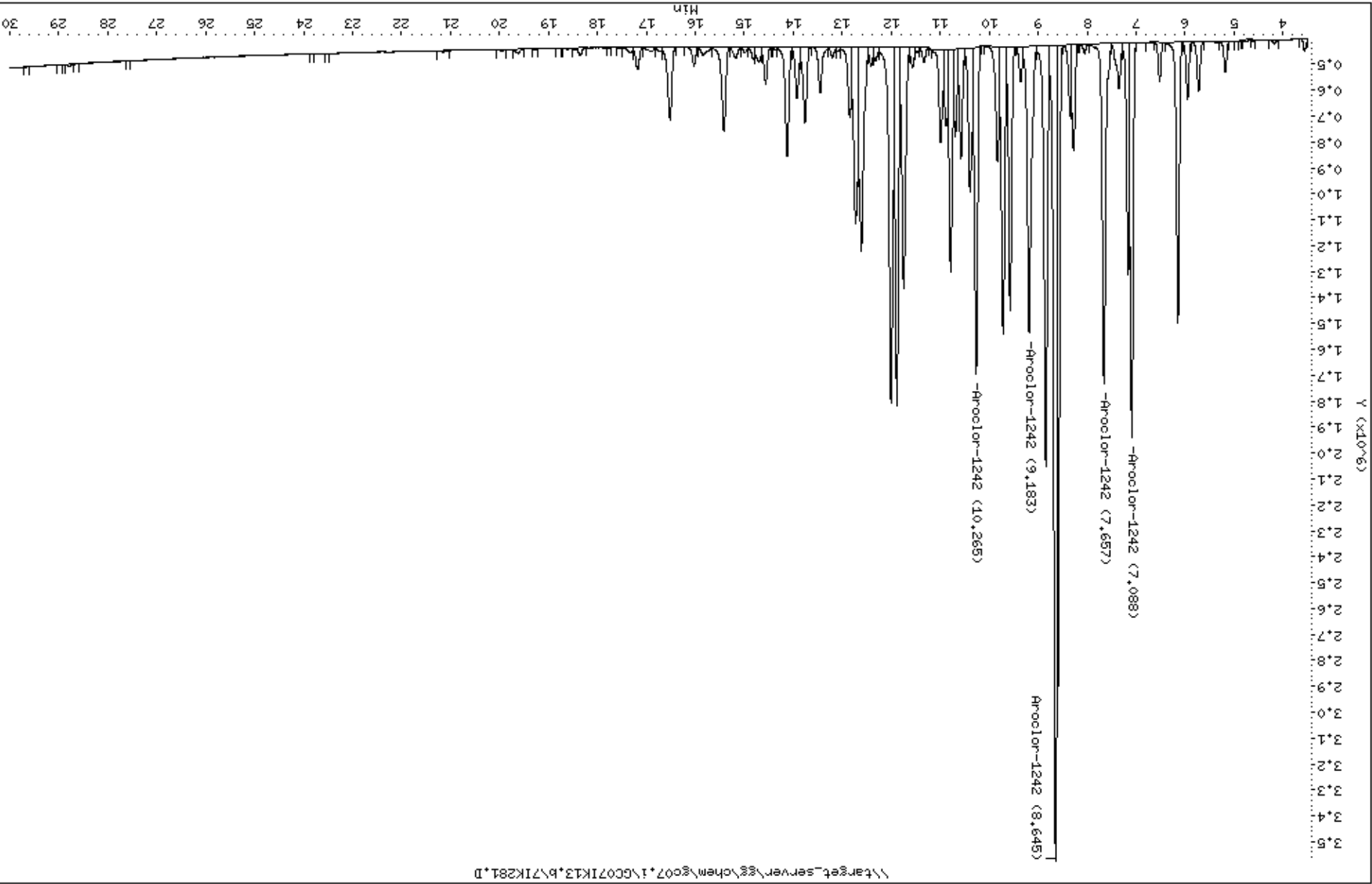
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
5 Aroclor-1242			CAS #: 53469-21-9						
7.088	7.073	0.015	1523318	1.00000	1.00	0.00- 0.00	100.00		
7.656	7.642	0.014	1312511	1.00000	1.00	0.00- 0.00	86.16		
8.645	8.632	0.013	3146920	1.00000	1.00	0.00- 0.00	206.58		
9.183	9.162	0.021	1105249	1.00000	1.00	0.00- 0.00	72.56		
10.265	10.247	0.018	1260055	1.00000	1.00	0.00- 0.00	82.72		
Average of Peak Amounts =					1.00000				

Data File: \\target\_server\chem\gc07\1\GC07IK13.B\7IK281.D  
Date : 13-NOV-2015 17:52  
Client ID:  
Sample Info: MCL74334-9  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: AMS  
Column diameter: 0.53

\\target\_server\chem\gc07\1\GC07IK13.B\7IK281.D



Data File: 7IK281.D  
Report Date: 16-Nov-2015 11:12

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK281.D  
Lab Smp Id: WG174334-9  
Inj Date : 13-NOV-2015 17:52  
Operator : AWS  
Smp Info : WG174334-9  
Misc Info :  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
Meth Date : 16-Nov-2015 08:55 aschuchart Quant Type: ESTD  
Cal Date : 13-NOV-2015 17:52 Cal File: 7IK281.D  
Als bottle: 10 Calibration Sample, Level: 4  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: AR1242.sub  
Target Version: 4.12 Sample Matrix: WATER  
Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT	ON-COL	TARGET	RANGE	RATIO	REVIEW CODE
====	=====	=====	=====	=====	=====	=====	=====	=====	=====
6 Aroclor-1242			CAS #: 53469-21-9						
7.869	7.850	0.019	2213734	1.00000	1.00	0.00-	0.00	100.00 (M)	M5
8.573	8.552	0.021	2116744	1.00000	1.00	0.00-	0.00	113.07	M5
9.586	9.565	0.021	4219757	1.00000	1.00	0.00-	0.00	225.41	M5
10.279	10.257	0.022	1959801	1.00000	1.00	0.00-	0.00	104.69	M5
11.383	11.364	0.019	1926393	1.00000	1.00	0.00-	0.00	102.90	M5
Average of Peak Amounts =					1.00000				

AWS  
10:56 am, Nov 18, 2015

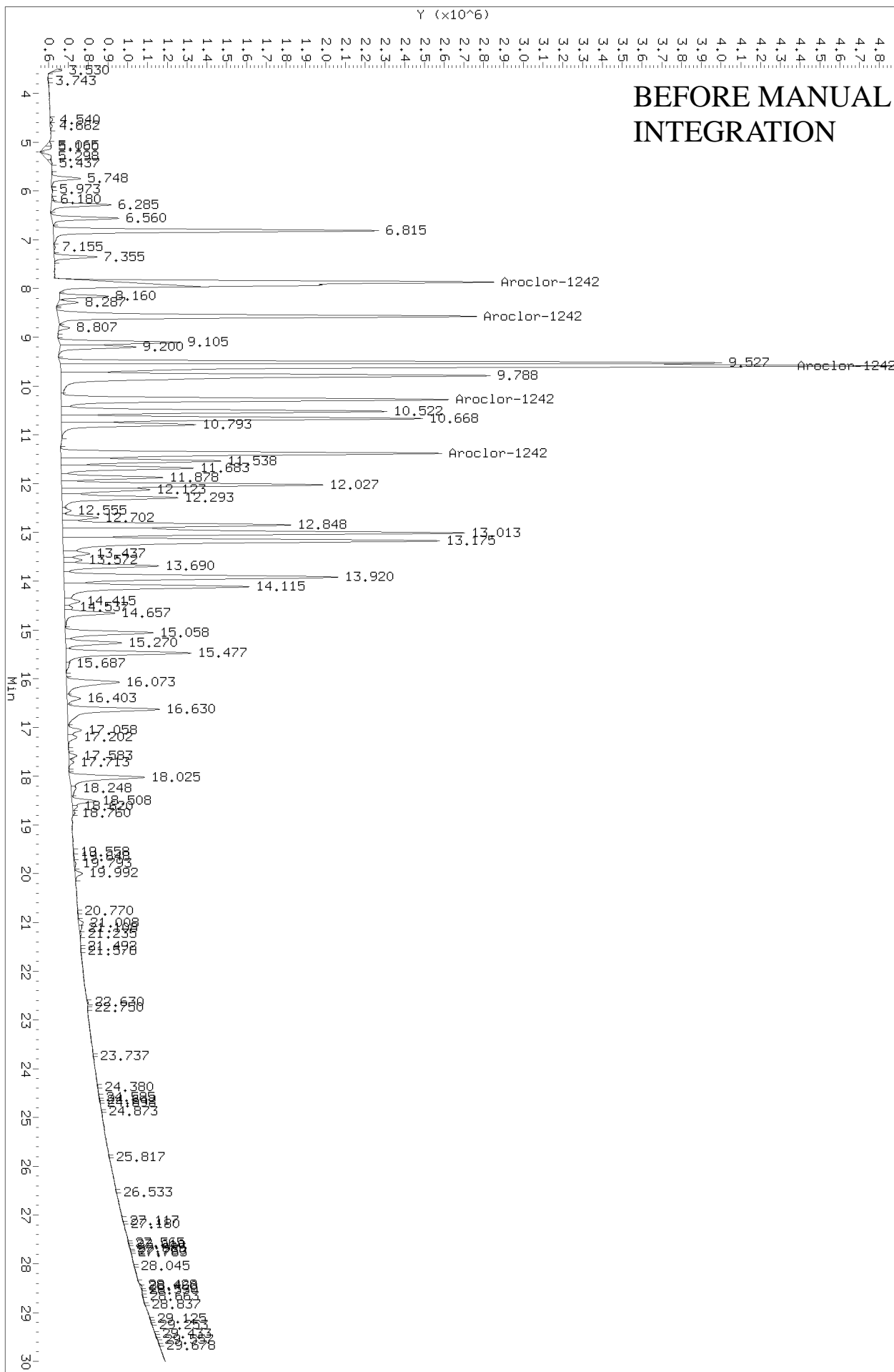
QC Flag Legend

M - Compound response manually integrated.

Data File: \\target-server\chem\gc07.1\GC07IK13.b\GC07IK13.D  
Injection Date: 13-NOV-2015 17:52  
Instrument: gc07.1  
Client Sample ID:

HP6890 GC Data, Ecd2b.ch: 3.502 to 29.998 Min

# BEFORE MANUAL INTEGRATION

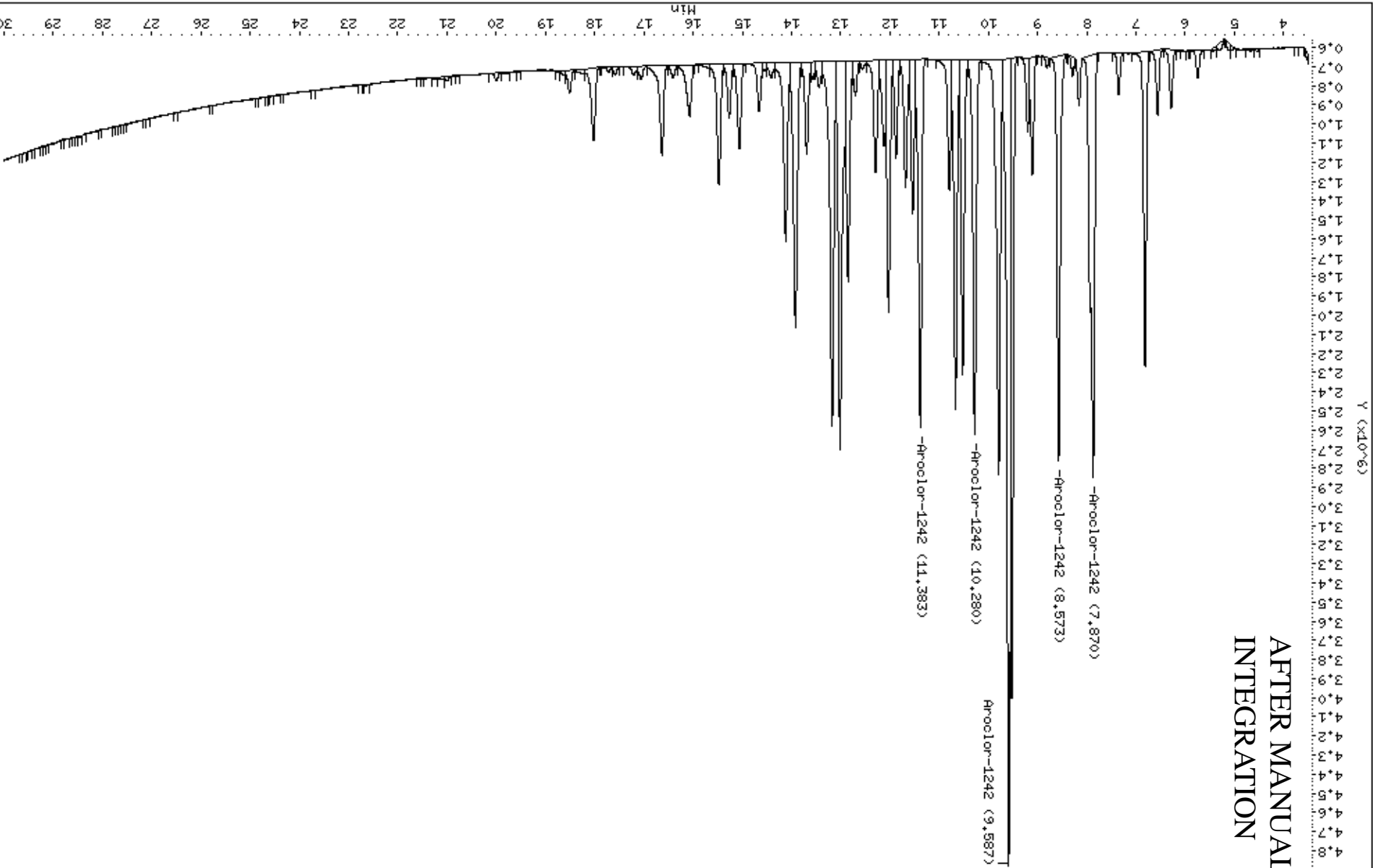


# AFTER MANUAL INTEGRATION

Data File: \\target\_server\chem\gc07\1\GC07IK13\*6\GC07IK13\*6\7IK281.D  
Date : 13-NOV-2015 17:52  
Client ID:  
Sample Info: MCL74334-9  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

\\target\_server\chem\gc07\1\GC07IK13\*6\GC07IK13\*6\7IK281.D



Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK288.D  
 Report Date: 16-Nov-2015 11:11

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK288.D  
 Lab Smp Id: WG174334-16  
 Inj Date : 13-NOV-2015 21:55  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG174334-16  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 16-Nov-2015 08:53 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 21:55 Cal File: 7IK288.D  
 Als bottle: 17 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1254.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

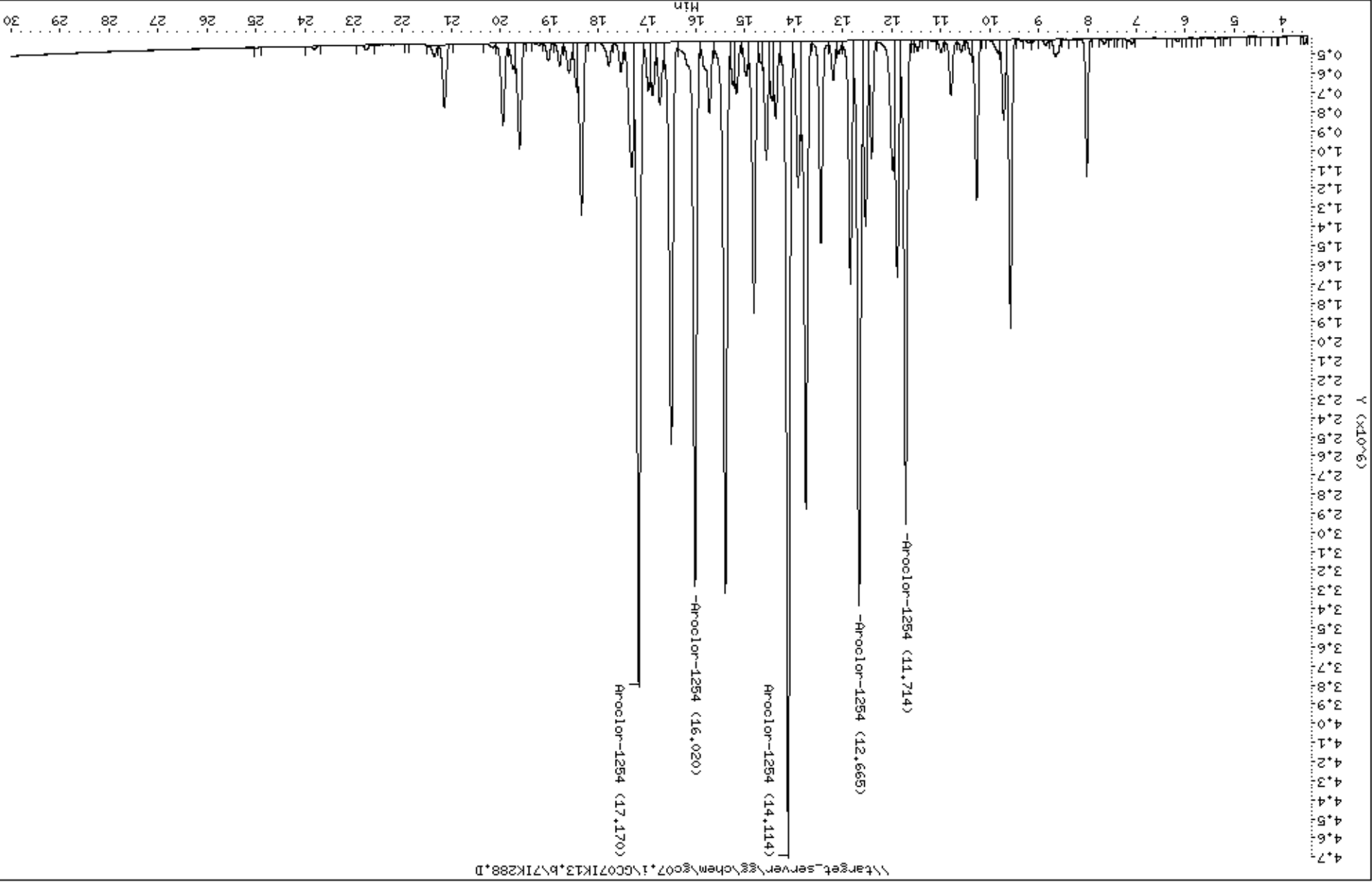
AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
====	=====	=====	=====	=====	=====	=====	=====	=====	
8 Aroclor-1254					CAS #: 11097-69-1				
11.713	11.687	0.026	2533682	1.00000	0.983	80.00- 120.00	100.00		
12.665	12.637	0.028	2953976	1.00000	0.978	80.00- 120.00	116.59		
14.113	14.079	0.034	4273971	1.00000	1.05	80.00- 120.00	168.69		
16.020	15.990	0.030	2850131	1.00000	1.06	80.00- 120.00	112.49		
17.170	17.137	0.033	3372696	1.00000	1.03	0.00- 0.00	133.11		
Average of Peak Amounts =					1.02020				



Data File: \\target\_server\chem\gc07\1\GC07IK13\B\7IK288.D  
Date : 13-NOV-2015 21:55  
Client ID:  
Sample Info: MCL74334-16  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

\\target\_server\chem\gc07\1\GC07IK13\B\7IK288.D



Data File: 7IK288.D  
 Report Date: 16-Nov-2015 11:12

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK288.D  
 Lab Smp Id: WG174334-16  
 Inj Date : 13-NOV-2015 21:55  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG174334-16  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
 Meth Date : 16-Nov-2015 08:55 aschuchart Quant Type: ESTD  
 Cal Date : 13-NOV-2015 21:55 Cal File: 7IK288.D  
 Als bottle: 17 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1254.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS								
RT	EXP RT	DLT RT	CAL-AMT RESPONSE (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
8 Aroclor-1254			CAS #: 11097-69-1					
12.945	12.914	0.031	3487337 1.00000	0.967	80.00- 120.00	100.00(M)	M5	
13.688	13.655	0.033	4404265 1.00000	0.989	80.00- 120.00	126.29		
15.468	15.437	0.031	6159553 1.00000	1.02	80.00- 120.00	176.63		
17.048	17.015	0.033	2738073 1.00000	0.768	80.00- 120.00	78.51		
18.505	18.475	0.030	4995960 1.00000	1.06	80.00- 120.00	143.26		
Average of Peak Amounts =				0.96080				

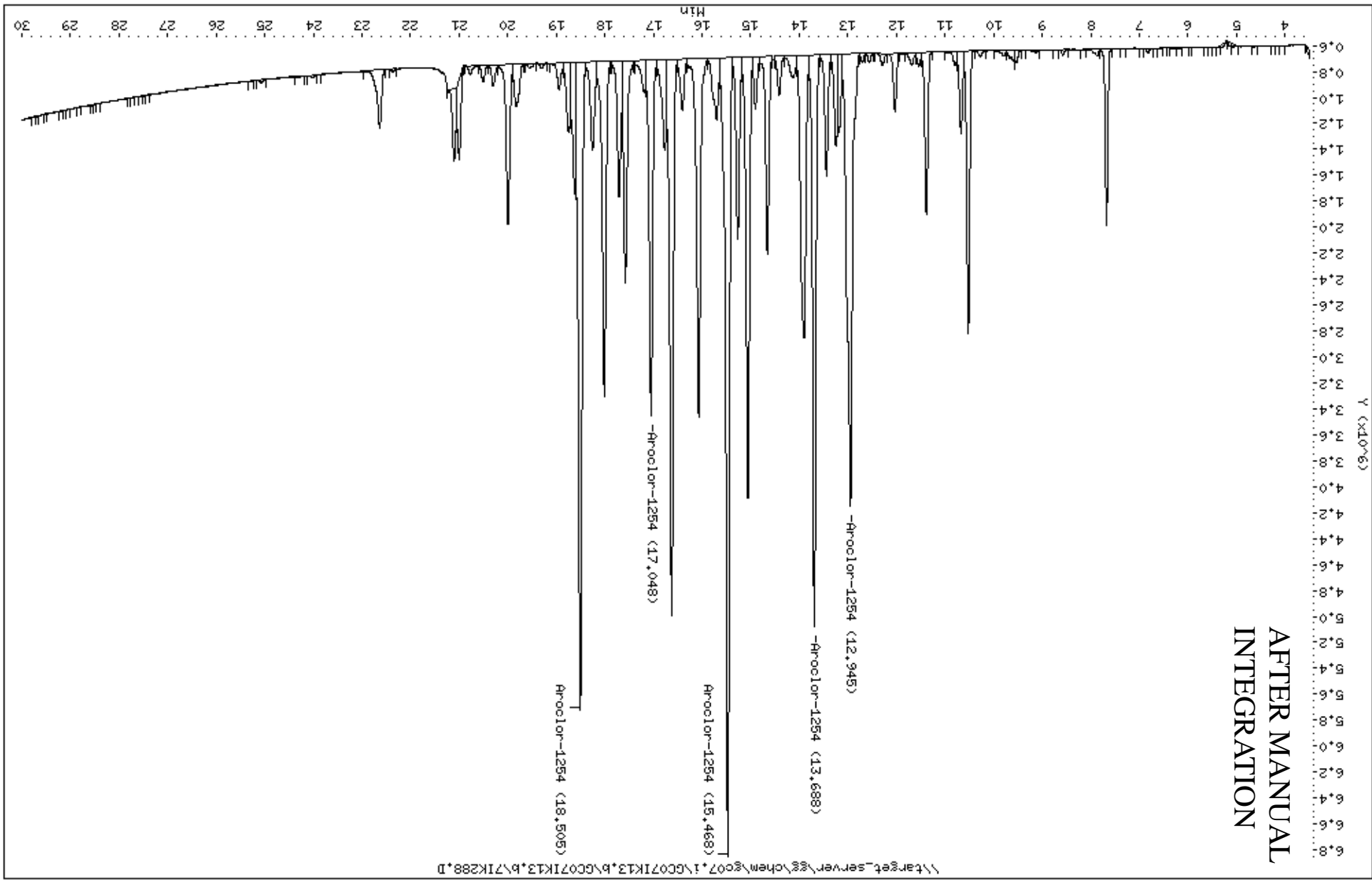
*AWS*  
 11:00 am, Nov 18, 2015

QC Flag Legend

M - Compound response manually integrated.



# AFTER MANUAL INTEGRATION



Data File:  $\backslash\text{target\_server}\backslash\text{chem}\backslash\text{gc07}\backslash\text{GC07IK13}\backslash\text{B}\backslash\text{GC07IK13}\backslash\text{B}\backslash\text{7IK288.D}$   
Date: 13-NOV-2015 21:55  
Client ID:  
Sample Info: MCL74334-16  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: AMS  
Column diameter: 0.53

Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK295.D  
 Report Date: 16-Nov-2015 11:11

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK295.D  
 Lab Smp Id: WG174334-23  
 Inj Date : 14-NOV-2015 01:57  
 Operator : AWS  
 Smp Info : WG174334-23  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 16-Nov-2015 08:53 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 03:41 Cal File: 7IK298.D  
 Als bottle: 24 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1221.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

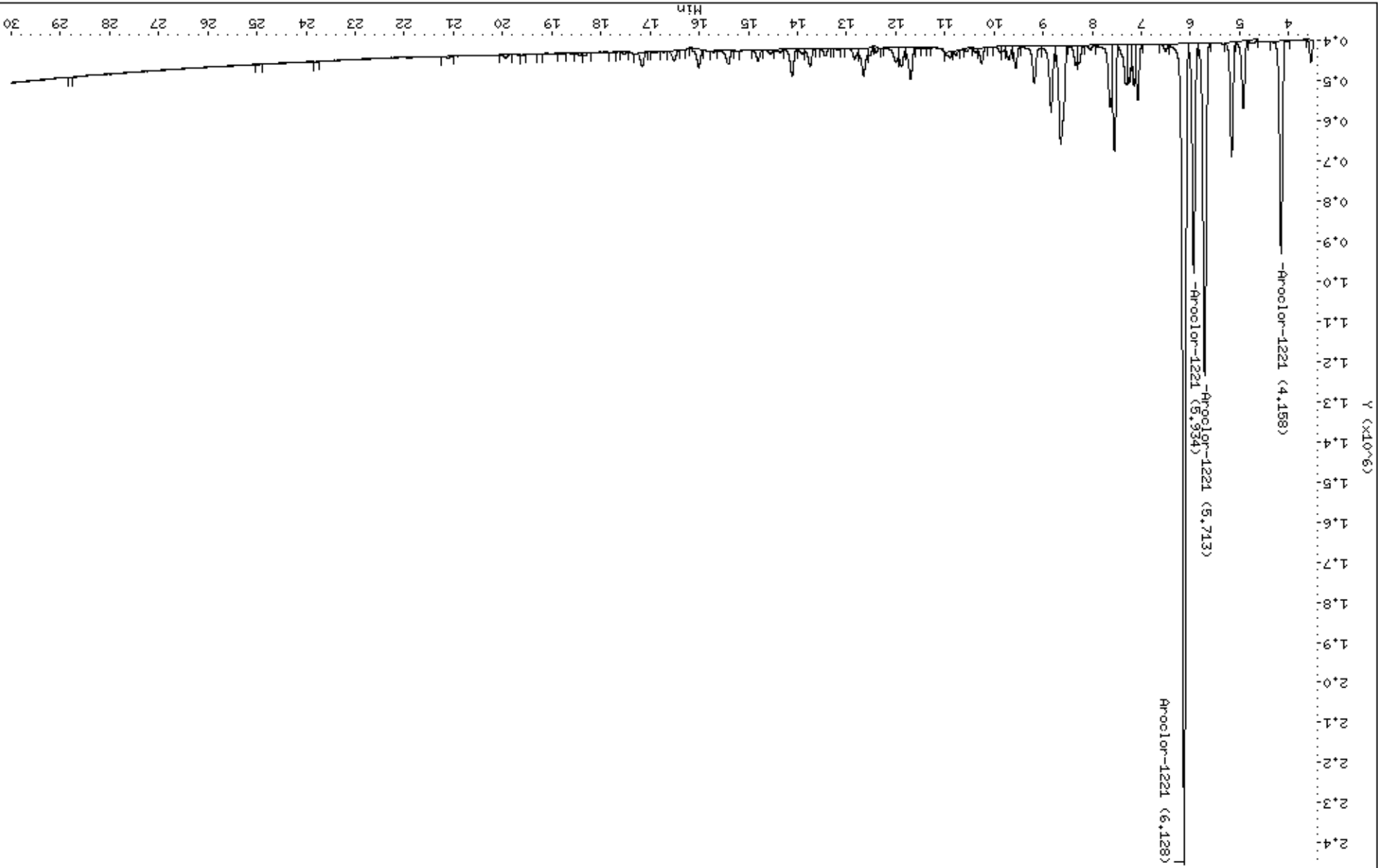
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT	ON-COL	TARGET RANGE	RATIO	REVIEW CODE	
====	=====	=====	=====	=====	=====	=====	=====	=====	=====
2 Aroclor-1221					CAS #: 11104-28-2				
4.157	4.157	0.000	530270	1.00000	1.00	0.00- 0.00	100.00		
5.712	5.712	0.000	829295	1.00000	1.00	0.00- 0.00	156.39		
5.934	5.934	0.000	573813	1.00000	1.00	0.00- 0.00	108.21		
6.127	6.127	0.000	2047574	1.00000	1.00	0.00- 0.00	386.14		
Average of Peak Amounts =					1.00000				

Data File: \\target\_server\chem\gc07\1\GC07IK13\B\7IK295.D  
Date : 14-NOV-2015 01:57  
Client ID:  
Sample Info: MCL74334-23  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

\\target\_server\chem\gc07\1\GC07IK13\B\7IK295.D



Data File: 7IK295.D  
 Report Date: 16-Nov-2015 11:12

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK295.D  
 Lab Smp Id: WG174334-23  
 Inj Date : 14-NOV-2015 01:57  
 Operator : AWS  
 Smp Info : WG174334-23  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
 Meth Date : 16-Nov-2015 08:55 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 03:41 Cal File: 7IK298.D  
 Als bottle: 24 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1221.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

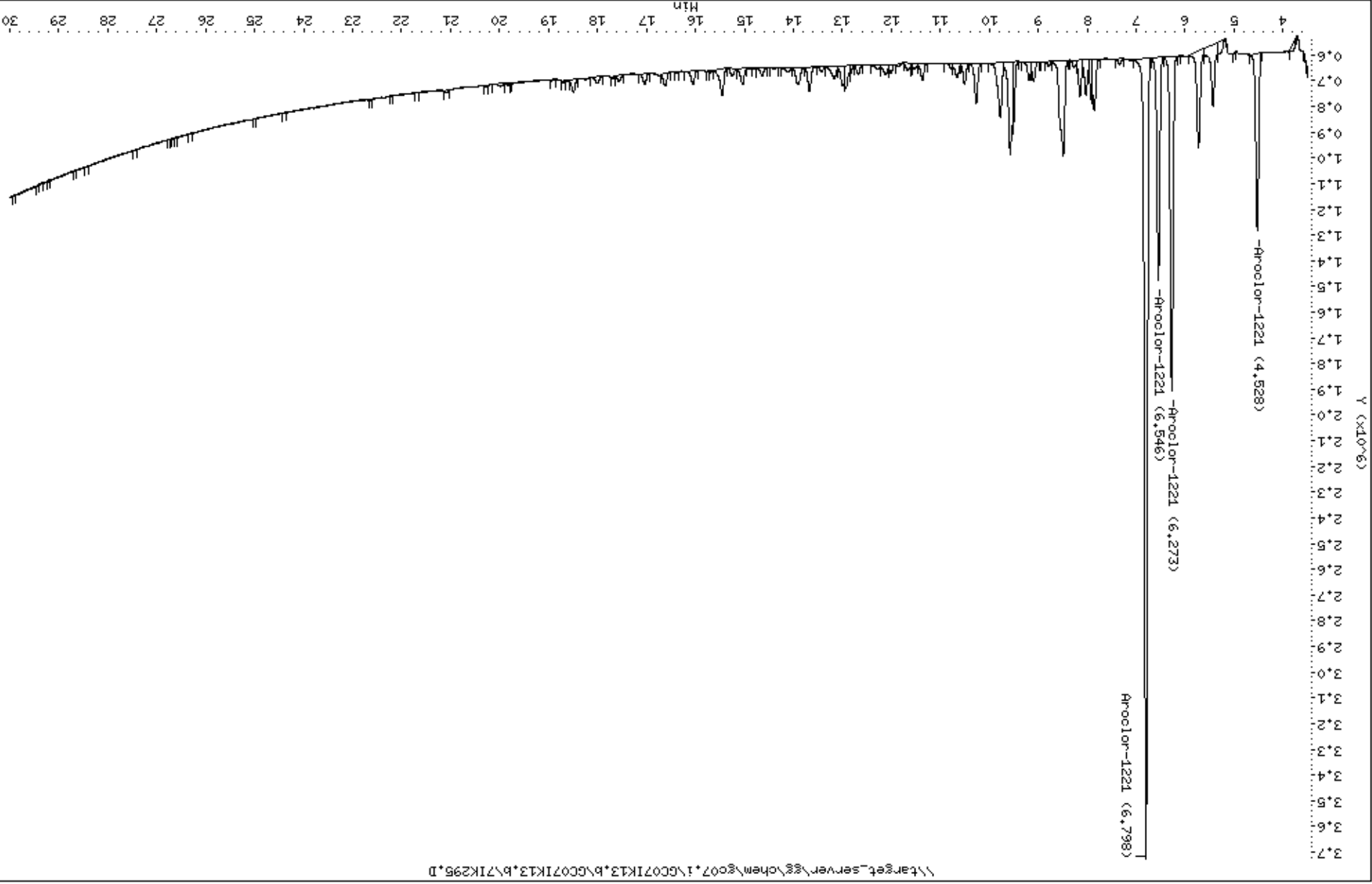
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT	ON-COL	TARGET	RANGE	RATIO	REVIEW CODE
=====	=====	=====	(ug/mL)	(ug/mL)		=====	=====	=====	=====
3 Aroclor-1221			CAS #: 11104-28-2						
4.527	4.527	0.000	689955	1.00000	1.00	0.00-	0.00	100.00	
6.272	6.272	0.000	1302585	1.00000	1.00	0.00-	0.00	188.79	
6.545	6.545	0.000	867154	1.00000	1.00	0.00-	0.00	125.68	
6.797	6.797	0.000	3112266	1.00000	1.00	0.00-	0.00	451.08	
Average of Peak Amounts =					1.00000				

Data File: \\target\_server\chem\gc07\1\GC07IK13\*6\GC07IK13\*6\7IK295.D  
Date : 14-NOV-2015 01:57  
Client ID:  
Sample Info: MCL74334-23  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: GC07.i  
Operator: RMS  
Column diameter: 0.53

\\target\_server\chem\gc07\1\GC07IK13\*6\GC07IK13\*6\7IK295.D





Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK296.D  
 Report Date: 16-Nov-2015 11:11

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK296.D  
 Lab Smp Id: WG174334-24  
 Inj Date : 14-NOV-2015 02:32  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG174334-24  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 16-Nov-2015 08:53 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 03:41 Cal File: 7IK298.D  
 Als bottle: 25 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1232.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

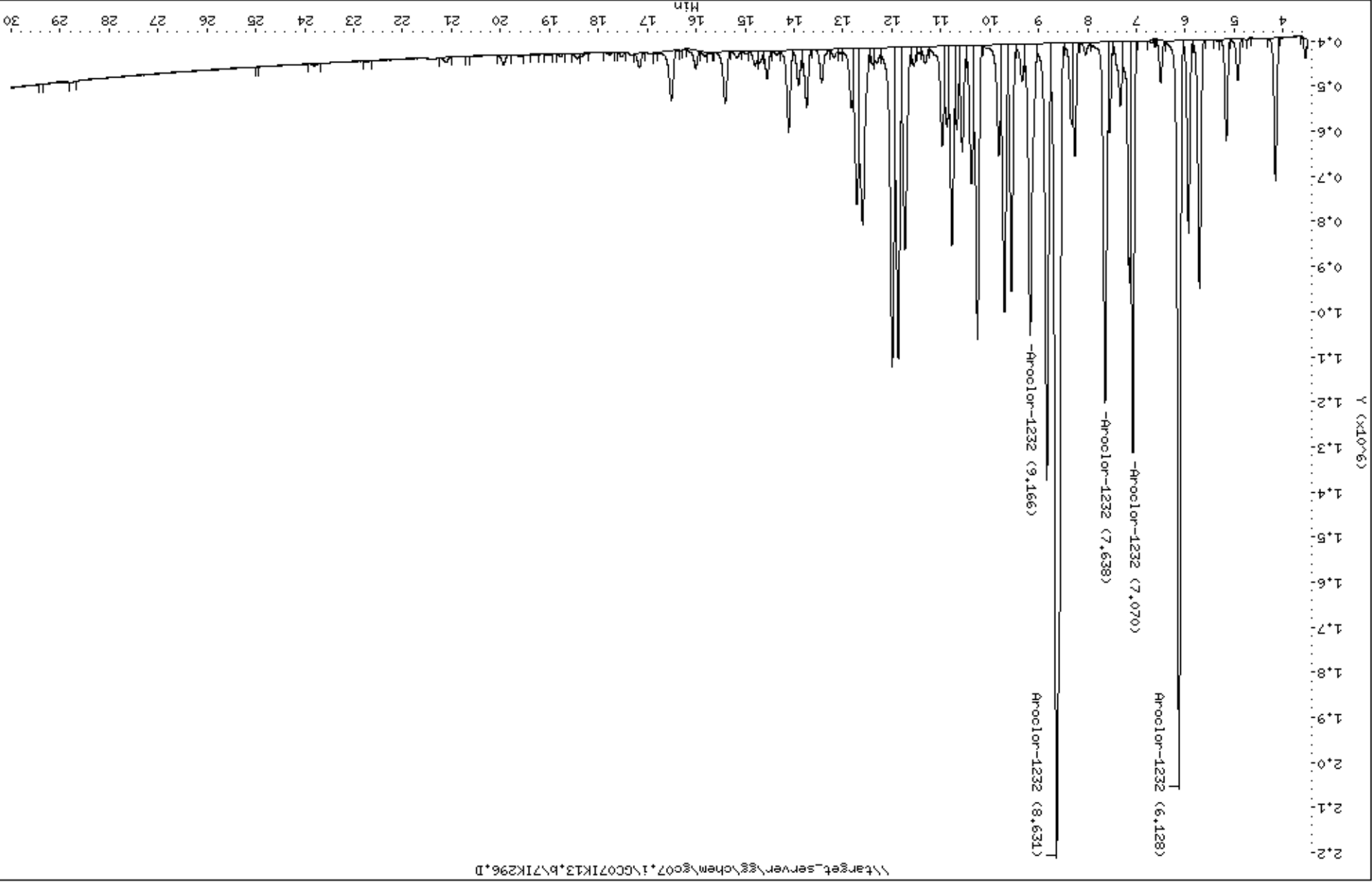
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT	ON-COL	TARGET RANGE	RATIO	REVIEW CODE	
====	=====	=====	=====	=====	=====	=====	=====	=====	=====
4 Aroclor-1232			CAS #: 11141-16-5						
6.127	6.127	0.000	1658660	1.00000	1.00	0.00- 0.00	100.00		
7.069	7.069	0.000	913520	1.00000	1.00	0.00- 0.00	55.08		
7.637	7.637	0.000	800340	1.00000	1.00	0.00- 0.00	48.25		
8.631	8.631	0.000	1807778	1.00000	1.00	0.00- 0.00	108.99		
9.166	9.166	0.000	646305	1.00000	1.00	0.00- 0.00	38.97		
Average of Peak Amounts =					1.00000				

Data File: \\target\_server\chem\gc07\1\GC07IK13.B\7IK296.D  
Date : 14-NOV-2015 02:32  
Client ID:  
Sample Info: MCL74334-24  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: AMS  
Column diameter: 0.53

\\target\_server\chem\gc07\1\GC07IK13.B\7IK296.D



Data File: 7IK296.D  
 Report Date: 16-Nov-2015 11:12

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK296.D  
 Lab Smp Id: WG174334-24  
 Inj Date : 14-NOV-2015 02:32  
 Operator : AWS  
 Smp Info : WG174334-24  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
 Meth Date : 16-Nov-2015 08:55 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 03:41 Cal File: 7IK298.D  
 Als bottle: 25 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1232.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

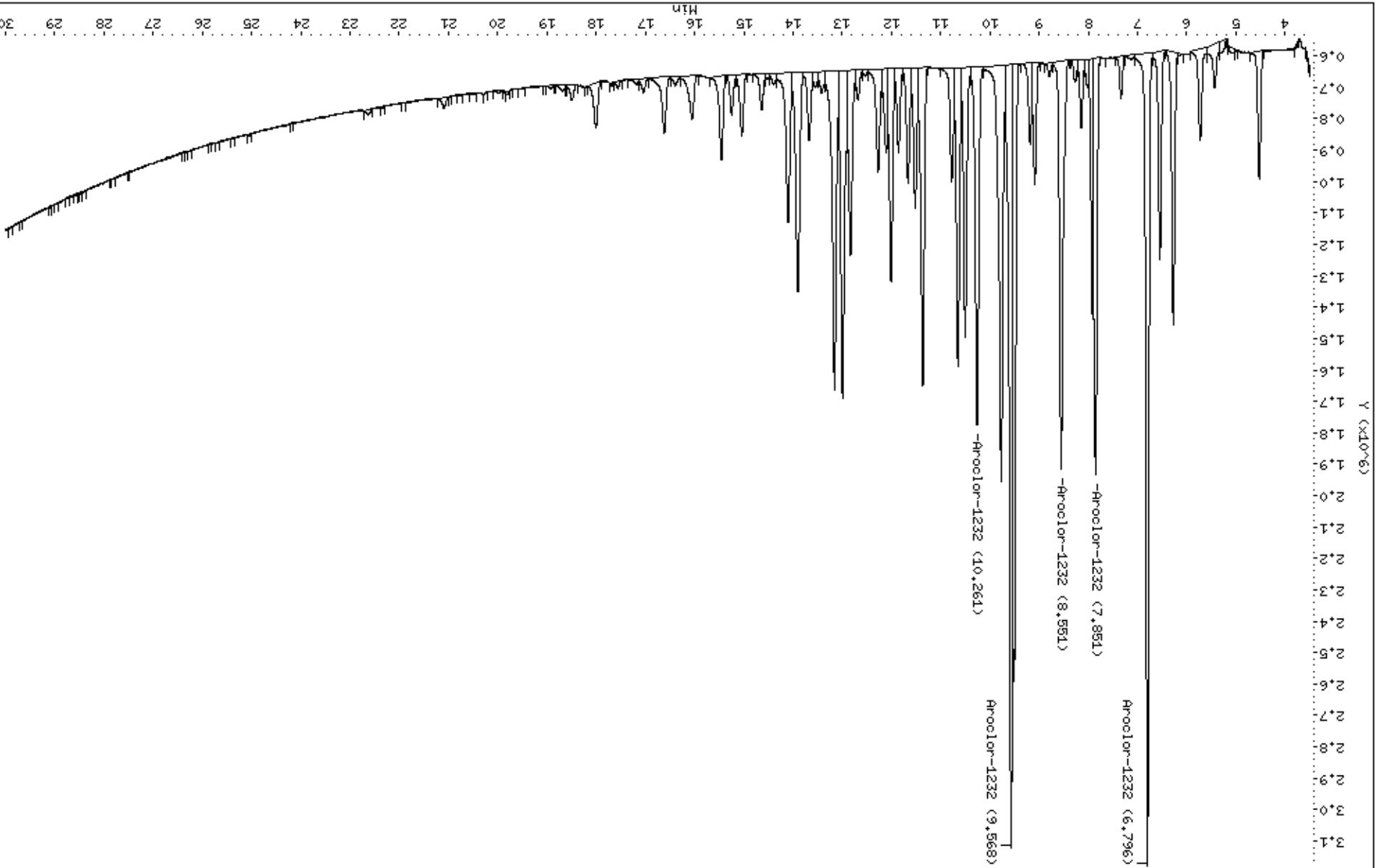
Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
4 Aroclor-1232									
CAS #: 11141-16-5									
6.796	6.796	0.000	2589080	1.00000	1.00	0.00- 0.00	100.00		
7.851	7.851	0.000	1325960	1.00000	1.00	0.00- 0.00	51.21		
8.551	8.551	0.000	1299422	1.00000	1.00	0.00- 0.00	50.19		
9.567	9.567	0.000	2493197	1.00000	1.00	0.00- 0.00	96.30		
10.261	10.261	0.000	1141320	1.00000	1.00	0.00- 0.00	44.08		
Average of Peak Amounts =					1.00000				

Data File: \\target\_server\chem\gc07\1\GC07IK13\B\GC07IK13\B\7IK296.D  
Date : 14-NOV-2015 02:32  
Client ID:  
Sample Info: MCL74334-24  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

\\target\_server\chem\gc07\1\GC07IK13\B\GC07IK13\B\7IK296.D



Data File: \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK297.D  
 Report Date: 16-Nov-2015 11:11

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\7IK297.D  
 Lab Smp Id: WG174334-25  
 Inj Date : 14-NOV-2015 03:06  
 Operator : AWS  
 Smp Info : WG174334-25  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m  
 Meth Date : 16-Nov-2015 08:53 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 03:41 Cal File: 7IK298.D  
 Als bottle: 26 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1248.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
7 Aroclor-1248			CAS #: 12672-29-6						
8.631	8.631	0.000	2314879	1.00000	1.00	0.00- 0.00	100.00		
9.551	9.551	0.000	2142905	1.00000	1.00	0.00- 0.00	92.57		
10.244	10.244	0.000	2496474	1.00000	1.00	0.00- 0.00	107.84		
12.587	12.587	0.000	1487841	1.00000	1.00	0.00- 0.00	64.27		
14.101	14.101	0.000	1395952	1.00000	1.00	0.00- 0.00	60.30		
Average of Peak Amounts =					1.00000				

Data File: \\target\_server\chem\gc07\1\GC07IK13\B\7IK297.D

Date : 14-NOV-2015 03:06

Client ID:

Sample Info: MCL74334-25

Purge Volume: 1.0

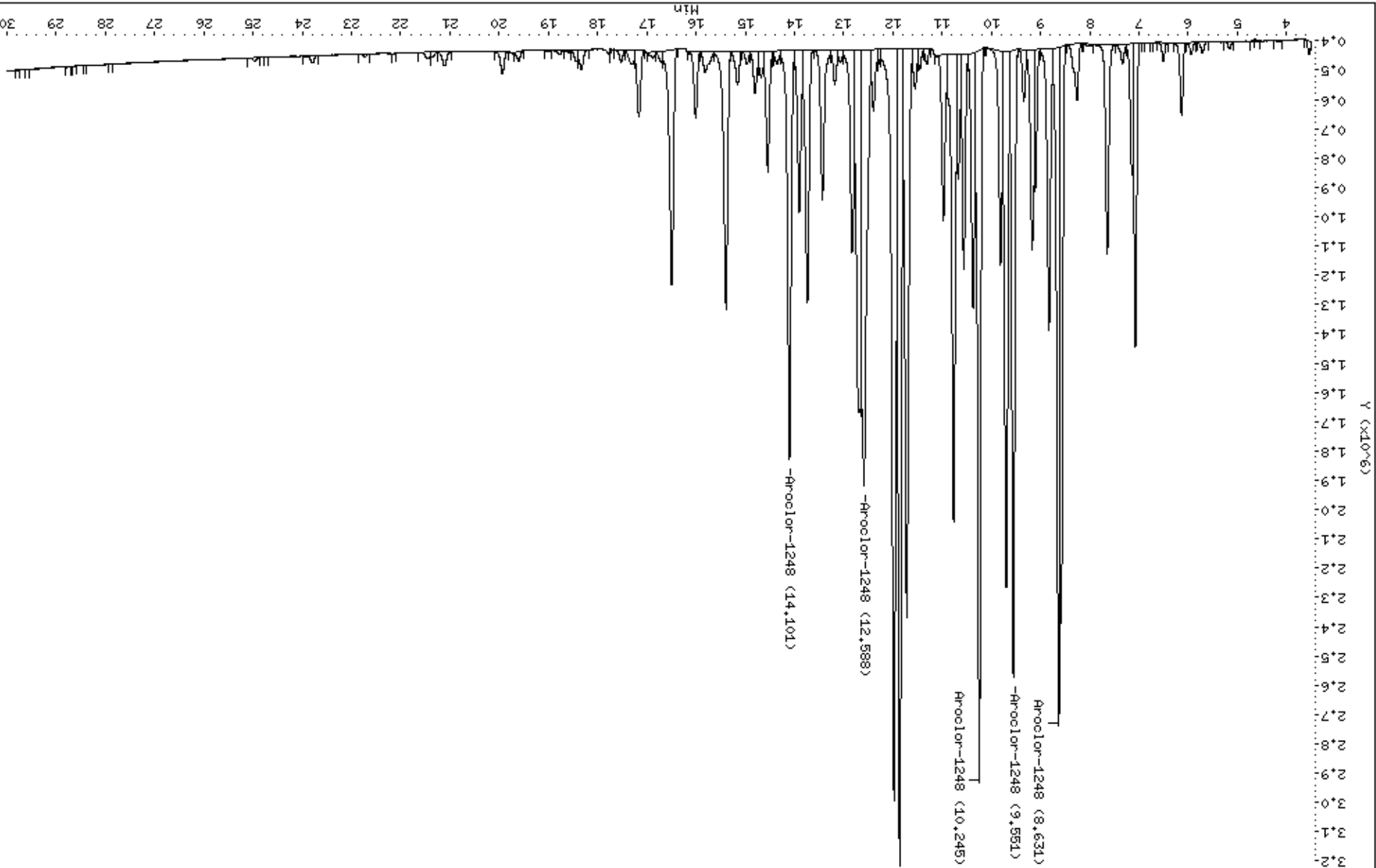
Column phase: ZB-MultiResidue-1

Instrument: gc07.i

Operator: RMS

Column diameter: 0.53

\\target\_server\chem\gc07\1\GC07IK13\B\7IK297.D



Data File: 7IK297.D  
 Report Date: 16-Nov-2015 11:12

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IK13.b\GC07IK13.b\7IK297.D  
 Lab Smp Id: WG174334-25  
 Inj Date : 14-NOV-2015 03:06  
 Operator : AWS  
 Smp Info : WG174334-25  
 Misc Info :  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IK13.b\PCB096.m\PCB096.m  
 Meth Date : 16-Nov-2015 08:55 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 03:41 Cal File: 7IK298.D  
 Als bottle: 26 Calibration Sample, Level: 4  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1248.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

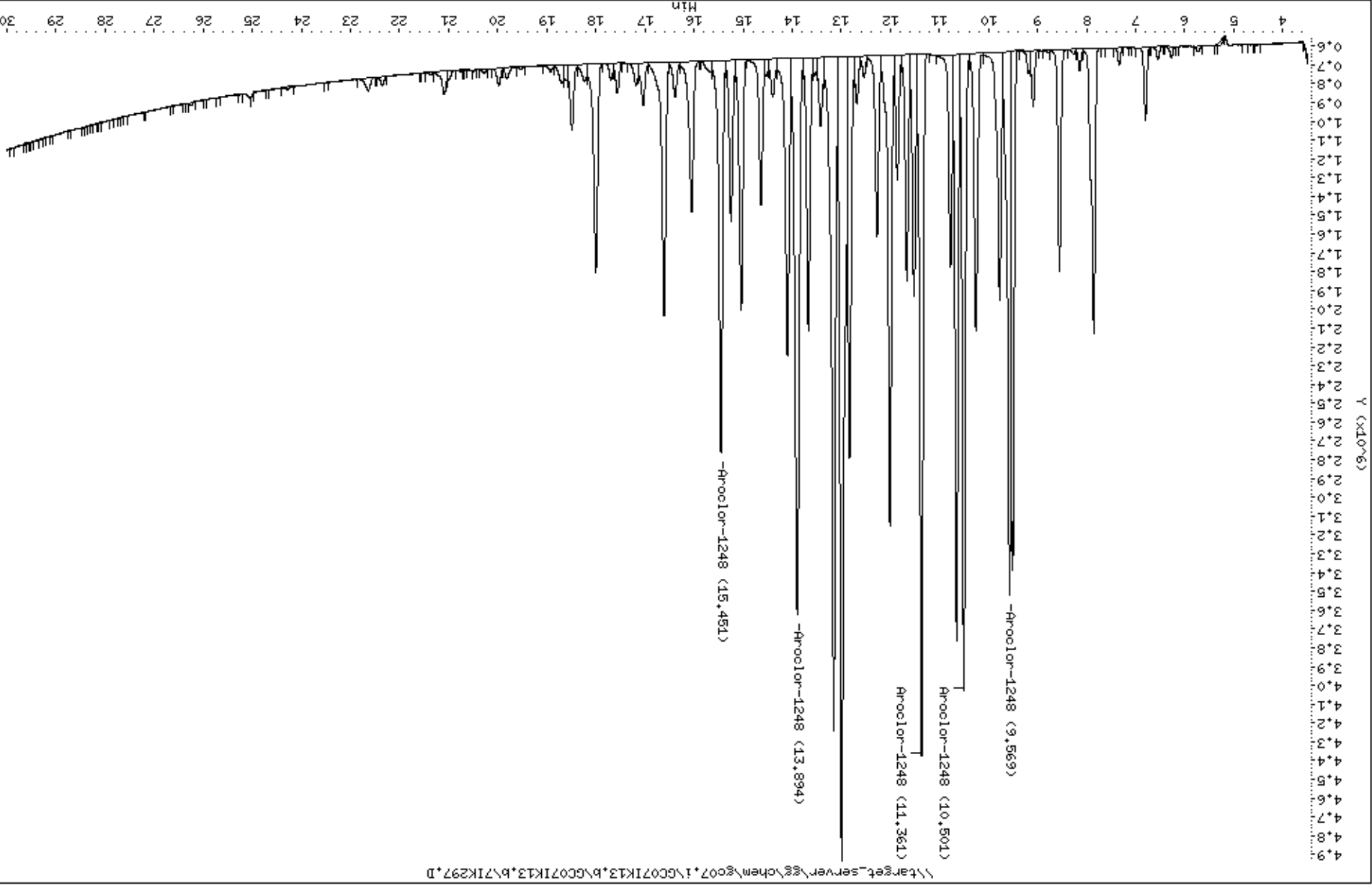
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
7 Aroclor-1248			CAS #: 12672-29-6						
9.569	9.569	0.000	2889647	1.00000	1.00	0.00- 0.00	100.00		
10.501	10.501	0.000	3386555	1.00000	1.00	0.00- 0.00	117.20		
11.361	11.361	0.000	3733534	1.00000	1.00	0.00- 0.00	129.20		
13.894	13.894	0.000	2959003	1.00000	1.00	0.00- 0.00	102.40		
15.451	15.451	0.000	2085414	1.00000	1.00	0.00- 0.00	72.17		
Average of Peak Amounts =					1.00000				

Data File: \\target\_server\chem\gc07\1\GC07IK13\B\GC07IK13\B\7IK297.D  
Date : 14-NOV-2015 03:06  
Client ID:  
Sample Info: MCL74334-25  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53





## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services  
**Project :** New Bedford Harbor Superfund  
**Lab ID :** WG175876-1  
**Lab File ID :** 7IL101.D  
**Initial Calibration Date(s):** 11/13/15 13:04 11/14/15 04:16

**SDG:** SI9749  
**Analytical Date:** 12/10/15 09:09  
**Instrument ID:** GC07  
**Column ID:** A

Compound	RRF/Amount	RF1	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
6 Aroclor-1016(4)	1374185	1636743	0.001	19.10646	20.00000	Averaged
6 Aroclor-1016(5)	1538166	1736654	0.001	12.90423	20.00000	Averaged
6 Aroclor-1016(2)	1596770	1449383	0.001	-9.23032	20.00000	Averaged
6 Aroclor-1016(1)	1881354	1644675	0.001	-12.58024	20.00000	Averaged
6 Aroclor-1016(3)	3810138	4293177	0.001	12.67773	20.00000	Averaged
9 Aroclor-1260(5)	1777280	1908307	0.001	7.37233	20.00000	Averaged
9 Aroclor-1260(4)	2761124	2947069	0.001	6.73441	20.00000	Averaged
9 Aroclor-1260(1)	3179245	3299647	0.001	3.78714	20.00000	Averaged
9 Aroclor-1260(3)	3923167	4481473	0.001	14.23101	20.00000	Averaged
9 Aroclor-1260(2)	4778978	5283674	0.001	10.56076	20.00000	Averaged
3 Tetrachloro-m-xylene	83676684	84395150	0.001	0.85862	20.00000	Averaged
12 Decachlorobiphenyl	60211480	58950950	0.001	-2.09350	20.00000	Averaged

\* = Compound out of QC criteria

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL101.D  
 Lab Smp Id: WG175876-1  
 Inj Date : 10-DEC-2015 09:09  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175876-1,SI9749  
 Misc Info : WG175876,WG175876,WG174334,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
 Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 76 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 3	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.133	5.118	0.015	1687903	0.02000	0.0202		(M)	M5	
-----									
6	Aroclor-1016					CAS #: 12674-11-2			
7.045	7.023	0.022	1644675	1.00000	0.874	80.00- 120.00	100.00(M)	M5	
7.615	7.590	0.025	1449383	1.00000	0.908	158.77- 238.15	88.13		
8.595	8.572	0.023	4293177	1.00000	1.13	296.98- 445.46	261.03		
9.128	9.107	0.021	1636743	1.00000	1.19	114.78- 172.16	99.52		
10.213	10.190	0.023	1736654	1.00000	1.13	112.32- 168.48	105.59		
Average of Peak Amounts =			1.04640						
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
14.761	14.735	0.026	3299647	1.00000	1.04	80.00- 120.00	100.00		
15.966	15.933	0.033	5283674	1.00000	1.10	94.69- 142.03	160.13		
17.105	17.075	0.030	4481473	1.00000	1.14	89.28- 133.92	135.82		
18.393	18.363	0.030	2947069	1.00000	1.07	72.48- 108.72	89.31		
23.730	23.713	0.017	1908307	1.00000	1.07	0.00- 0.00	57.83		
Average of Peak Amounts =			1.08400						
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
25.728	25.708	0.020	1179019	0.02000	0.0196				
-----									

AWS

2:30 pm, Dec 14, 2015

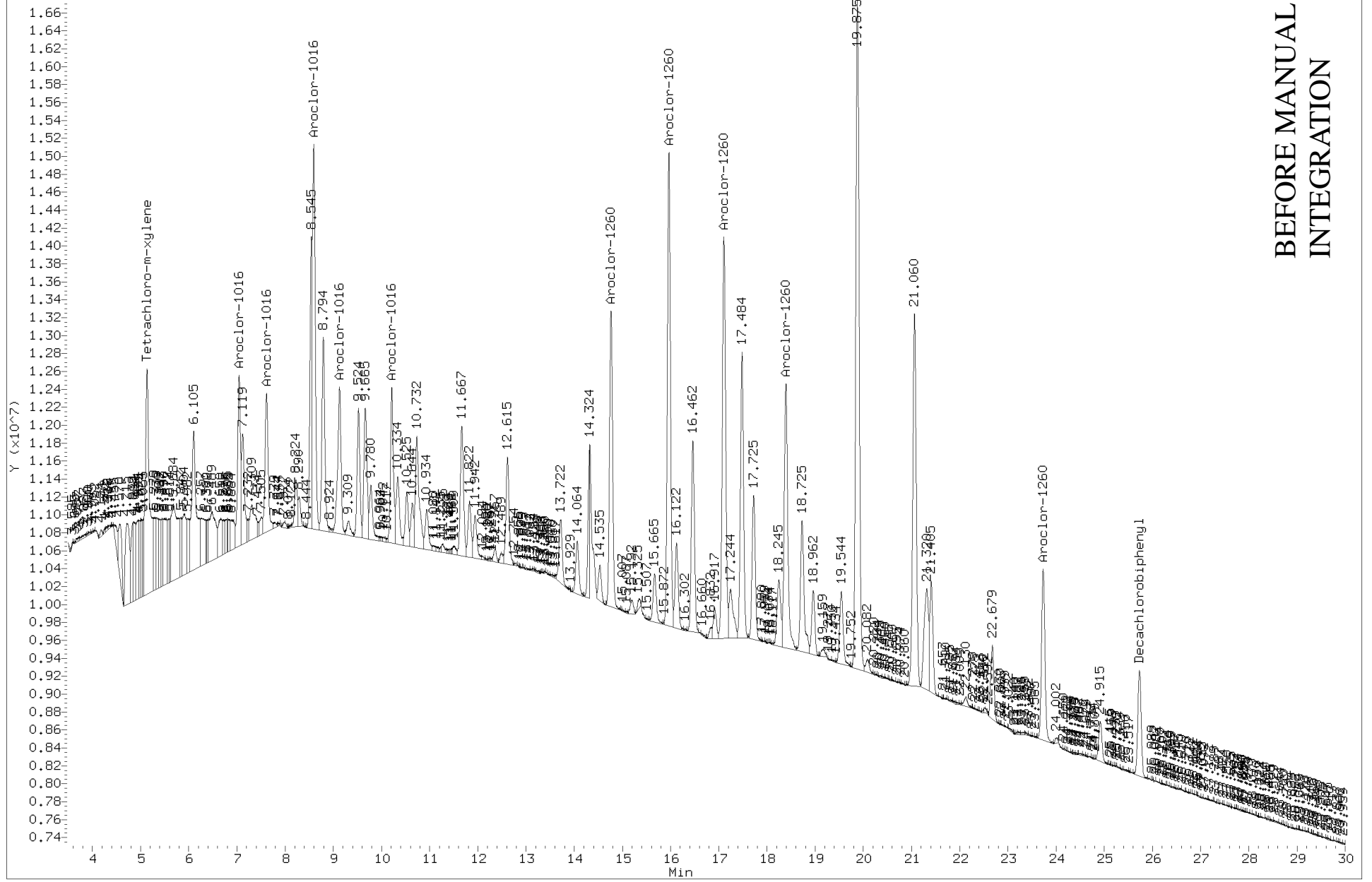
Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL101.D  
Report Date: 11-Dec-2015 09:37

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL101.D  
Injection Date: 10-DEC-2015 09:09  
Instrument: gc07.i  
Client Sample ID:

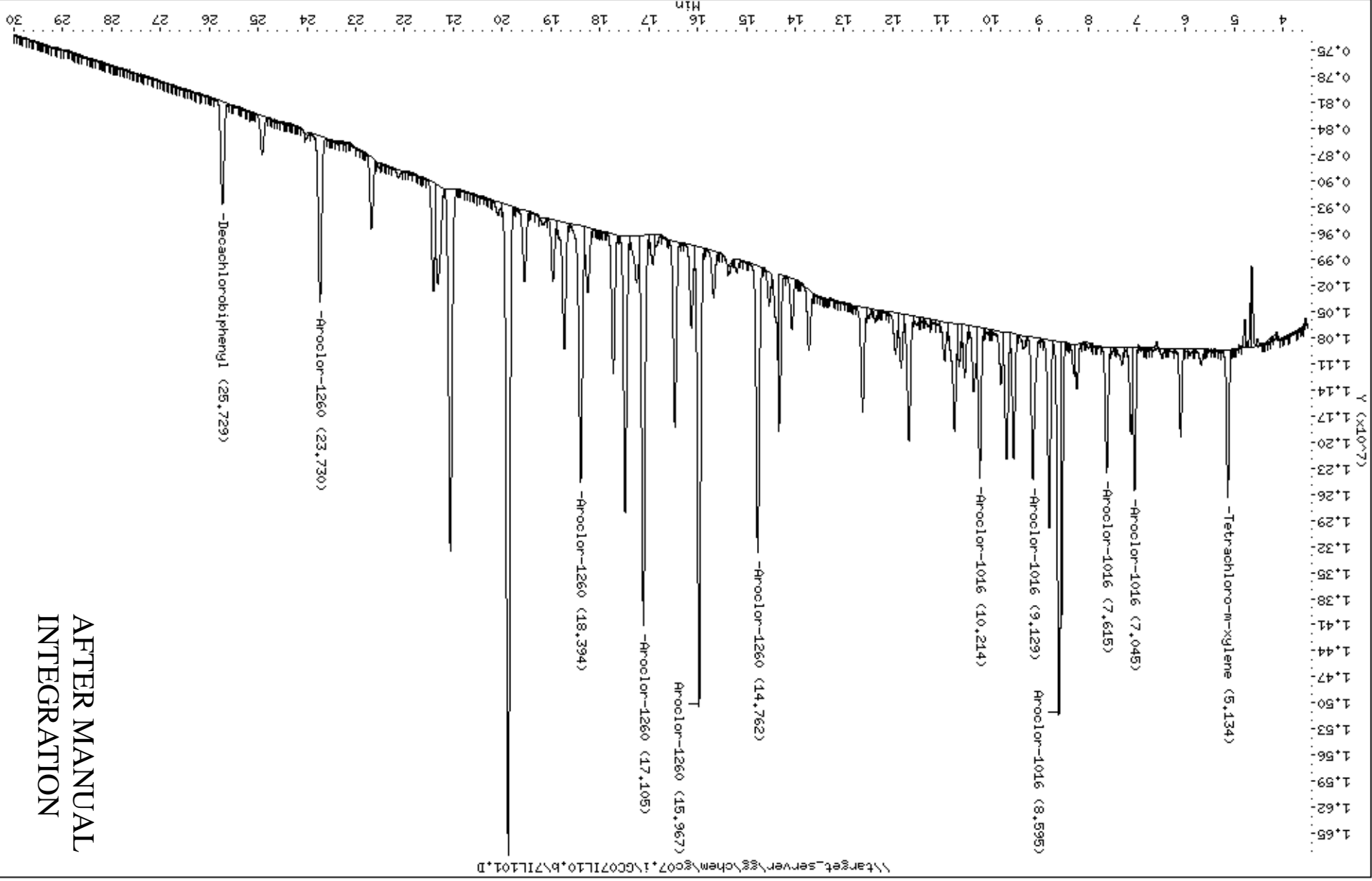
HP6890 GC Data, ECD1A.CH: 3.500 to 29.999 Min



BEFORE MANUAL  
INTEGRATION

Data File: \\target\_server\chem\gc07\1\GC071110.B\711101.D  
Date: 10-DEC-2015 09:09  
Client ID:  
Sample Info: M0175876-1,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53



AFTER MANUAL  
INTEGRATION

## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services

**Project :** New Bedford Harbor Superfund

**Lab ID :** WG175876-1

**Lab File ID :** 7IL101.D

**Initial Calibration Date(s):** 11/13/15 13:04 11/14/15 04:16

**SDG:** SI9749

**Analytical Date:** 12/10/15 09:09

**Instrument ID:** GC07

**Column ID:** B

Compound	RRF/Amount	RF1	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
5 Aroclor-1016(5)	2319357	2266670	0.001	-2.27164	20.00000	Averaged
5 Aroclor-1016(4)	2373023	2431116	0.001	2.44807	20.00000	Averaged
5 Aroclor-1016(2)	2587293	2180755	0.001	-15.71286	20.00000	Averaged
5 Aroclor-1016(1)	2697462	2103823	0.001	-22.00733	20.00000	Averaged <-
5 Aroclor-1016(3)	5073689	5427539	0.001	6.97422	20.00000	Averaged
9 Aroclor-1260(5)	2331149	2500423	0.001	7.26140	20.00000	Averaged
9 Aroclor-1260(4)	3997982	4055410	0.001	1.43642	20.00000	Averaged
9 Aroclor-1260(1)	4559773	4487548	0.001	-1.58396	20.00000	Averaged
9 Aroclor-1260(3)	5441143	5750565	0.001	5.68671	20.00000	Averaged
9 Aroclor-1260(2)	5857961	6137668	0.001	4.77481	20.00000	Averaged
2 Tetrachloro-m-xylene	126334858	149414950	0.001	18.26898	20.00000	Averaged
12 Decachlorobiphenyl	69681307	70502600	0.001	1.17864	20.00000	Averaged

\* = Compound out of QC criteria

Data File: 7IL101.D  
 Report Date: 11-Dec-2015 09:39

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL101.D  
 Lab Smp Id: WG175876-1  
 Inj Date : 10-DEC-2015 09:09  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175876-1,SI9749  
 Misc Info : WG175876,WG175876,WG174334,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 76 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 2	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.573	5.573	0.000	2988299	0.02000	0.0236		(M)	M5	
-----									
5	Aroclor-1016					CAS #: 12674-11-2			
7.791	7.788	0.003	2103823	1.00000	0.780	80.00- 120.00	100.00(M)	M5	
8.486	8.490	-0.004	2180755	1.00000	0.843	158.77- 238.15	103.66		
9.501	9.498	0.003	5427539	1.00000	1.07	296.98- 445.46	257.98		
10.190	10.187	0.003	2431116	1.00000	1.02	114.78- 172.17	115.56		
11.291	11.287	0.004	2266670	1.00000	0.977	112.32- 168.48	107.74		
Average of Peak Amounts =					0.93800				
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
15.975	15.963	0.012	4487548	1.00000	0.984	80.00- 120.00	100.00		
16.953	16.938	0.015	6137668	1.00000	1.05	94.69- 142.03	136.77		
18.408	18.393	0.015	5750565	1.00000	1.06	89.28- 133.92	128.14		
19.738	19.720	0.018	4055410	1.00000	1.01	72.48- 108.72	90.37		
24.958	24.947	0.011	2500423	1.00000	1.07	0.00- 0.00	55.72		
Average of Peak Amounts =					1.03480				
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
27.076	27.065	0.011	1410052	0.02000	0.0202		(M)	M5	
-----									

AWS

2:31 pm, Dec 14, 2015

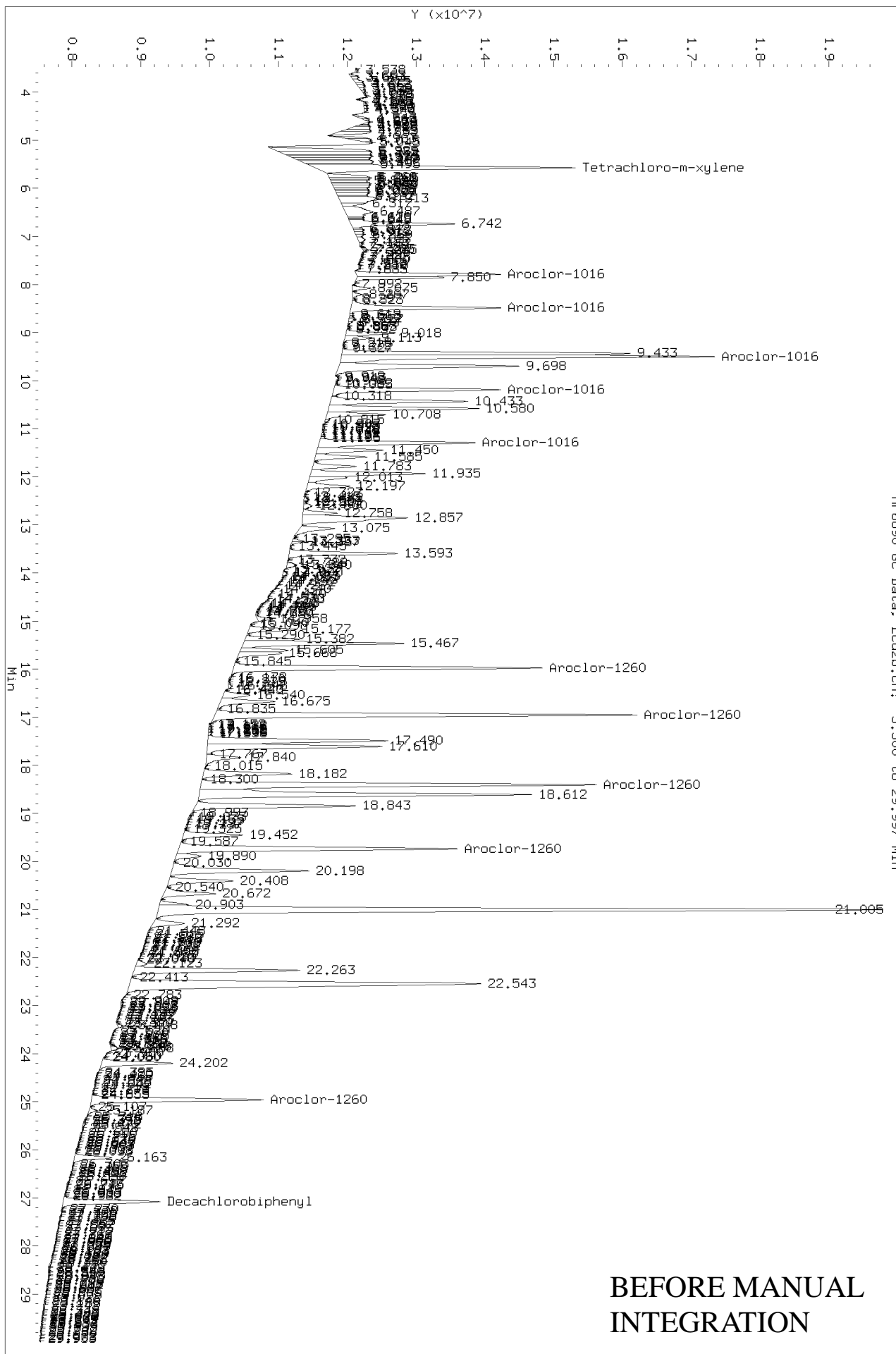
Data File: 7IL101.D  
Report Date: 11-Dec-2015 09:39

QC Flag Legend

M - Compound response manually integrated.



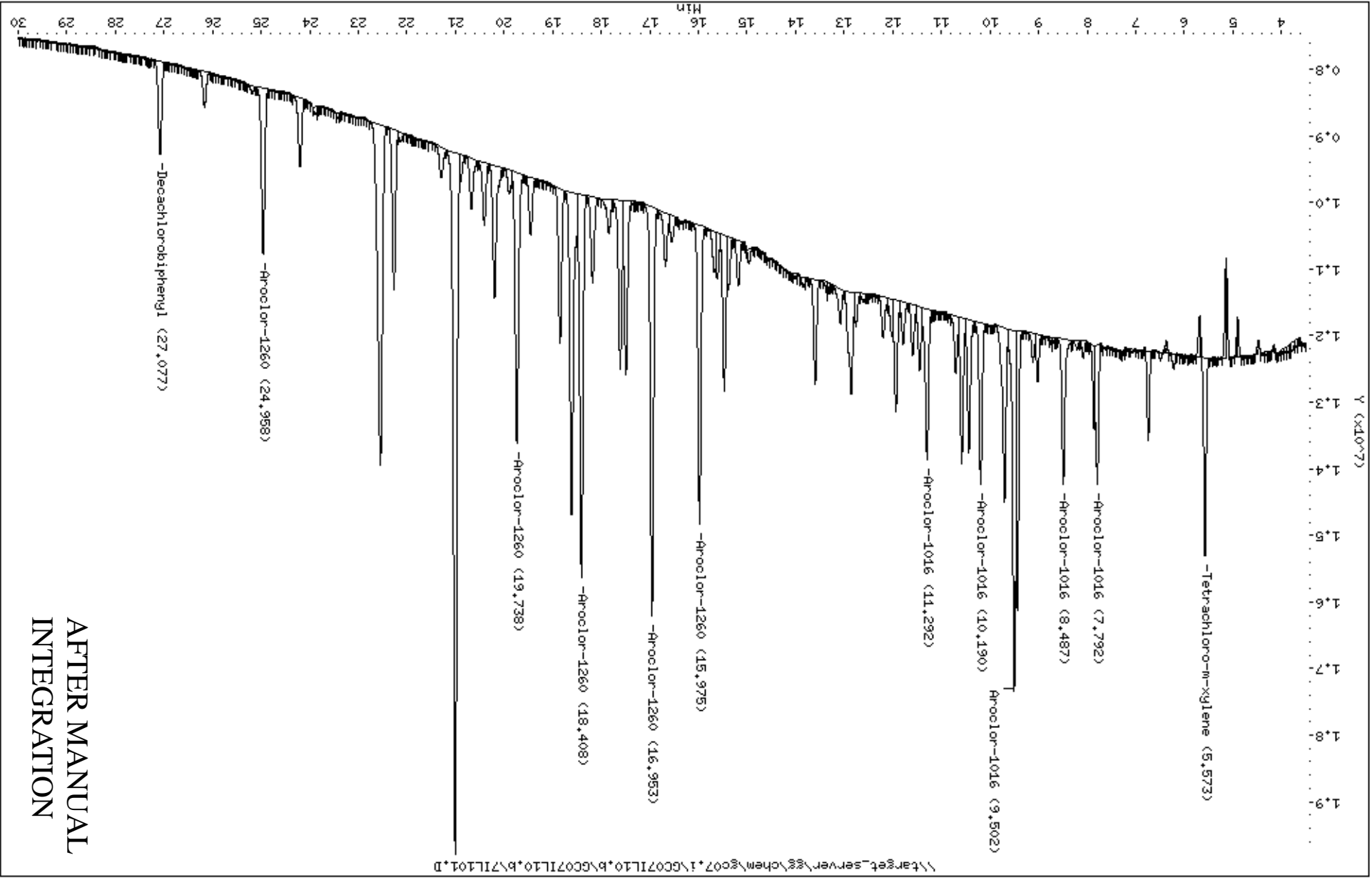
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Injection Date: 10-DEC-2015 09:09  
Instrument: gc07.1  
Client Sample ID:



BEFORE MANUAL  
INTEGRATION

Data File: \\target\_server\eg\chem\gc07.1\GC071L10.B\GC071L10.B\71L101.D  
Date : 10-DEC-2015 09:09  
Client ID:  
Sample Info: M0175876-1,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



AFTER MANUAL  
INTEGRATION

## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services

**Project :** New Bedford Harbor Superfund

**Lab ID :** WG175876-2

**Lab File ID :** 7IL116.D

**Initial Calibration Date(s):** 11/13/15 13:04 11/14/15 04:16

**SDG:** SI9749

**Analytical Date:** 12/10/15 23:54

**Instrument ID:** GC07

**Column ID:** A

Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
6 Aroclor-1016(4)	1374185	1582204	0.001	15.13764	20.00000	Averaged
6 Aroclor-1016(5)	1538166	1648984	0.001	7.20459	20.00000	Averaged
6 Aroclor-1016(2)	1596770	1397860	0.001	-12.45702	20.00000	Averaged
6 Aroclor-1016(1)	1881354	1647060	0.001	-12.45347	20.00000	Averaged
6 Aroclor-1016(3)	3810138	4237528	0.001	11.21718	20.00000	Averaged
9 Aroclor-1260(5)	1777280	2032780	0.001	14.37590	20.00000	Averaged
9 Aroclor-1260(4)	2761124	3179912	0.001	15.16732	20.00000	Averaged
9 Aroclor-1260(1)	3179245	3453728	0.001	8.63360	20.00000	Averaged
9 Aroclor-1260(3)	3923167	4320860	0.001	10.13704	20.00000	Averaged
9 Aroclor-1260(2)	4778978	5337868	0.001	11.69477	20.00000	Averaged
3 Tetrachloro-m-xylene	83676684	80490200	0.001	-3.80809	20.00000	Averaged
12 Decachlorobiphenyl	60211480	66537200	0.001	10.50584	20.00000	Averaged

\* = Compound out of QC criteria

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL116.D  
 Lab Smp Id: WG175876-2  
 Inj Date : 10-DEC-2015 23:54  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175876-2,SI9749  
 Misc Info : WG175876,WG175876,WG174334,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
 Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 18 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	CAL-AMT		ON-COL	TARGET RANGE	RATIO	REVIEW CODE	
====	=====	=====	RESPONSE	(ug/mL)	(ug/mL)	=====	=====	=====	=====
\$ 3 Tetrachloro-m-xylene CAS #: 877-09-8									
5.125	5.118	0.007	402451	0.02000	0.00481		(M)	M5	
-----									
6 Aroclor-1016 CAS #: 12674-11-2									
7.032	7.023	0.009	411765	1.00000	0.219	80.00- 120.00	100.00(M)	M5	
7.594	7.590	0.004	349465	1.00000	0.219	158.77- 238.15	84.87		
8.582	8.572	0.010	1059382	1.00000	0.278	296.98- 445.46	257.28		
9.120	9.107	0.013	395551	1.00000	0.288	114.78- 172.16	96.06		
10.199	10.190	0.009	412246	1.00000	0.268	112.32- 168.48	100.12		
Average of Peak Amounts =			0.25440						
-----									
9 Aroclor-1260 CAS #: 11096-82-5									
14.740	14.735	0.005	863432	1.00000	0.272	80.00- 120.00	100.00		
15.937	15.933	0.004	1334467	1.00000	0.279	94.69- 142.03	154.55		
17.085	17.075	0.010	1080215	1.00000	0.275	89.28- 133.92	125.11		
18.367	18.363	0.004	794978	1.00000	0.288	72.48- 108.72	92.07		
23.709	23.713	-0.004	508195	1.00000	0.286	0.00- 0.00	58.86		
Average of Peak Amounts =			0.28000						
-----									
\$ 12 Decachlorobiphenyl CAS #: 2051-24-3									
25.700	25.708	-0.008	332686	0.02000	0.00552				
-----									

AWS

2:28 pm, Dec 14, 2015

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL116.D  
Report Date: 11-Dec-2015 09:38

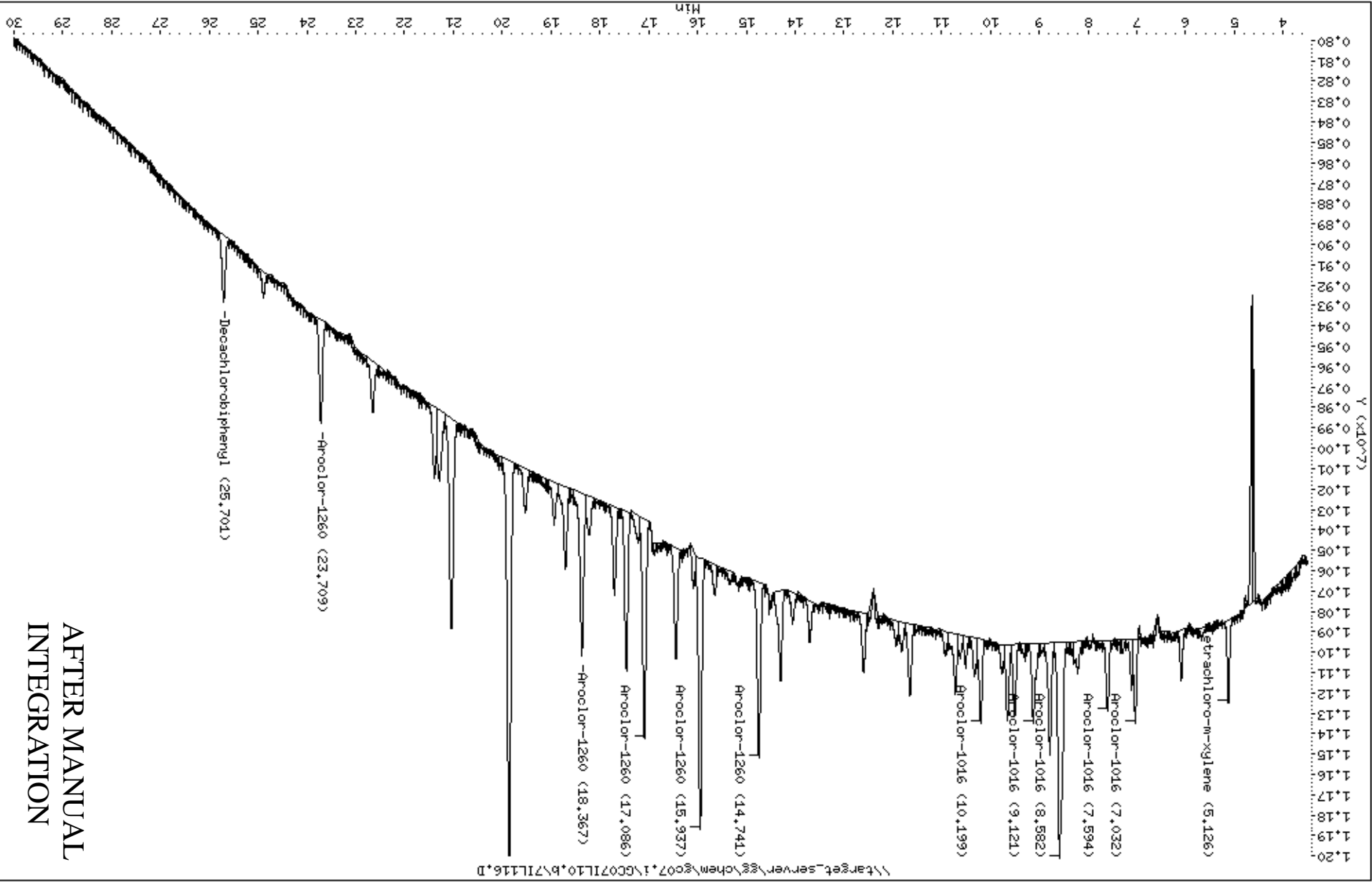
QC Flag Legend

M - Compound response manually integrated.



Data File: \\target\_server\chem\gc07.1\GC071L10.B\71L116.D  
Date : 10-DEC-2015 23:54  
Client ID:  
Sample Info: M0175876-2,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



AFTER MANUAL  
INTEGRATION

## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services

**Project :** New Bedford Harbor Superfund

**Lab ID :** WG175876-2

**Lab File ID :** 7IL116.D

**Initial Calibration Date(s):** 11/13/15 13:04 11/14/15 04:16

**SDG:** SI9749

**Analytical Date:** 12/10/15 23:54

**Instrument ID:** GC07

**Column ID:** B

Compound	RRF/Amount	RF0.250	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
5 Aroclor-1016(5)	2319357	2230220	0.001	-3.84320	20.00000	Averaged
5 Aroclor-1016(4)	2373023	2372876	0.001	-0.00618	20.00000	Averaged
5 Aroclor-1016(2)	2587293	2231728	0.001	-13.74273	20.00000	Averaged
5 Aroclor-1016(1)	2697462	2337472	0.001	-13.34552	20.00000	Averaged
5 Aroclor-1016(3)	5073689	4792404	0.001	-5.54399	20.00000	Averaged
9 Aroclor-1260(5)	2331149	2510060	0.001	7.67480	20.00000	Averaged
9 Aroclor-1260(4)	3997982	3904504	0.001	-2.33813	20.00000	Averaged
9 Aroclor-1260(1)	4559773	4660768	0.001	2.21492	20.00000	Averaged
9 Aroclor-1260(3)	5441143	5349180	0.001	-1.69014	20.00000	Averaged
9 Aroclor-1260(2)	5857961	5981344	0.001	2.10624	20.00000	Averaged
2 Tetrachloro-m-xylene	126334858	142327800	0.001	12.65917	20.00000	Averaged
12 Decachlorobiphenyl	69681307	72446000	0.001	3.96763	20.00000	Averaged

\* = Compound out of QC criteria



Data File: 7IL116.D  
 Report Date: 11-Dec-2015 09:39

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL116.D  
 Lab Smp Id: WG175876-2  
 Inj Date : 10-DEC-2015 23:54  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175876-2,SI9749  
 Misc Info : WG175876,WG175876,WG174334,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 18 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 2	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.580	5.573	0.007	711639	0.02000	0.00563		(M)	M5	
-----									
5	Aroclor-1016					CAS #: 12674-11-2			
7.797	7.788	0.009	584368	1.00000	0.217	80.00- 120.00	100.00		
8.498	8.490	0.008	557932	1.00000	0.216	158.77- 238.15	95.48		
9.505	9.498	0.007	1198101	1.00000	0.236	296.98- 445.46	205.03		
10.197	10.187	0.010	593219	1.00000	0.250	114.78- 172.17	101.51		
11.295	11.287	0.008	557555	1.00000	0.240	112.32- 168.48	95.41		
Average of Peak Amounts =			0.23180						
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
15.968	15.963	0.005	1165192	1.00000	0.256	80.00- 120.00	100.00		
16.945	16.938	0.007	1495336	1.00000	0.255	94.69- 142.03	128.33		
18.400	18.393	0.007	1337295	1.00000	0.246	89.28- 133.92	114.77		
19.722	19.720	0.002	976126	1.00000	0.244	72.48- 108.72	83.77		
24.948	24.947	0.001	627515	1.00000	0.269	0.00- 0.00	53.86		
Average of Peak Amounts =			0.25400						
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
27.058	27.065	-0.007	362230	0.02000	0.00520				
-----									

AWS

2:29 pm, Dec 14, 2015

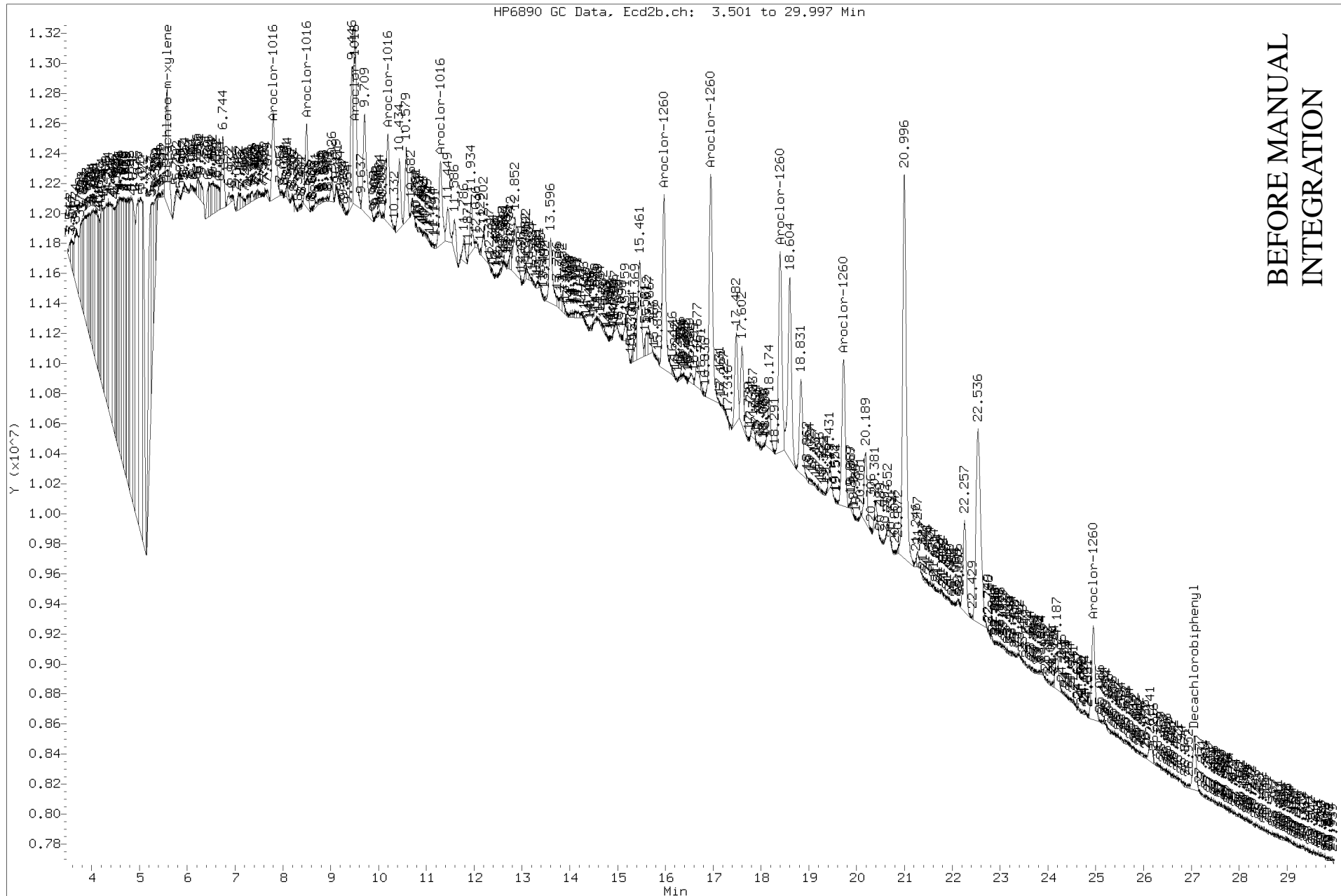
Data File: 7IL116.D  
Report Date: 11-Dec-2015 09:39

QC Flag Legend

M - Compound response manually integrated.

Data File: //TARGET\_SERVER/GG/chem/gc07.i/GC07IL10.b/GC07IL10.b/7IL116.D  
Injection Date: 10-DEC-2015 23:54  
Instrument: gc07.i  
Client Sample ID:

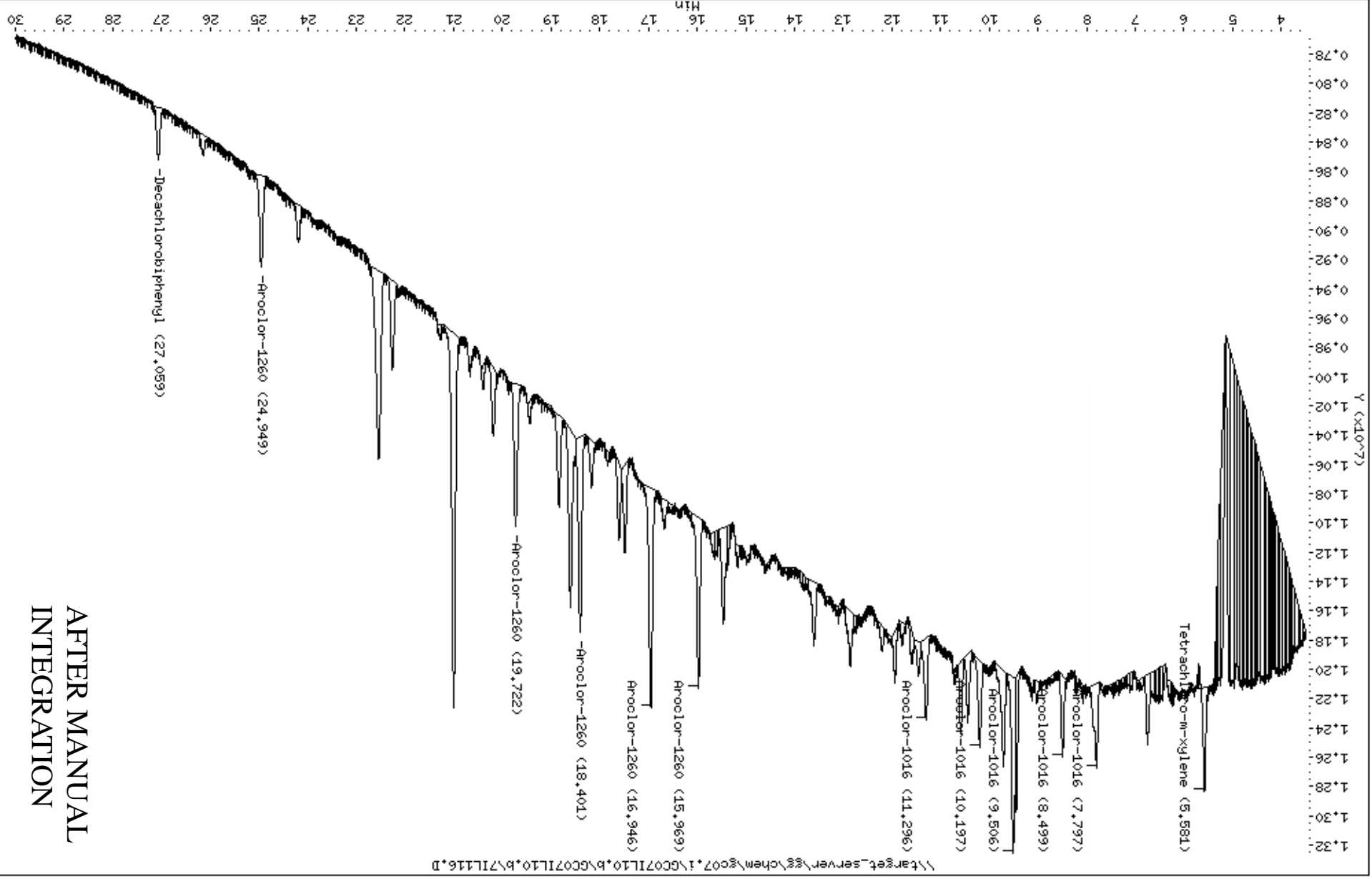
HP6890 GC Data, Ecd2b.ch: 3.501 to 29.997 Min



BEFORE MANUAL  
INTEGRATION

Data File: \\target\_server\eg\chem\gc07.1\GC071L10.B\GC071L10.B\71L116.D  
Date : 10-DEC-2015 23:54  
Client ID:  
Sample Info: M0175876-2,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



AFTER MANUAL  
INTEGRATION

## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services

**Project :** New Bedford Harbor Superfund

**Lab ID :** WG175876-3

**Lab File ID :** 7IL123.D

**Initial Calibration Date(s):** 11/13/15 13:04 11/14/15 04:16

**SDG:** SI9749

**Analytical Date:** 12/11/15 03:56

**Instrument ID:** GC07

**Column ID:** A

Compound	RRF/Amount	RF1	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
6 Aroclor-1016(4)	1374185	1611203	0.001	17.24790	20.00000	Averaged
6 Aroclor-1016(5)	1538166	1721505	0.001	11.91936	20.00000	Averaged
6 Aroclor-1016(2)	1596770	1436858	0.001	-10.01471	20.00000	Averaged
6 Aroclor-1016(1)	1881354	1655449	0.001	-12.00757	20.00000	Averaged
6 Aroclor-1016(3)	3810138	4242176	0.001	11.33917	20.00000	Averaged
9 Aroclor-1260(5)	1777280	2034973	0.001	14.49929	20.00000	Averaged
9 Aroclor-1260(4)	2761124	3188848	0.001	15.49095	20.00000	Averaged
9 Aroclor-1260(1)	3179245	3544346	0.001	11.48390	20.00000	Averaged
9 Aroclor-1260(3)	3923167	4438782	0.001	13.14283	20.00000	Averaged
9 Aroclor-1260(2)	4778978	5333013	0.001	11.59318	20.00000	Averaged
3 Tetrachloro-m-xylene	83676684	82209650	0.001	-1.75322	20.00000	Averaged
12 Decachlorobiphenyl	60211480	65912300	0.001	9.46800	20.00000	Averaged

\* = Compound out of QC criteria

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL123.D  
 Lab Smp Id: WG175876-3  
 Inj Date : 11-DEC-2015 03:56  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175876-3,SI9749  
 Misc Info : WG175876,WG175876,WG174334,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
 Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 25 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 3	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.118	5.118	0.000	1644193	0.02000	0.0196		(M)	M5	
-----									
6	Aroclor-1016					CAS #: 12674-11-2			
7.023	7.023	0.000	1655449	1.00000	0.880	80.00- 120.00	100.00		
7.590	7.590	0.000	1436858	1.00000	0.900	158.77- 238.15	86.80		
8.572	8.572	0.000	4242176	1.00000	1.11	296.98- 445.46	256.26		
9.107	9.107	0.000	1611203	1.00000	1.17	114.78- 172.16	97.33		
10.190	10.190	0.000	1721505	1.00000	1.12	112.32- 168.48	103.99		
Average of Peak Amounts =			1.03600						
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
14.735	14.735	0.000	3544346	1.00000	1.11	80.00- 120.00	100.00		
15.933	15.933	0.000	5333013	1.00000	1.12	94.69- 142.03	150.47		
17.075	17.075	0.000	4438782	1.00000	1.13	89.28- 133.92	125.24		
18.363	18.363	0.000	3188848	1.00000	1.15	72.48- 108.72	89.97		
23.713	23.713	0.000	2034973	1.00000	1.14	0.00- 0.00	57.41		
Average of Peak Amounts =			1.13000						
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
25.708	25.708	0.000	1318246	0.02000	0.0219				
-----									

AWS

2:29 pm, Dec 14, 2015

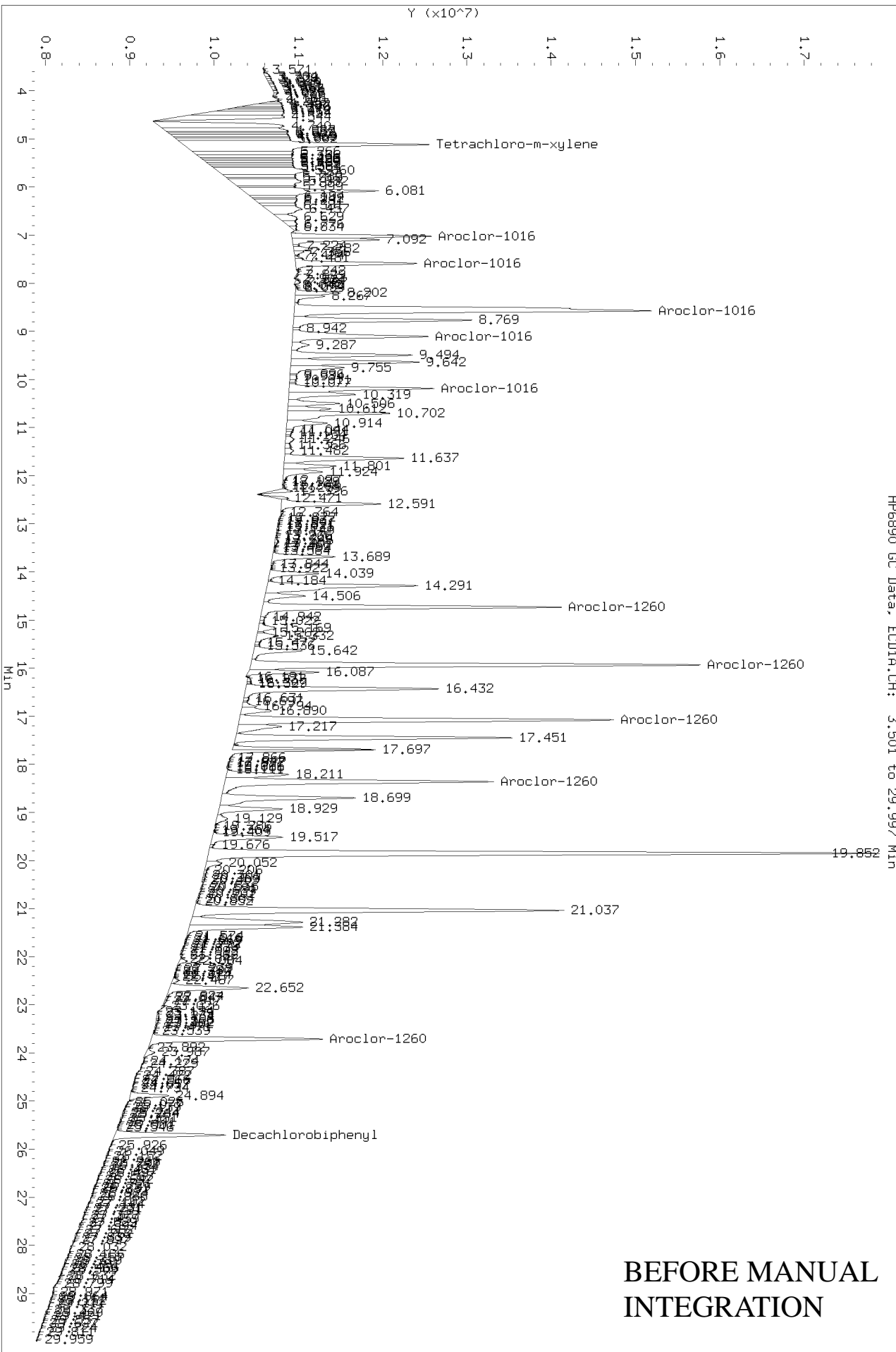
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Report Date: 11-Dec-2015 09:38

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\_server\88\chem\gc07.1\GC07IL10.1b\7IL123.D  
Injection Date: 11-DEC-2015 03:56  
Instrument: gc07.1  
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 3.501 to 29.997 Min

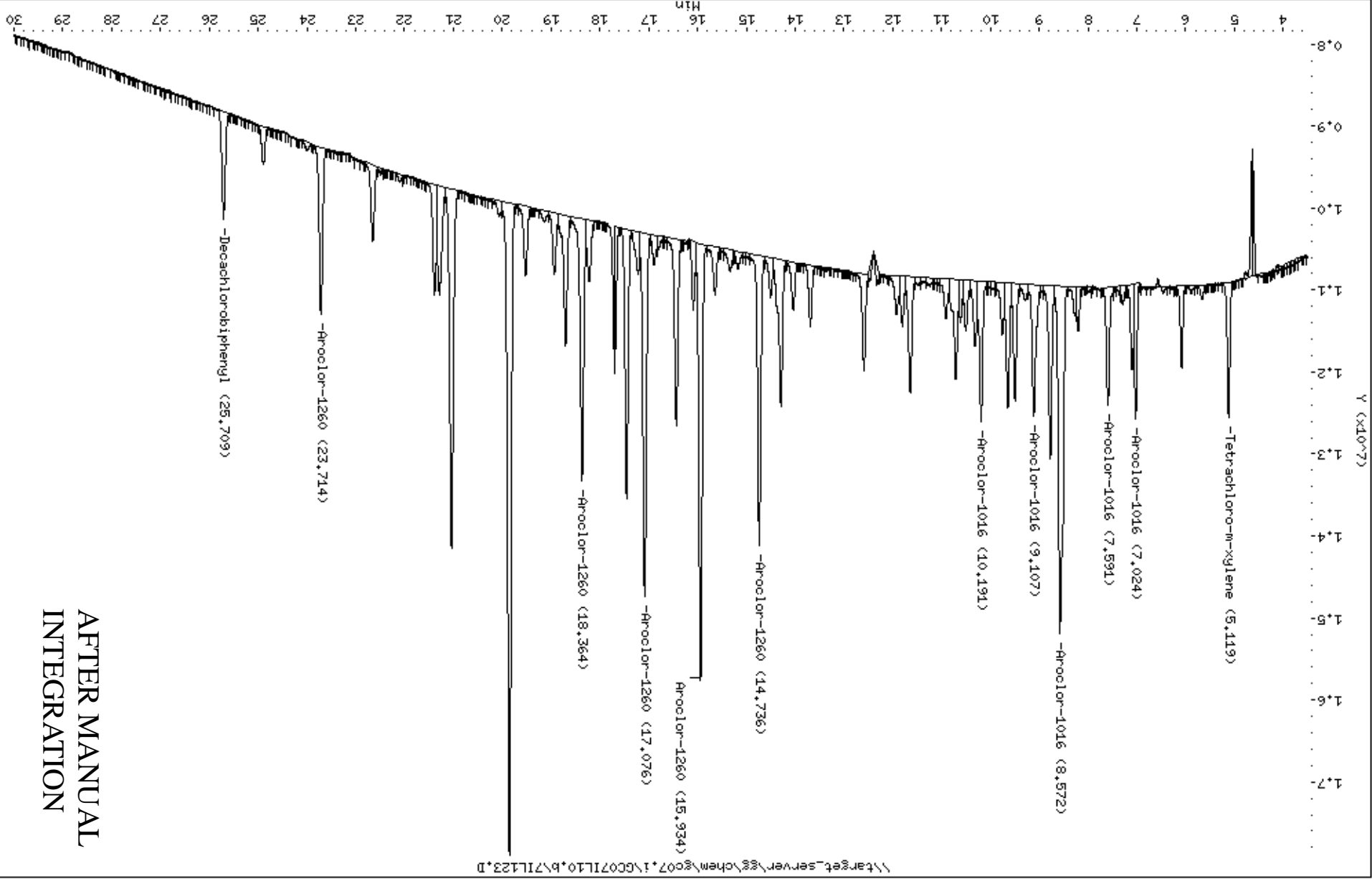


BEFORE MANUAL  
INTEGRATION



Data File: \\target\_server\chem\g07\1\GC071L10.B\71L123.D  
Date : 11-DEC-2015 03:56  
Client ID:  
Sample Info: M0175876-3,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: g07.i  
Operator: RMS  
Column diameter: 0.53



AFTER MANUAL  
INTEGRATION

## Form 7 Calibration Verification Summary

**Lab Name :** Katahdin Analytical Services

**Project :** New Bedford Harbor Superfund

**Lab ID :** WG175876-3

**Lab File ID :** 7IL123.D

**Initial Calibration Date(s):** 11/13/15 13:04 11/14/15 04:16

**SDG:** SI9749

**Analytical Date:** 12/11/15 03:56

**Instrument ID:** GC07

**Column ID:** B

Compound	RRF/Amount	RF1	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
5 Aroclor-1016(5)	2319357	2372331	0.001	2.28397	20.00000	Averaged
5 Aroclor-1016(4)	2373023	2417547	0.001	1.87627	20.00000	Averaged
5 Aroclor-1016(2)	2587293	2128633	0.001	-17.72739	20.00000	Averaged
5 Aroclor-1016(1)	2697462	2165625	0.001	-19.71621	20.00000	Averaged
5 Aroclor-1016(3)	5073689	5256392	0.001	3.60100	20.00000	Averaged
9 Aroclor-1260(5)	2331149	2497067	0.001	7.11743	20.00000	Averaged
9 Aroclor-1260(4)	3997982	4100623	0.001	2.56732	20.00000	Averaged
9 Aroclor-1260(1)	4559773	4614227	0.001	1.19423	20.00000	Averaged
9 Aroclor-1260(3)	5441143	5833978	0.001	7.21972	20.00000	Averaged
9 Aroclor-1260(2)	5857961	6263077	0.001	6.91564	20.00000	Averaged
2 Tetrachloro-m-xylene	126334858	142769700	0.001	13.00895	20.00000	Averaged
12 Decachlorobiphenyl	69681307	75124500	0.001	7.81155	20.00000	Averaged

\* = Compound out of QC criteria

Data File: 7IL123.D  
 Report Date: 11-Dec-2015 09:39

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL123.D  
 Lab Smp Id: WG175876-3  
 Inj Date : 11-DEC-2015 03:56  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175876-3,SI9749  
 Misc Info : WG175876,WG175876,WG174334,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 25 Continuing Calibration Sample  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: AR1660.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

AMOUNTS									
RT	EXP RT	DLT RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)	TARGET RANGE	RATIO	REVIEW CODE	
-----									
\$ 2	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.573	5.573	0.000	2855394	0.02000	0.0226		(M)	M5	
-----									
5	Aroclor-1016					CAS #: 12674-11-2			
7.788	7.788	0.000	2165625	1.00000	0.803	80.00- 120.00	100.00		
8.490	8.490	0.000	2128633	1.00000	0.823	158.77- 238.15	98.29		
9.498	9.498	0.000	5256392	1.00000	1.04	296.98- 445.46	242.72		
10.187	10.187	0.000	2417547	1.00000	1.02	114.78- 172.17	111.63		
11.287	11.287	0.000	2372331	1.00000	1.02	112.32- 168.48	109.54		
Average of Peak Amounts =			0.94120						
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
15.963	15.963	0.000	4614227	1.00000	1.01	80.00- 120.00	100.00		
16.938	16.938	0.000	6263077	1.00000	1.07	94.69- 142.03	135.73		
18.393	18.393	0.000	5833978	1.00000	1.07	89.28- 133.92	126.43		
19.720	19.720	0.000	4100623	1.00000	1.02	72.48- 108.72	88.87		
24.947	24.947	0.000	2497067	1.00000	1.07	0.00- 0.00	54.12		
Average of Peak Amounts =			1.04800						
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
27.065	27.065	0.000	1502490	0.02000	0.0216				
-----									

AWS

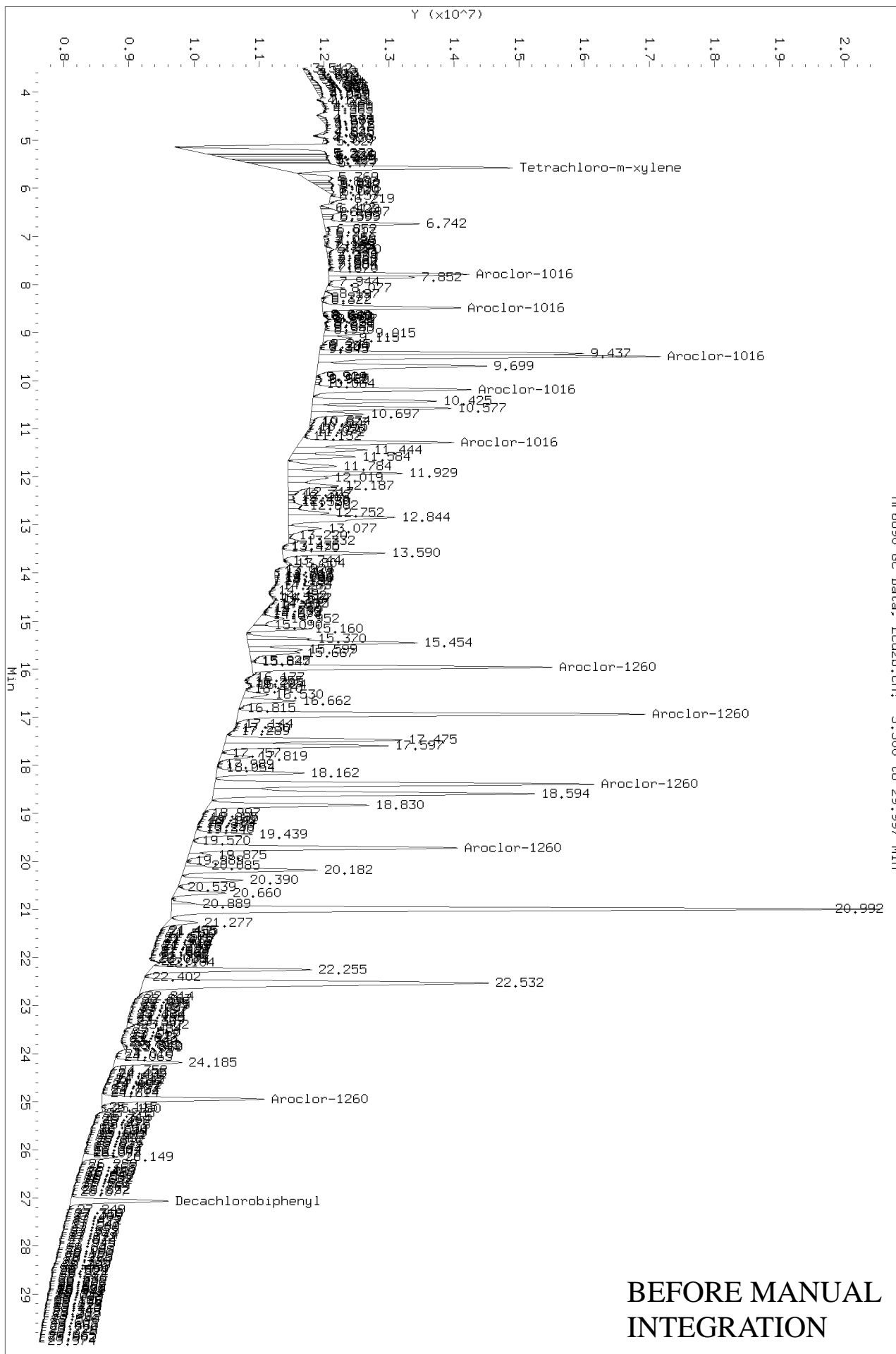
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Data File: 7IL123.D  
Report Date: 11-Dec-2015 09:39

QC Flag Legend

M - Compound response manually integrated.

Data File: //TARGET\_SERVER/GG/chem/gc07.1/GC07IL10.b/GC07IL10.b/71L123.D  
Injection Date: 11-DEC-2015 03:56  
Instrument: gc07.1  
Client Sample ID:

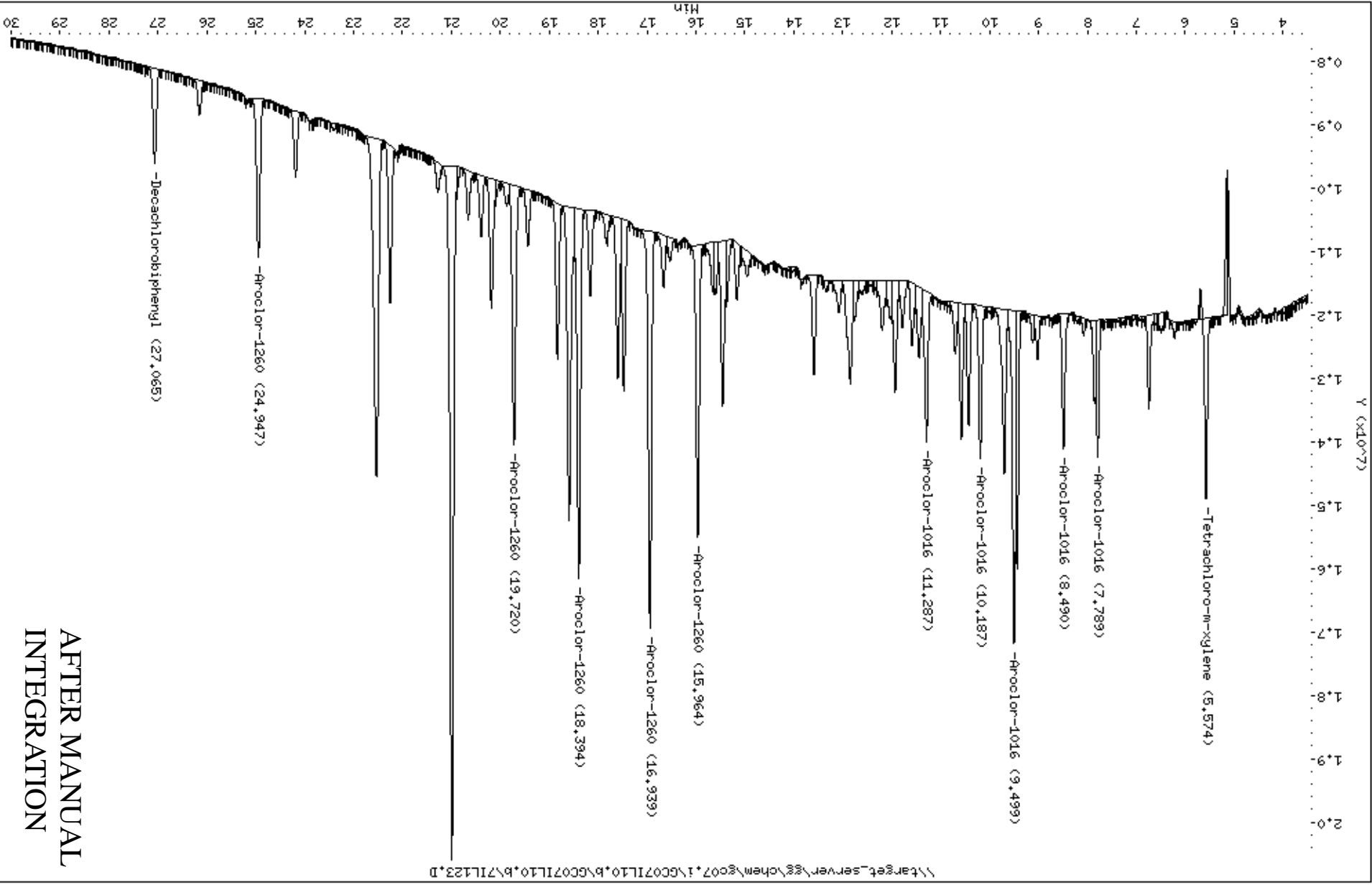


HP6890 GC Data, Ecd2b.ch: 3.500 to 29.997 Min

BEFORE MANUAL  
INTEGRATION

Data File: \\target\_server\eg\chem\gc07.1\GC071L10.B\GC071L10.B\71L123.D  
Date : 11-DEC-2015 03:56  
Client ID:  
Sample Info: M015876-3,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.1  
Operator: RMS  
Column diameter: 0.53



AFTER MANUAL  
INTEGRATION

## **Raw QC Data Section**

## Report of Analytical Results

**Client:**  
**Lab ID:** WG175803-1  
**Client ID:** Method Blank Sample  
**Project:**  
**SDG:** SI9749  
**Lab File ID:** 7IL104.D

**Sample Date:**  
**Received Date:**  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803

**Analysis Date:** 10-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA  
**Report Date:** 14-DEC-15

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.25	ug/L	1	.5	0.50	0.15	0.25
Aroclor-1221	U	0.25	ug/L	1	.5	0.50	0.20	0.25
Aroclor-1232	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Aroclor-1242	U	0.25	ug/L	1	.5	0.50	0.18	0.25
Aroclor-1248	U	0.25	ug/L	1	.5	0.50	0.20	0.25
Aroclor-1254	U	0.25	ug/L	1	.5	0.50	0.082	0.25
Aroclor-1260	U	0.25	ug/L	1	.5	0.50	0.17	0.25
Total PCBs	U	2.2	ug/L	1	4.5	4.5	0.066	2.2
Tetrachloro-M-Xylene	*	114.	%					
Decachlorobiphenyl		78.9	%					



Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL104.D  
Report Date: 14-Dec-2015 14:08

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL104.D  
Lab Smp Id: WG175803-1 Client Smp ID: WG175803-Blank  
Inj Date : 10-DEC-2015 16:58  
Operator : AWS Inst ID: gc07.i  
Smp Info : WG175803-1,SI9749  
Misc Info : WG175876,WG175803,WG174334-1,SI9749-1  
Comment :  
Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
Als bottle: 6 QC Sample: BLANK  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: DoD8082.sub  
Target Version: 4.12 Sample Matrix: WATER  
Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

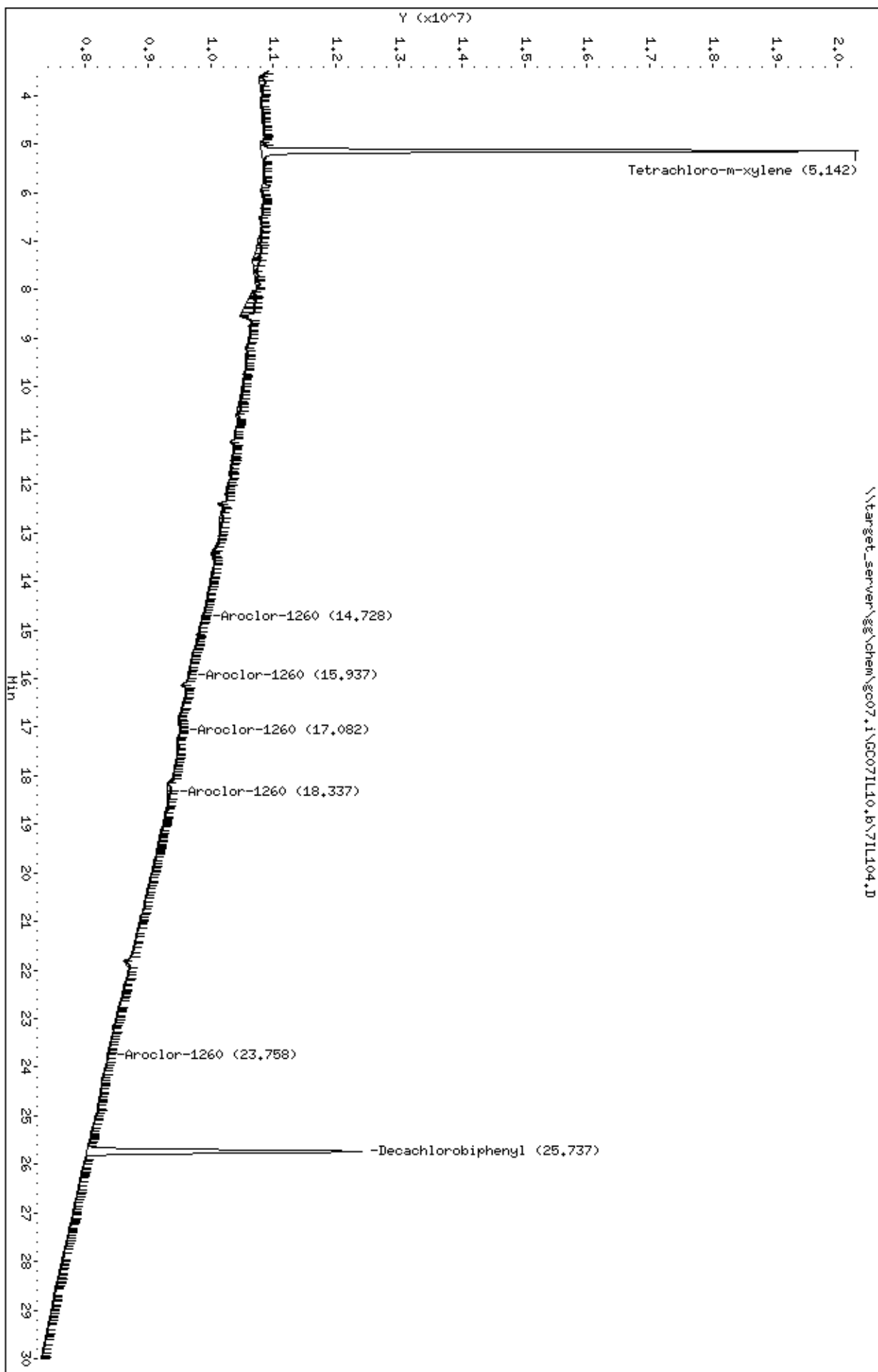
CONCENTRATIONS						
RT	EXP RT	DLT RT	ON-COL	FINAL	TARGET RANGE	REVIEW CODE
=====	=====	=====	RESPONSE (ug/mL)	( ug/L)	=====	=====
\$ 3					CAS #: 877-09-8	
5.141	5.118	0.023	9505960 0.11360	1.14		(R)
-----						
\$ 12					CAS #: 2051-24-3	
25.736	25.708	0.028	4383913 0.07281	0.728		
-----						

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\target\_server\chem\gc07.i\GC071110.1\711104.D  
Date: 10-DEC-2015 16:58  
Client ID: MG175803-Blank  
Sample Info: MG175803-1, S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: AMS  
Column diameter: 0.53



Data File: 7IL104.D  
 Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL104.D  
 Lab Smp Id: WG175803-1 Client Smp ID: WG175803-Blank  
 Inj Date : 10-DEC-2015 16:58  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175803-1,SI9749  
 Misc Info : WG175876,WG175803,WG174334-1,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 6 QC Sample: BLANK  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoD8082.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

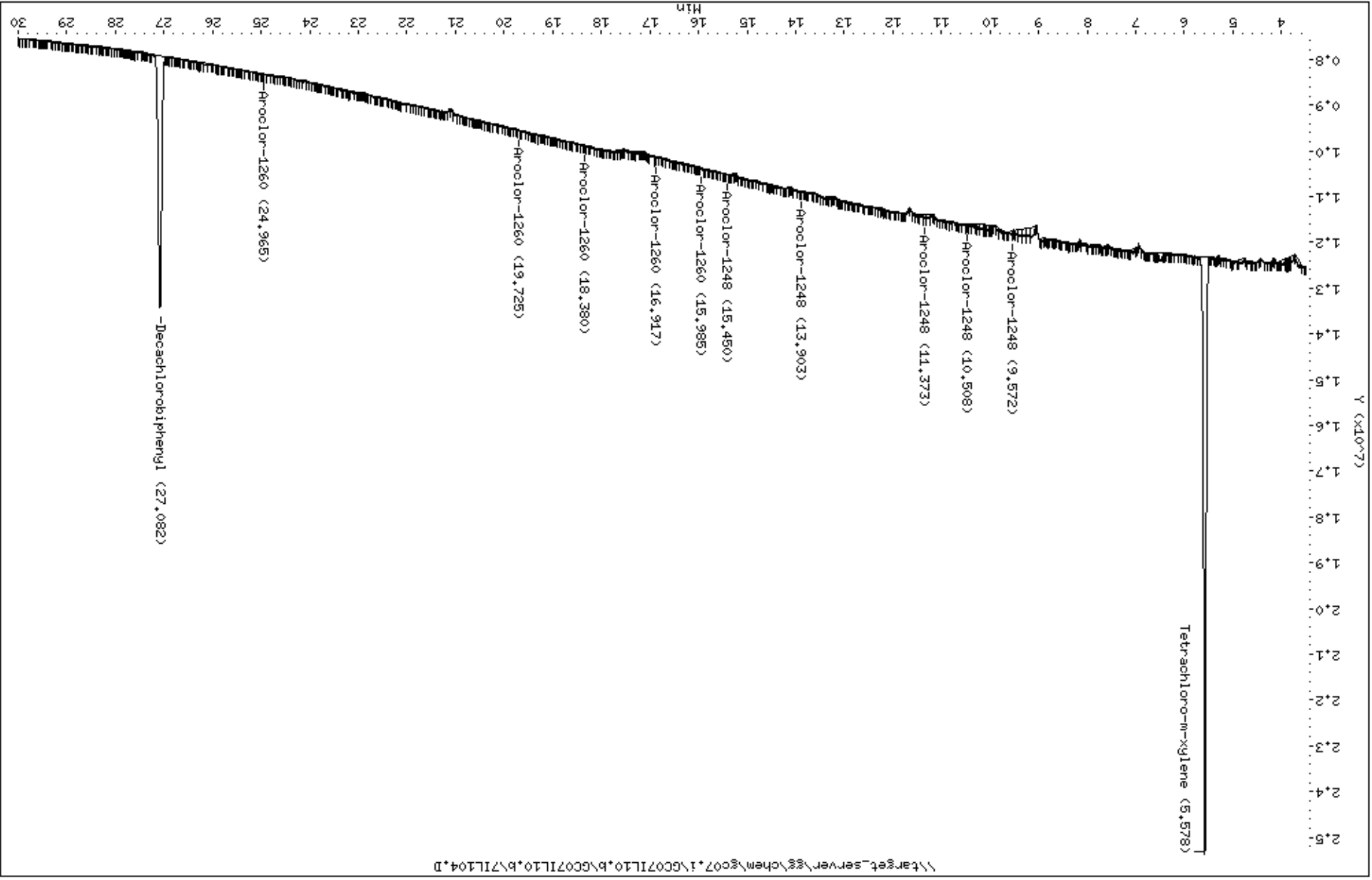
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS								
RT	EXP RT	DLT RT	RESPONSE (ug/mL)	ON-COL	FINAL ( ug/L)	TARGET RANGE	RATIO	REVIEW CODE
====	=====	=====	=====	=====	=====	=====	=====	=====
\$ 2								
5.578	5.573	0.005	13052982	0.10332	1.03			
-----								
\$ 12								
27.081	27.065	0.016	5496563	0.07888	0.789			
-----								

Data File: \\target\_server\chem\gc07\1\GC071110.B\GC071110.B\711104.D  
Date: 10-DEC-2015 16:58  
Client ID: M6175803-Blank  
Sample Info: M6175803-1,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53



## LCS/LCSD Recovery Report

**LCS ID:** WG175803-2  
**LCSD ID:** WG175803-3  
**Project:**  
**SDG:** SI9749  
**Report Date:** 14-DEC-15  
**LCS File ID:** 7IL105.D

**Received Date:**  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803  
**LCSD File ID:** 7IL106.D

**Analysis Date:** 10-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Aroclor-1016	5.00	4.47	89.4	4.04	80.8	ug/L	10	30	65-112
Aroclor-1260	5.00	4.65	93.0	4.56	91.2	ug/L	2	30	62-104
Tetrachloro-M-Xylene			102.		90.9				62-111
Decachlorobiphenyl			72.6		71.0				44-135

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL105.D  
 Lab Smp Id: WG175803-2 Client Smp ID: WG175803-LCS  
 Inj Date : 10-DEC-2015 17:33  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175803-2,SI9749  
 Misc Info : WG175876,WG175803,WG174334-1,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
 Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 7 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoDLCS.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

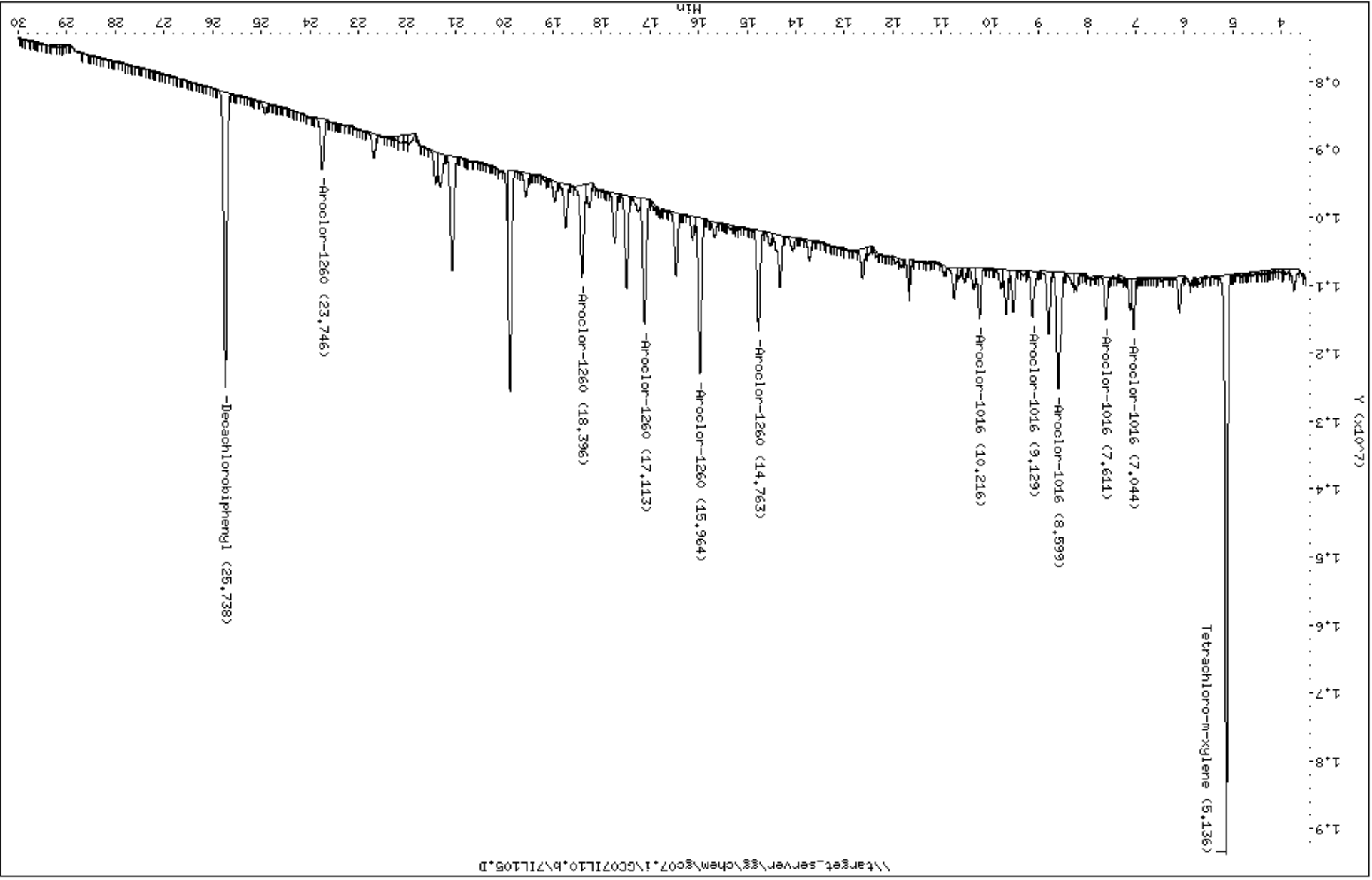
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS									
RT	EXP RT	DLT RT	RESPONSE	ON-COL	FINAL	TARGET RANGE	RATIO	REVIEW CODE	
====	=====	=====	=====	=====	=====	=====	=====	=====	=====
\$ 3									CAS #: 877-09-8
5.135	5.118	0.017	8524230	0.10187	1.02				
-----									
6									CAS #: 12674-11-2
7.044	7.023	0.021	760785	0.40438	4.04	80.00- 120.00	100.00		
7.610	7.590	0.020	630574	0.39491	3.95	158.77- 238.15	82.88		
8.599	8.572	0.027	1717827	0.45086	4.51	296.98- 445.46	225.80		
9.129	9.107	0.022	673475	0.49009	4.90	114.78- 172.16	88.52		
10.215	10.190	0.025	759057	0.49348	4.93	112.32- 168.48	99.77		
			Average of Peak Concentrations =		4.47				
-----									
9									CAS #: 11096-82-5
14.762	14.735	0.027	1476059	0.46428	4.64	80.00- 120.00	100.00		
15.964	15.933	0.031	2295073	0.48024	4.80	94.69- 142.03	155.49		
17.112	17.075	0.037	1839084	0.46878	4.69	89.28- 133.92	124.59		
18.395	18.363	0.032	1359352	0.49232	4.92	72.48- 108.72	92.09		
23.745	23.713	0.032	743627	0.41841	4.18	0.00- 0.00	50.38		
			Average of Peak Concentrations =		4.65				
-----									
\$ 12									CAS #: 2051-24-3
25.737	25.708	0.029	4345274	0.07217	0.722				

Data File: \\target\_server\chem\gc07\1\GC071110.B\711105.D  
Date : 10-DEC-2015 17:33  
Client ID: M6175803-LCS  
Sample Info: M6175803-2,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53



Data File: 7IL105.D  
 Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL105.D  
 Lab Smp Id: WG175803-2 Client Smp ID: WG175803-LCS  
 Inj Date : 10-DEC-2015 17:33  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175803-2,SI9749  
 Misc Info : WG175876,WG175803,WG174334-1,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 7 QC Sample: LCS  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoDLCS.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS									
RT	EXP RT	DLT RT	RESPONSE	ON-COL	FINAL	TARGET RANGE	RATIO	REVIEW CODE	
====	=====	=====	=====	=====	=====	=====	=====	=====	=====
\$ 2 Tetrachloro-m-xylene CAS #: 877-09-8									
5.590	5.573	0.017	11941365	0.09452	0.945				
-----									
5 Aroclor-1016 CAS #: 12674-11-2									
7.810	7.788	0.022	1088027	0.40335	4.03	80.00- 120.00	100.00(M)	M5	
8.509	8.490	0.019	1000500	0.38670	3.87	158.77- 238.15	91.96	M5	
9.525	9.498	0.027	2165722	0.42685	4.27	296.98- 445.46	199.05	M5	
10.214	10.187	0.027	1089480	0.45911	4.59	114.78- 172.17	100.13	M5	
11.319	11.287	0.032	1074824	0.46341	4.63	112.32- 168.48	98.79	M5	
Average of Peak Concentrations =					4.28				
-----									
9 Aroclor-1260 CAS #: 11096-82-5									
15.990	15.963	0.027	1924592	0.42208	4.22	80.00- 120.00	100.00		
16.974	16.938	0.036	2637480	0.45024	4.50	94.69- 142.03	137.04		
18.425	18.393	0.032	2316431	0.42573	4.26	89.28- 133.92	120.36		
19.754	19.720	0.034	1658018	0.41471	4.15	72.48- 108.72	86.15		
24.977	24.947	0.030	947607	0.40650	4.06	0.00- 0.00	49.24		
Average of Peak Concentrations =					4.24				
-----									
\$ 12 Decachlorobiphenyl CAS #: 2051-24-3									
27.094	27.065	0.029	5058666	0.07260	0.726				

AWS

2:23 pm, Dec 14, 2015



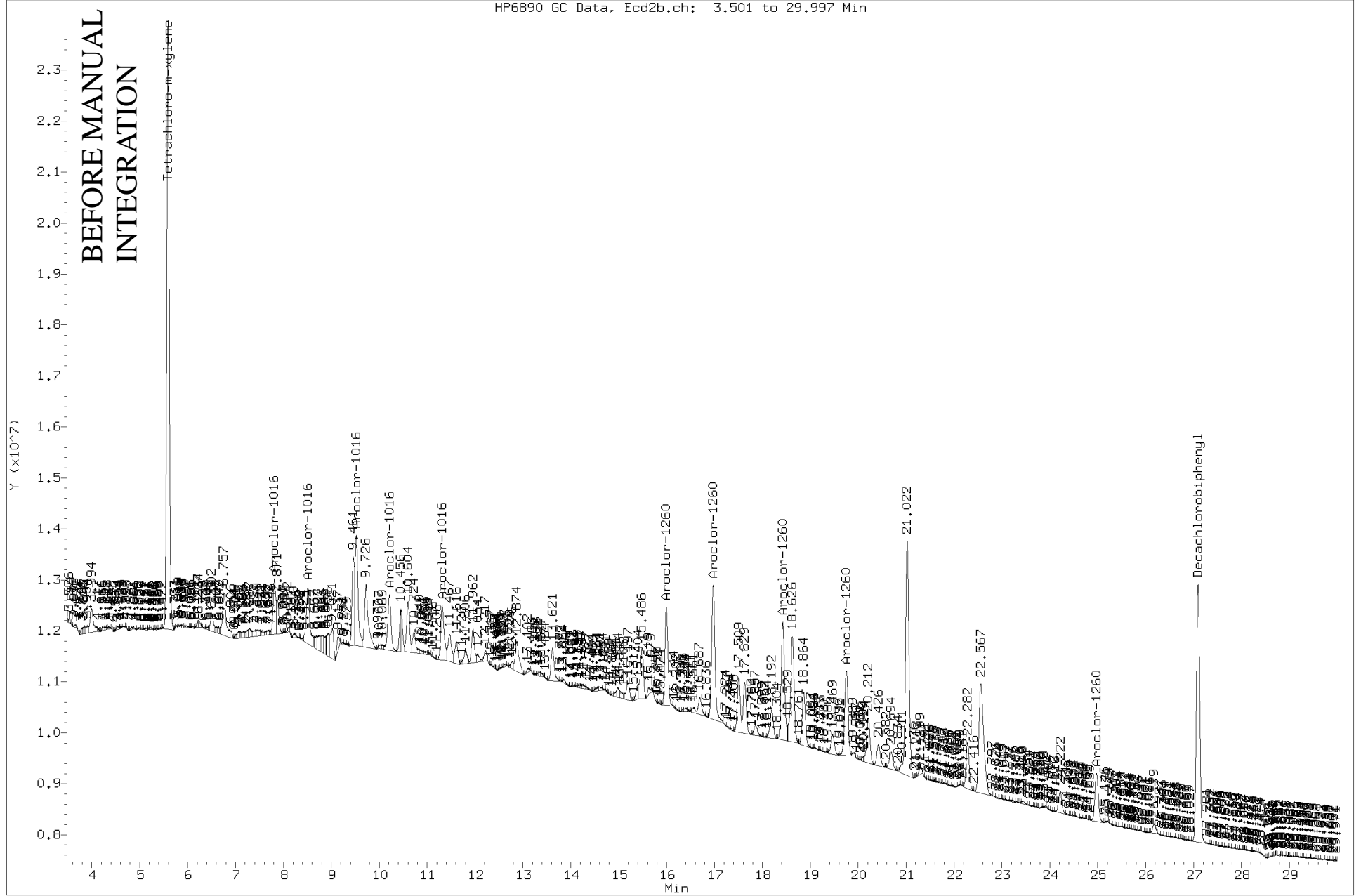
Data File: 7IL105.D  
Report Date: 14-Dec-2015 14:09

QC Flag Legend

M - Compound response manually integrated.

Data File: //target\_server/gg/chem/gc07.i/GC07IL10.b/GC07IL10.b/7IL105.D  
Injection Date: 10-DEC-2015 17:33  
Instrument: gc07.i  
Client Sample ID: WG175803-LCS

HP6890 GC Data, Ecd2b.ch: 3.501 to 29.997 Min



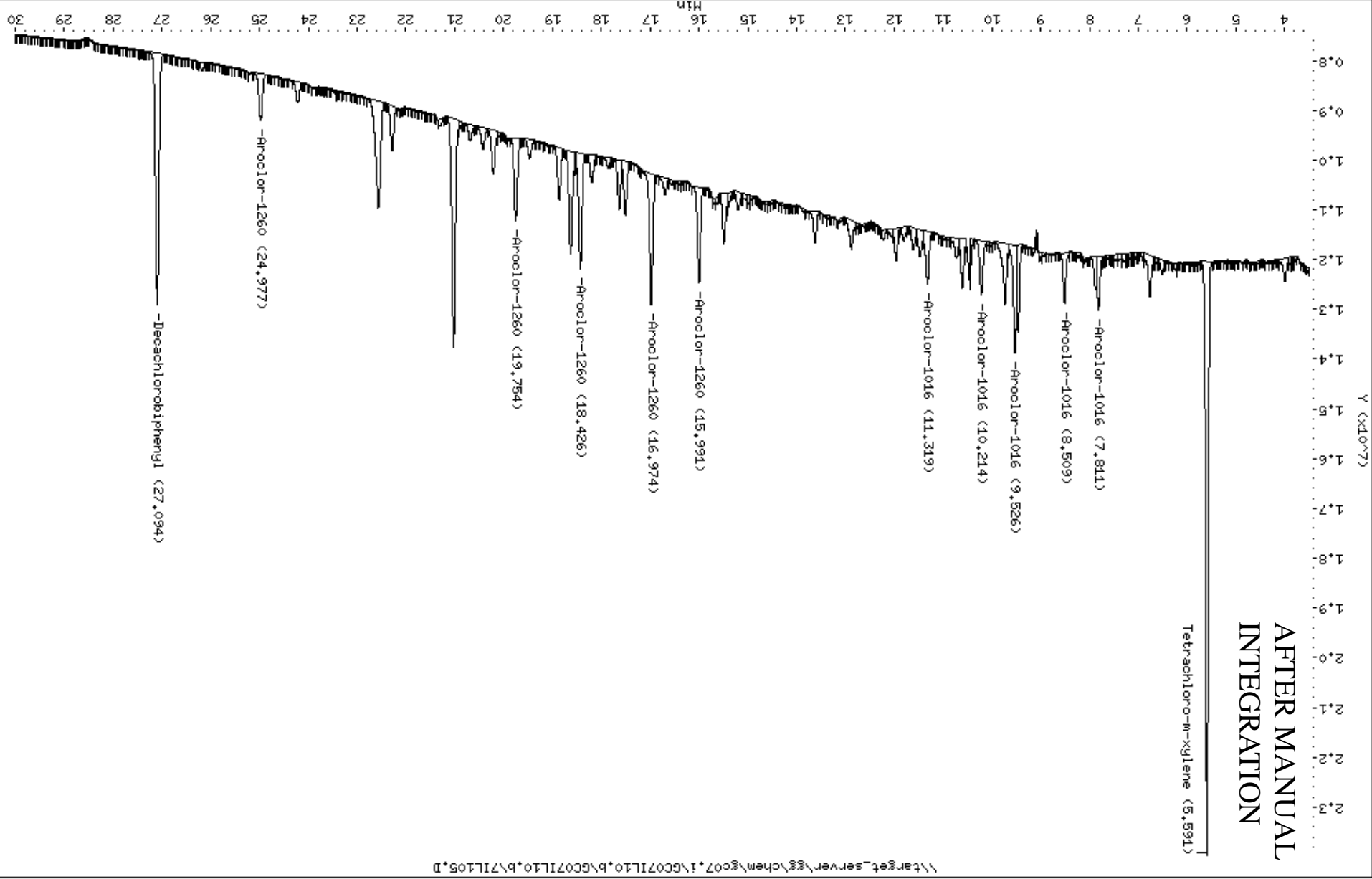
# AFTER MANUAL INTEGRATION

Tetrachloro-m-xylene (5.591)

Data File: \\target\_server\chem\gc07\1\GC071110\B\711105.D  
Date: 10-DEC-2015 17:33  
Client ID: M6175803-LCS  
Sample Info: M6175803-2,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

\\target\_server\chem\gc07\1\GC071110\B\GC071110\B\711105.D



Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL106.D  
 Lab Smp Id: WG175803-3 Client Smp ID: WG175803-LCSD  
 Inj Date : 10-DEC-2015 18:07  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175803-3,SI9749  
 Misc Info : WG175876,WG175803,WG174334-1,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
 Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 8 QC Sample: LCSD  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoDLCS.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

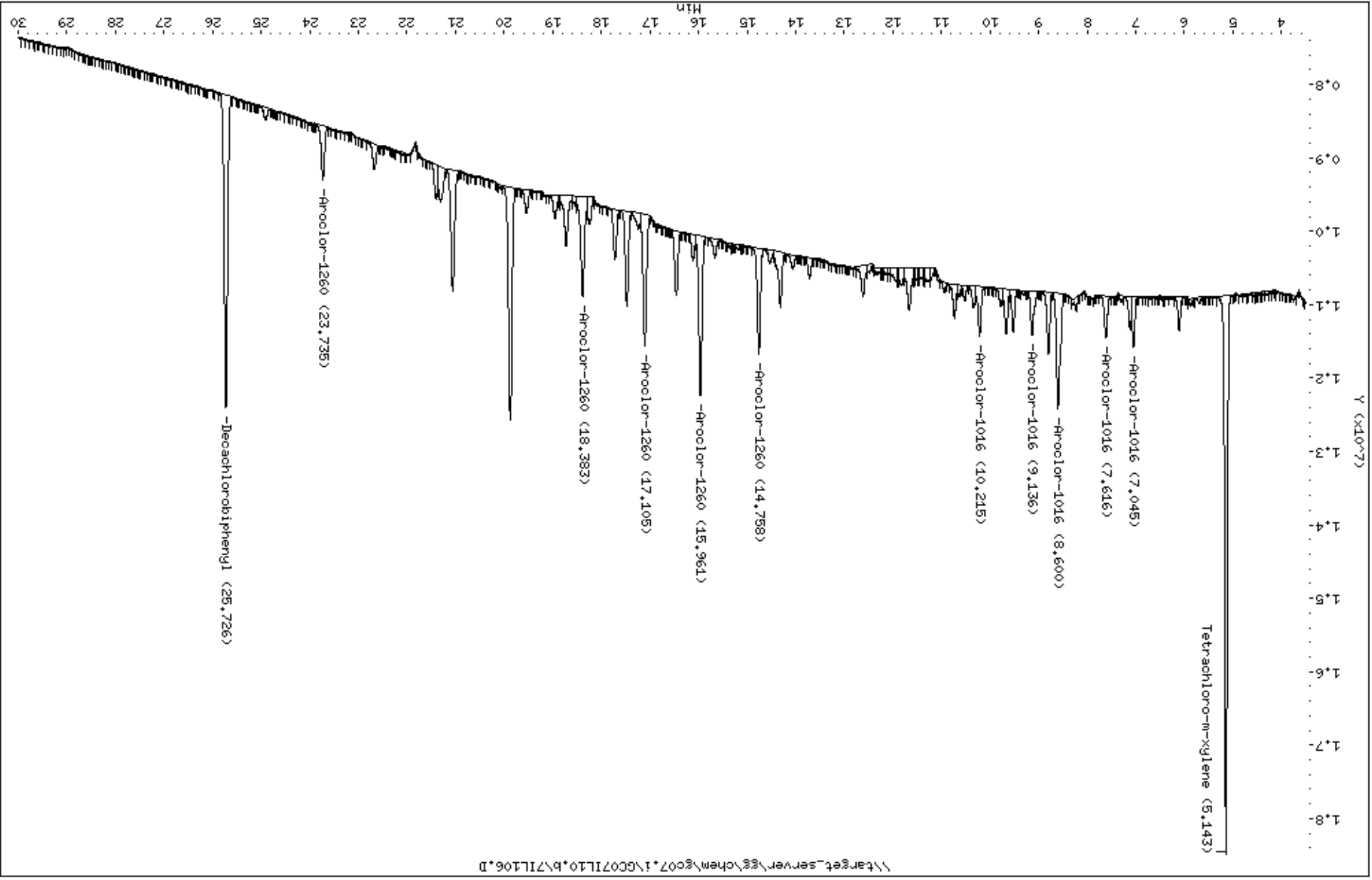
Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS									
RT	EXP RT	DLT RT	RESPONSE	ON-COL	FINAL	TARGET RANGE	RATIO	REVIEW CODE	
====	=====	=====	=====	=====	=====	=====	=====	=====	=====
\$ 3 Tetrachloro-m-xylene CAS #: 877-09-8									
5.143	5.118	0.025	7607444	0.09091	0.909				
-----									
6 Aroclor-1016 CAS #: 12674-11-2									
7.044	7.023	0.021	681116	0.36204	3.62	80.00- 120.00	100.00		
7.616	7.590	0.026	565541	0.35418	3.54	158.77- 238.15	83.03		
8.599	8.572	0.027	1581789	0.41515	4.15	296.98- 445.46	232.23		
9.136	9.107	0.029	608455	0.44278	4.43	114.78- 172.16	89.33		
10.214	10.190	0.024	689324	0.44815	4.48	112.32- 168.48	101.21		
Average of Peak Concentrations =					4.04				
-----									
9 Aroclor-1260 CAS #: 11096-82-5									
14.758	14.735	0.023	1450028	0.45609	4.56	80.00- 120.00	100.00		
15.961	15.933	0.028	2181974	0.45658	4.56	94.69- 142.03	150.48		
17.104	17.075	0.029	1790638	0.45643	4.56	89.28- 133.92	123.49		
18.383	18.363	0.020	1364510	0.49419	4.94	72.48- 108.72	94.10		
23.734	23.713	0.021	738839	0.41571	4.16	0.00- 0.00	50.95		
Average of Peak Concentrations =					4.56				
-----									
\$ 12 Decachlorobiphenyl CAS #: 2051-24-3									
25.726	25.708	0.018	4267624	0.07088	0.709				
-----									

Data File: \\target\_server\chem\gc07\1\GC071110.B\711106.D  
Date : 10-DEC-2015 18:07  
Client ID: M6175803-LCSD  
Sample Info: M6175803-3,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53



Data File: 7IL106.D  
 Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL106.D  
 Lab Smp Id: WG175803-3 Client Smp ID: WG175803-LCSD  
 Inj Date : 10-DEC-2015 18:07  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175803-3,SI9749  
 Misc Info : WG175876,WG175803,WG174334-1,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 8 QC Sample: LCSD  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoDLCS.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS									
RT	EXP RT	DLT RT	RESPONSE	ON-COL	FINAL	TARGET RANGE	RATIO	REVIEW CODE	
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
\$ 2 Tetrachloro-m-xylene CAS #: 877-09-8									
5.597	5.573	0.024	10540655	0.08343	0.834				
-----									
5 Aroclor-1016 CAS #: 12674-11-2									
7.812	7.788	0.024	973935	0.36106	3.61	80.00- 120.00	100.00(M)	M5	
8.512	8.490	0.022	863944	0.33392	3.34	158.77- 238.15	88.71	M5	
9.524	9.498	0.026	1969221	0.38812	3.88	296.98- 445.46	202.19	M5	
10.214	10.187	0.027	995538	0.41952	4.20	114.78- 172.17	102.22	M5	
11.314	11.287	0.027	1094033	0.47170	4.72	112.32- 168.48	112.33	M5	
Average of Peak Concentrations =					3.95				
-----									
9 Aroclor-1260 CAS #: 11096-82-5									
15.992	15.963	0.029	1874001	0.41099	4.11	80.00- 120.00	100.00		
16.967	16.938	0.029	2556779	0.43646	4.36	94.69- 142.03	136.43		
18.417	18.393	0.024	2268992	0.41701	4.17	89.28- 133.92	121.08		
19.744	19.720	0.024	1636883	0.40943	4.09	72.48- 108.72	87.35		
24.966	24.947	0.019	926301	0.39736	3.97	0.00- 0.00	49.43		
Average of Peak Concentrations =					4.14				
-----									
\$ 12 Decachlorobiphenyl CAS #: 2051-24-3									
27.082	27.065	0.017	4945901	0.07098	0.710				
-----									

AWS

2:23 pm, Dec 14, 2015

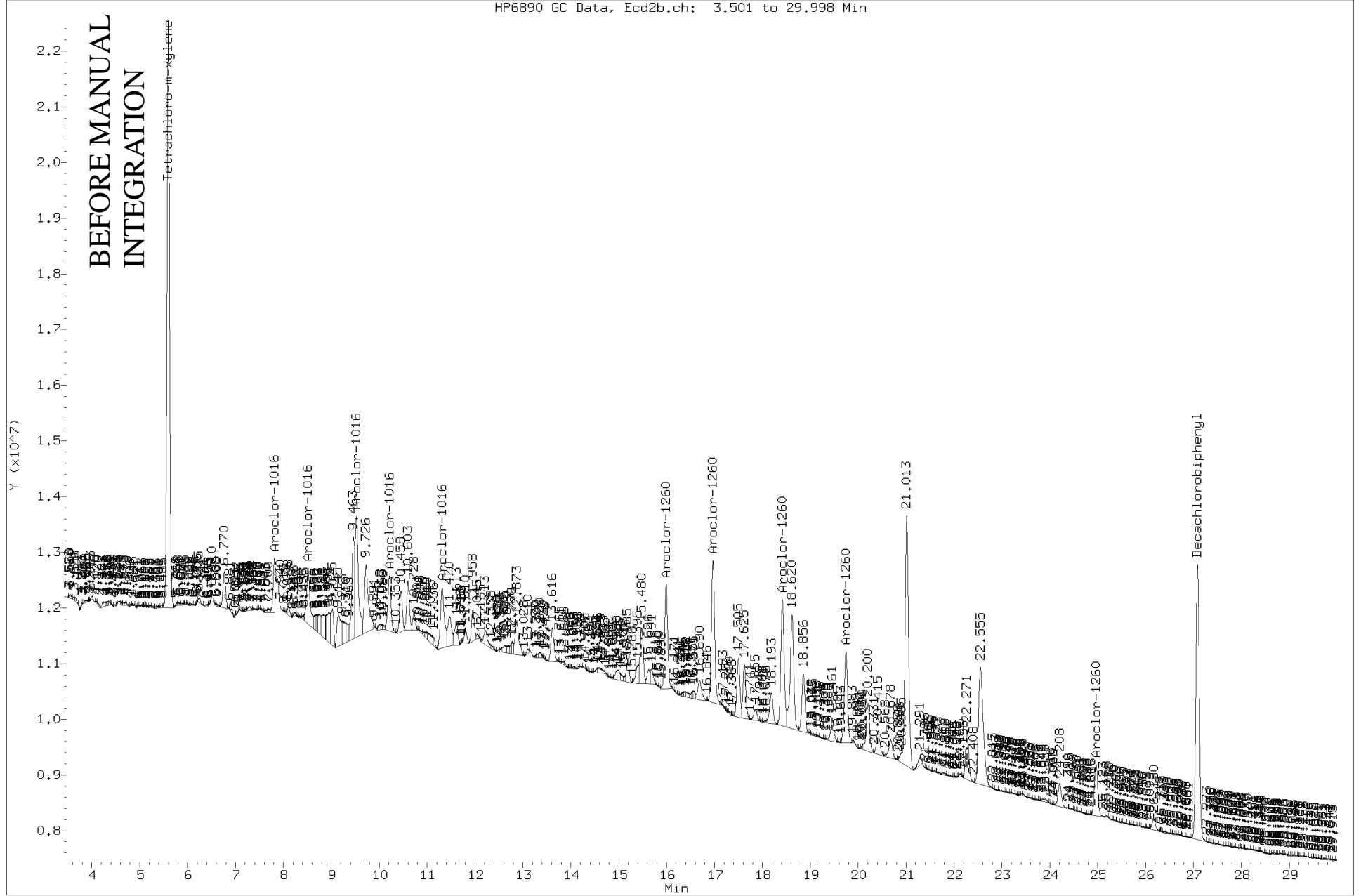
Data File: 7IL106.D  
Report Date: 14-Dec-2015 14:09

QC Flag Legend

M - Compound response manually integrated.

Data File: //target\_server/gg/chem/gc07.i/GC07IL10.b/GC07IL10.b/7IL106.D  
Injection Date: 10-DEC-2015 18:07  
Instrument: gc07.i  
Client Sample ID: WG175803-LCSD

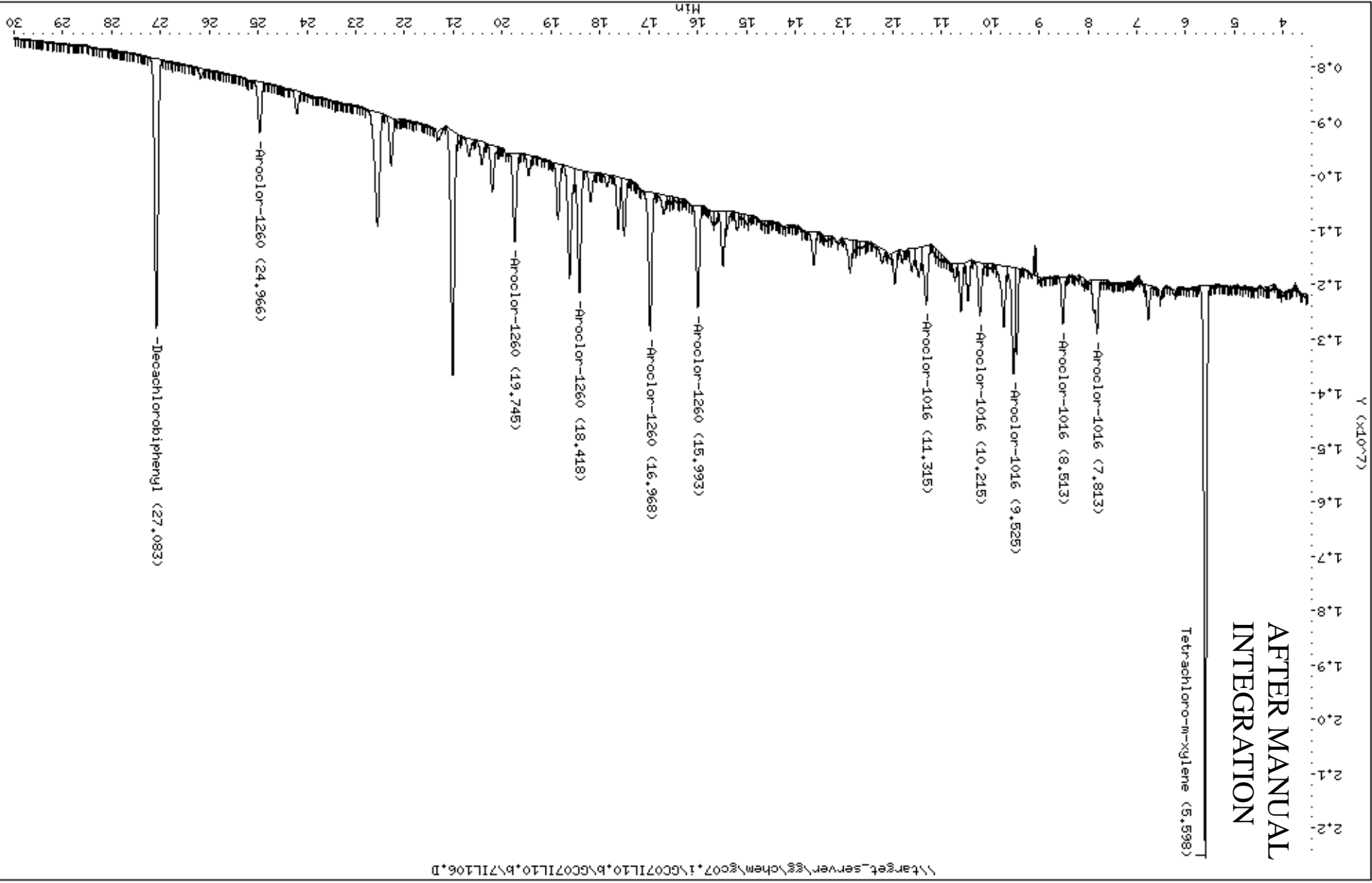
HP6890 GC Data, Ecd2b.ch: 3.501 to 29.998 Min





# AFTER MANUAL INTEGRATION

Tetrachloro-m-xylene (5.598)



Data File: \\target\_server\eg\chem\gc07.1\GC071L10.B\GC071L10.B\71L106.D

Date: 10-DEC-2015 18:07

Client ID: M6175803-LCSD

Sample Info: M6175803-3,S19749

Purge Volume: 1.0

Column phase: ZB-MultiResidue-2

Instrument: gc07.1

Operator: RMS

Column diameter: 0.53

## MS/MSD Recovery Report

**MS ID:** WG175803-4  
**MSD ID:** WG175803-5  
**Sample ID:** SI9749-1  
**Client ID:** MW-4A-120215  
**Project:**  
**SDG:** SI9749  
**MS File ID:** 7IL107.D

**Received Date:**  
**Extract Date:** 10-DEC-15  
**Extracted By:** KF  
**Extraction Method:** SW846 3510  
**Lab Prep Batch:** WG175803  
**Report Date:** 14-DEC-15  
**MSD File ID:** 7IL108.D

**Analysis Date:** 10-DEC-15  
**Analyst:** AWS  
**Analysis Method:** SW846 8082A  
**Matrix:** AQ  
**% Solids:** NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Aroclor-1016	4.81	5.21	ug/L	U0.24	4.0	4.7	82.4	90.2	17	30	65-112
Aroclor-1260	4.81	5.21	ug/L	U0.24	4.3	5.0	90.3	95.4	14	30	62-104
Tetrachloro-M-Xylene							99.2	100.			62-111
Decachlorobiphenyl							83.0	87.5			44-135

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL107.D  
 Lab Smp Id: WG175803-4 Client Smp ID: MW-4A-120215MS  
 Inj Date : 10-DEC-2015 18:42  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175803-4,SI9749  
 Misc Info : WG175876,WG175803,WG174334-1,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m  
 Meth Date : 11-Dec-2015 08:01 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 9 QC Sample: MS  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoDLCS.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.040	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS									
RT	EXP RT	DLT RT	RESPONSE	ON-COL	FINAL	TARGET RANGE	RATIO	REVIEW CODE	
====	=====	=====	=====	=====	=====	=====	=====	=====	=====
\$	3	Tetrachloro-m-xylene			CAS #: 877-09-8				
5.136	5.118	0.018	8300042	0.09919	0.954		(M)	M4	
-----									
	6	Aroclor-1016			CAS #: 12674-11-2				
7.043	7.023	0.020	728128	0.38702	3.72	80.00- 120.00	100.00		
7.611	7.590	0.021	606134	0.37960	3.65	158.77- 238.15	83.25		
8.551	8.572	-0.021	1237777	0.32486	3.12	296.98- 445.46	169.99		
9.128	9.107	0.021	673143	0.48985	4.71	114.78- 172.16	92.45		
10.206	10.190	0.016	732899	0.47648	4.58	112.32- 168.48	100.66		
	Average of Peak Concentrations =			3.96					
-----									
	9	Aroclor-1260			CAS #: 11096-82-5				
14.753	14.735	0.018	1423974	0.44790	4.31	80.00- 120.00	100.00		
15.955	15.933	0.022	2156901	0.45133	4.34	94.69- 142.03	151.47		
17.100	17.075	0.025	1752804	0.44678	4.30	89.28- 133.92	123.09		
18.375	18.363	0.012	1286551	0.46595	4.48	72.48- 108.72	90.35		
23.725	23.713	0.012	786885	0.44275	4.26	0.00- 0.00	55.26		
	Average of Peak Concentrations =			4.34					
-----									
\$	12	Decachlorobiphenyl			CAS #: 2051-24-3				
25.721	25.708	0.013	4913311	0.08160	0.785				
-----									

AWS

2:24 pm, Dec 14, 2015

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL107.D  
Report Date: 14-Dec-2015 14:08

QC Flag Legend

M - Compound response manually integrated.

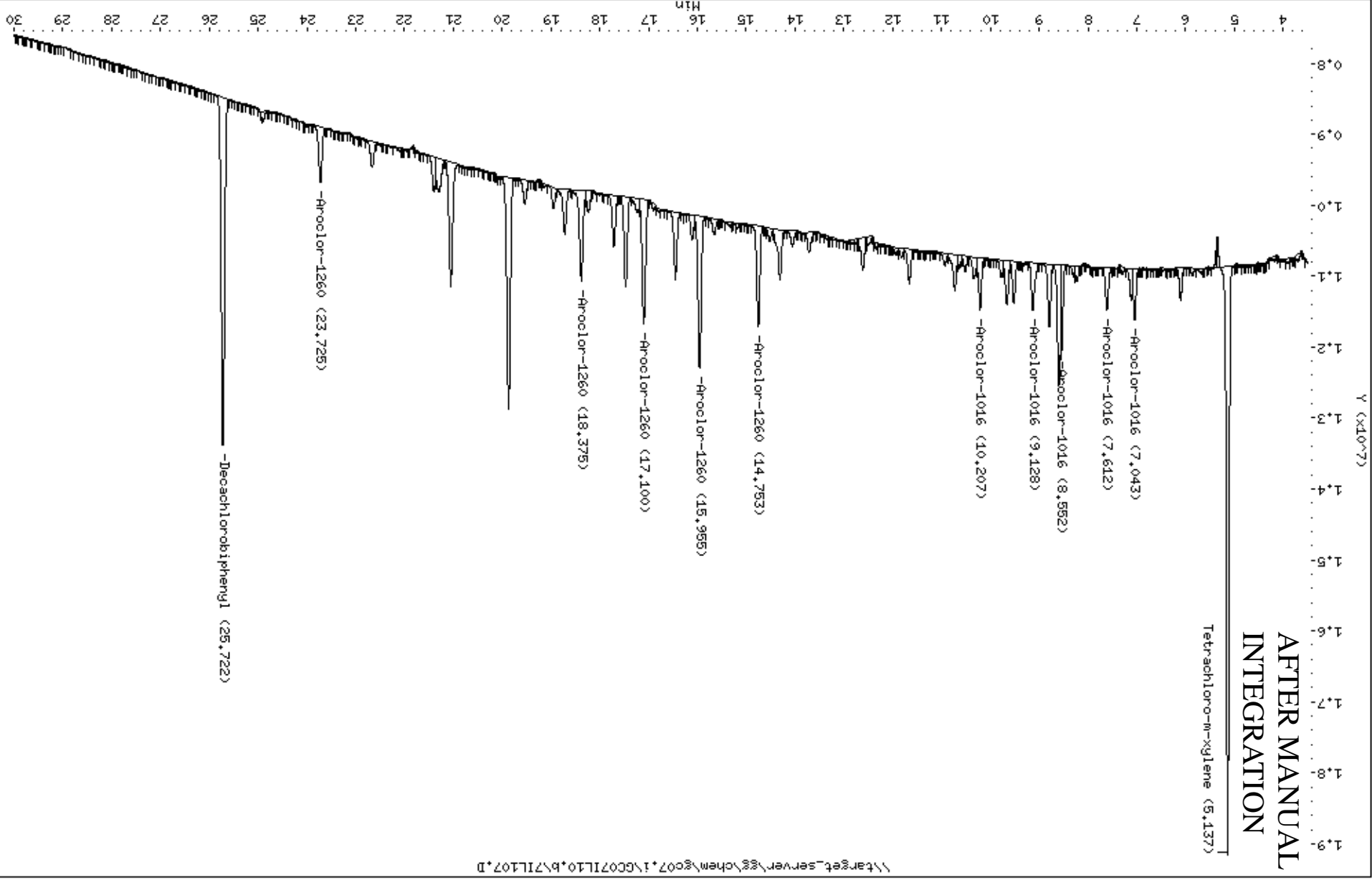


# AFTER MANUAL INTEGRATION

Data File: \\target\_server\chem\gc07\1\GC071110.B\711107.D  
Date: 10-DEC-2015 18:42  
Client ID: MM-48-120215MS  
Sample Info: M6175803-4,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

\\target\_server\chem\gc07\1\GC071110.B\711107.D



Data File: 7IL107.D  
 Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL107.D  
 Lab Smp Id: WG175803-4 Client Smp ID: MW-4A-120215MS  
 Inj Date : 10-DEC-2015 18:42  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175803-4,SI9749  
 Misc Info : WG175876,WG175803,WG174334-1,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 9 QC Sample: MS  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoDLCS.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	1.040	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS									
RT	EXP RT	DLT RT	RESPONSE	ON-COL	FINAL	TARGET RANGE	RATIO	REVIEW CODE	
====	=====	=====	=====	=====	=====	=====	=====	=====	
-----									
\$ 2	Tetrachloro-m-xylene					CAS #: 877-09-8			
5.591	5.573	0.018	11700942	0.09262	0.890		(M)	M4	
-----									
5	Aroclor-1016					CAS #: 12674-11-2			
7.811	7.788	0.023	751111	0.27845	2.68	80.00- 120.00	100.00		
8.508	8.490	0.018	919856	0.35553	3.42	158.77- 238.15	122.47		
9.521	9.498	0.023	2064568	0.40692	3.91	296.98- 445.46	274.87		
10.209	10.187	0.022	1055918	0.44497	4.28	114.78- 172.17	140.58		
11.314	11.287	0.027	1018127	0.43897	4.22	112.32- 168.48	135.55		
Average of Peak Concentrations =					3.70				
-----									
9	Aroclor-1260					CAS #: 11096-82-5			
15.983	15.963	0.020	1820037	0.39915	3.84	80.00- 120.00	100.00		
16.959	16.938	0.021	2518749	0.42997	4.13	94.69- 142.03	138.39		
18.414	18.393	0.021	2256234	0.41466	3.99	89.28- 133.92	123.97		
19.739	19.720	0.019	1647547	0.41209	3.96	72.48- 108.72	90.52		
24.958	24.947	0.011	971114	0.41658	4.00	0.00- 0.00	53.36		
Average of Peak Concentrations =					3.98				
-----									
\$ 12	Decachlorobiphenyl					CAS #: 2051-24-3			
27.074	27.065	0.009	5783706	0.08300	0.798				
-----									

AWS

2:24 pm, Dec 14, 2015

Data File: 7IL107.D  
Report Date: 14-Dec-2015 14:09

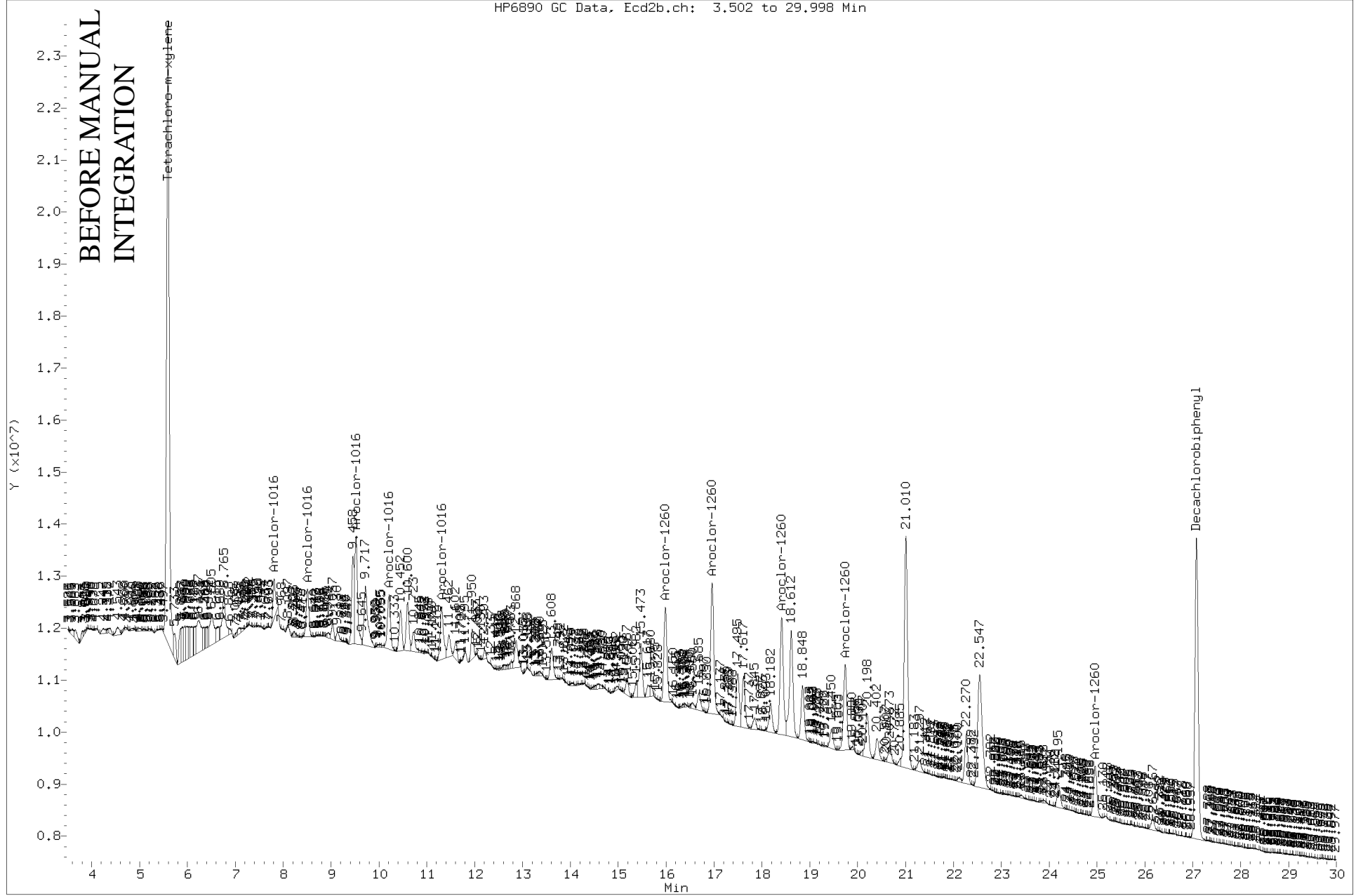
QC Flag Legend

M - Compound response manually integrated.

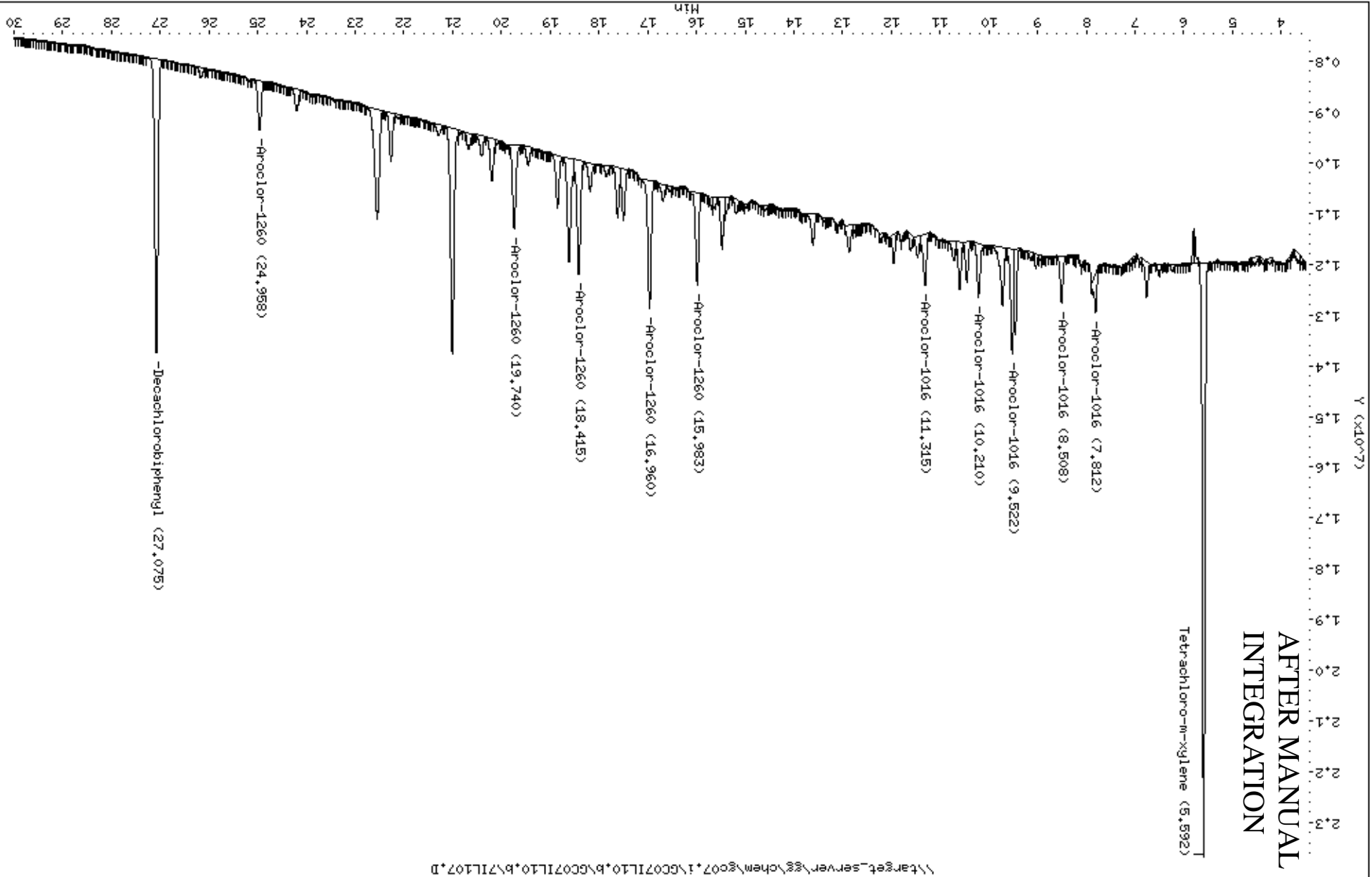


Data File: //target\_server/gg/chem/gc07.i/GC07IL10.b/GC07IL10.b/7IL107.D  
Injection Date: 10-DEC-2015 18:42  
Instrument: gc07.i  
Client Sample ID: MW-4A-120215MS

HP6890 GC Data, Ecd2b.ch: 3.502 to 29.998 Min



# AFTER MANUAL INTEGRATION



Data File: \\target\_server\chem\gc07\1\GC071L10\B\GC071L10\B\71L107.D  
Date: 10-DEC-2015 18:42  
Client ID: HM-44-120215MS  
Sample Info: MCL75803-4,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53



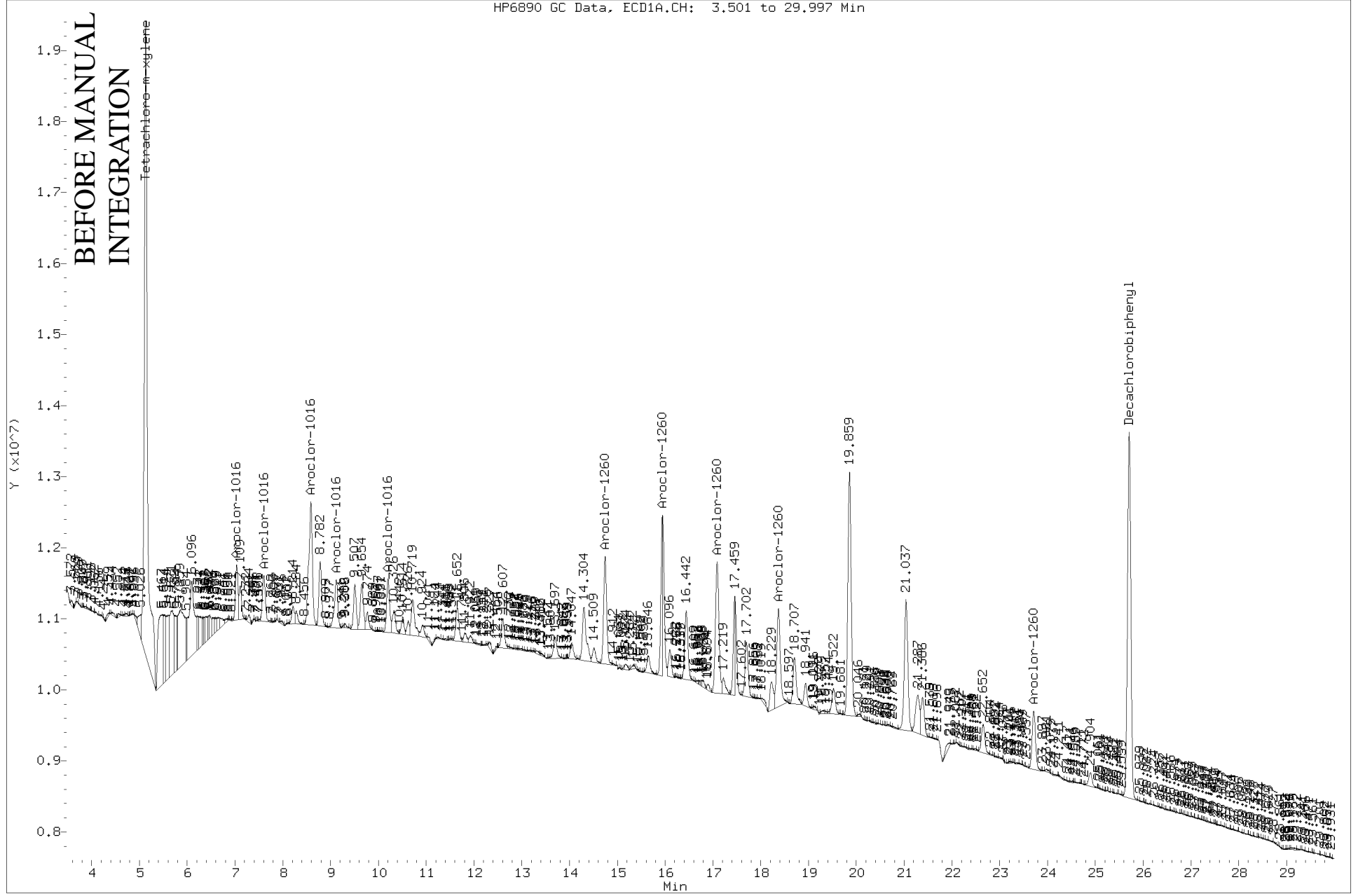
Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL108.D  
Report Date: 14-Dec-2015 14:08

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\_server\gg\chem\gc07.i\GC07IL10.b\7IL108.D  
Injection Date: 10-DEC-2015 19:17  
Instrument: gc07.i  
Client Sample ID: MW-4A-120215MSD

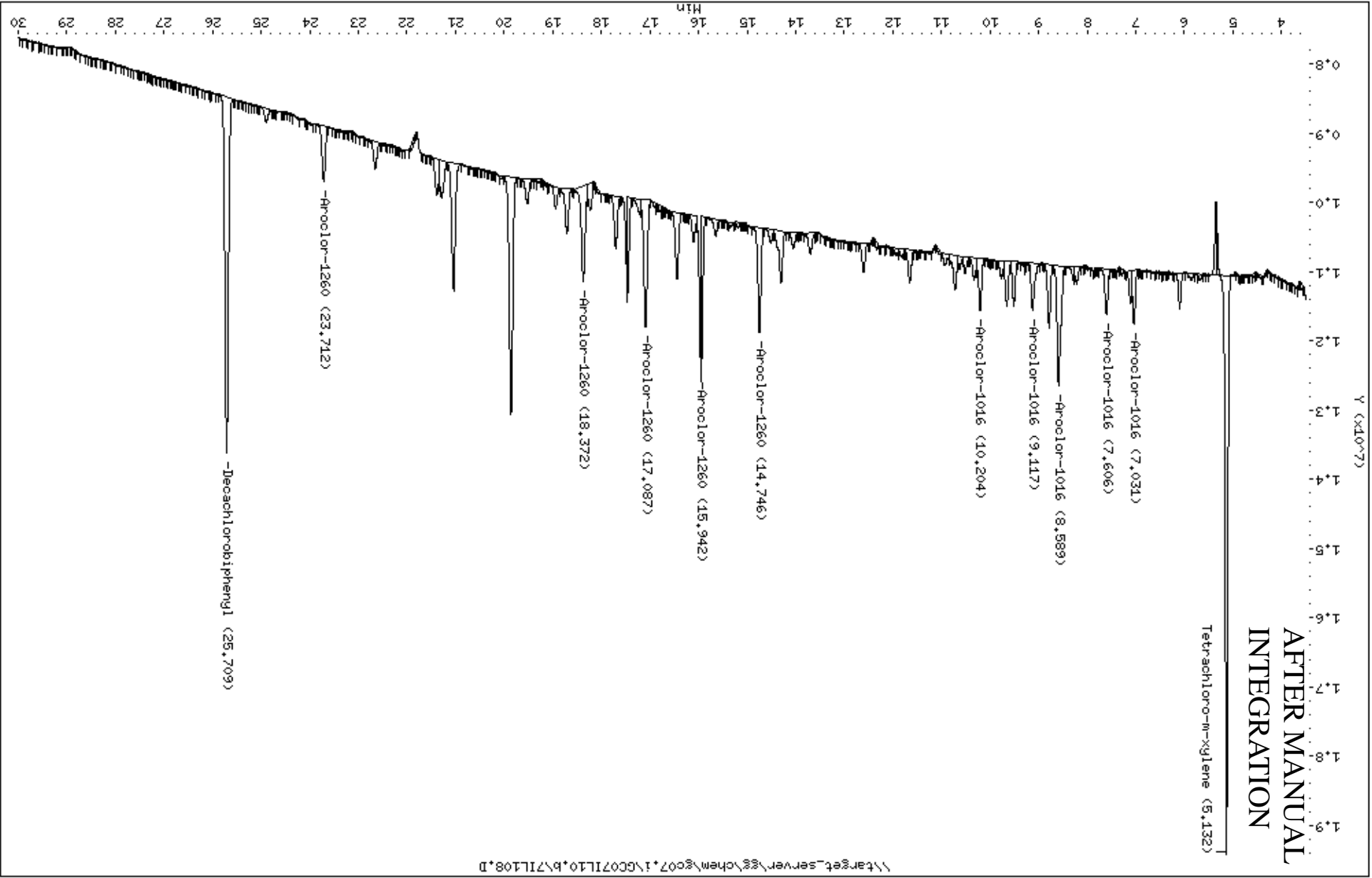
HP6890 GC Data, ECD1A.CH: 3.501 to 29.997 Min



# AFTER MANUAL INTEGRATION

Data File: \\target\_server\chem\gc07\1\GC071110.B\711108.D  
Date: 10-DEC-2015 19:17  
Client ID: MM-44-120215MSD  
Sample Info: M6175803-5,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-1

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53



Data File: 7IL108.D  
 Report Date: 14-Dec-2015 14:09

Katahdin Analytical Services

Data file : \\target\_server\gg\chem\gc07.i\GC07IL10.b\GC07IL10.b\7IL108.D  
 Lab Smp Id: WG175803-5 Client Smp ID: MW-4A-120215MSD  
 Inj Date : 10-DEC-2015 19:17  
 Operator : AWS Inst ID: gc07.i  
 Smp Info : WG175803-5,SI9749  
 Misc Info : WG175876,WG175803,WG174334-1,SI9749-1  
 Comment :  
 Method : \\target\_server\gg\chem\gc07.i\GC07IL10.b\PCB096.m\PCB096.m  
 Meth Date : 11-Dec-2015 08:02 aschuchart Quant Type: ESTD  
 Cal Date : 14-NOV-2015 04:16 Cal File: 7IK299.D  
 Als bottle: 10 QC Sample: MSD  
 Dil Factor: 1.00000  
 Integrator: Falcon Compound Sublist: DoDLCS.sub  
 Target Version: 4.12 Sample Matrix: WATER  
 Processing Host: V200T5

Concentration Formula: Amt \* DF \* Vt\*(1/Vo)\*1000 \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vt	0.01000	Final Volume (L)
Vo	0.96000	Sample Volume (L)
Cpnd Variable		Local Compound Variable

CONCENTRATIONS									
RT	EXP RT	DLT RT	RESPONSE	ON-COL	FINAL	TARGET RANGE	RATIO	REVIEW CODE	
====	=====	=====	=====	=====	=====	=====	=====	=====	=====
\$ 2 Tetrachloro-m-xylene CAS #: 877-09-8									
5.585	5.573	0.012	11450435	0.09064	0.944		(M)	M4	
-----									
5 Aroclor-1016 CAS #: 12674-11-2									
7.805	7.788	0.017	987857	0.36622	3.81	80.00- 120.00	100.00		
8.502	8.490	0.012	981229	0.37925	3.95	158.77- 238.15	99.33		
9.510	9.498	0.012	2059818	0.40598	4.23	296.98- 445.46	208.51		
10.197	10.187	0.010	1054353	0.44431	4.63	114.78- 172.17	106.73		
11.298	11.287	0.011	1046543	0.45122	4.70	112.32- 168.48	105.94		
Average of Peak Concentrations =					4.26				
-----									
9 Aroclor-1260 CAS #: 11096-82-5									
15.972	15.963	0.009	1966633	0.43130	4.49	80.00- 120.00	100.00		
16.950	16.938	0.012	2666566	0.45520	4.74	94.69- 142.03	135.59		
18.397	18.393	0.004	2358454	0.43345	4.52	89.28- 133.92	119.92		
19.728	19.720	0.008	1809836	0.45269	4.72	72.48- 108.72	92.03		
24.947	24.947	0.000	1053863	0.45208	4.71	0.00- 0.00	53.59		
Average of Peak Concentrations =					4.63				
-----									
\$ 12 Decachlorobiphenyl CAS #: 2051-24-3									
27.067	27.065	0.002	6086474	0.08735	0.910				
-----									

AWS

2:24 pm, Dec 14, 2015

Data File: 7IL108.D  
Report Date: 14-Dec-2015 14:09

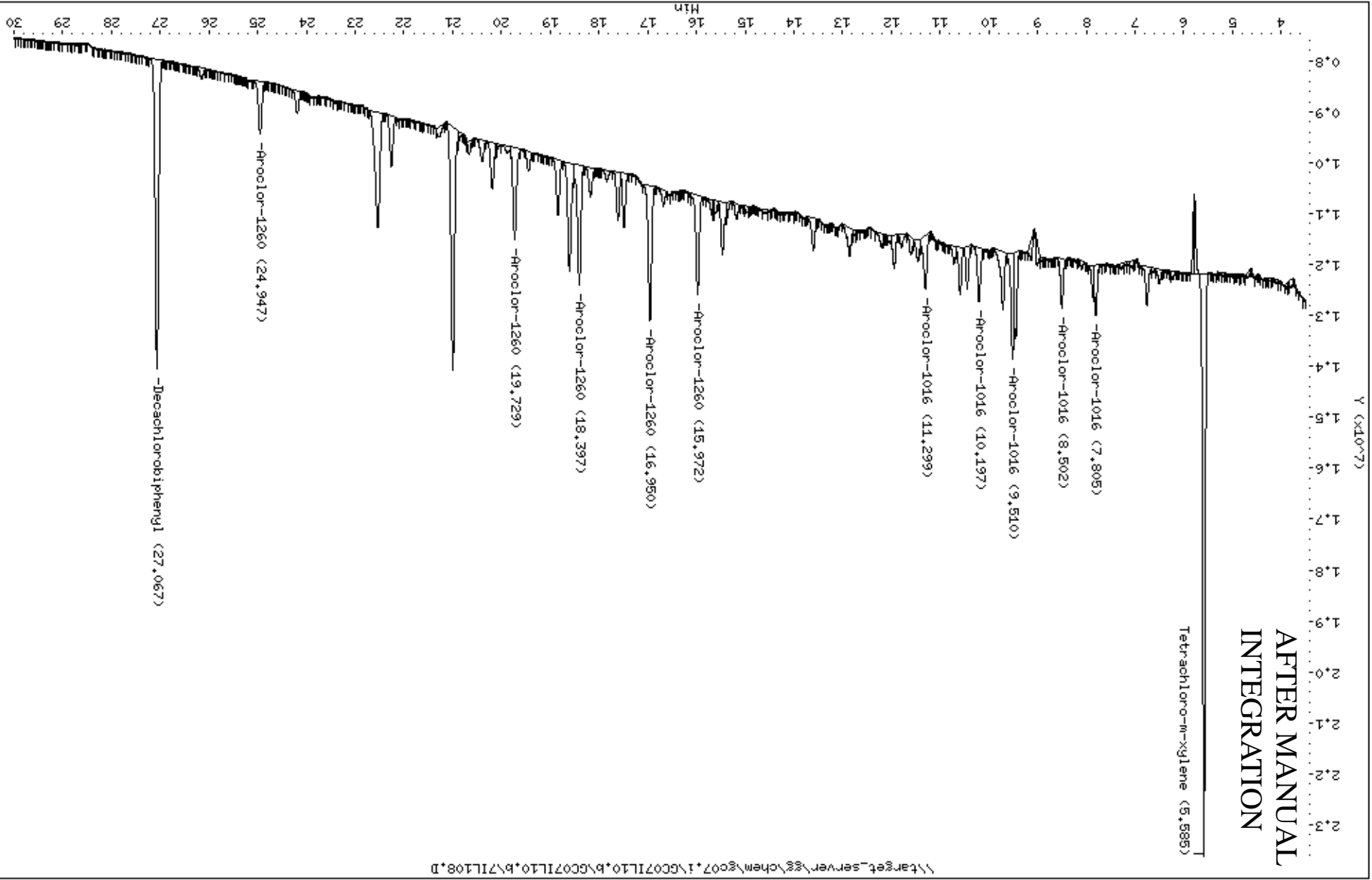
QC Flag Legend

M - Compound response manually integrated.





# AFTER MANUAL INTEGRATION



Data File: \\target\_server\chem\gc07\1\GC071L10.B\GC071L10.B\71L108.D  
Date: 10-DEC-2015 19:17  
Client ID: HM-44-120215MSD  
Sample Info: M6175803-5,S19749  
Purge Volume: 1.0  
Column phase: ZB-MultiResidue-2

Instrument: gc07.i  
Operator: RMS  
Column diameter: 0.53

# **Logbooks and Supporting Documents**



# Katahdin Analytical Services, Inc.

GC Laboratory Instrument Runlog

Instrument: GC07

Amount Injected: 2 uL

Column Numbers: 384/385

Method: SW846 (8082) EPA 608  
(circle)

Standard	Standard ID

Date	Init.	Result File	Sample ID	Y/N	Analytical Workgroup	Method	Comments
11-13-15	AWS	ZIK 273	AR1660 1.0	Y	WG174334-1	PCB096	P8092
		274	0.05			-2	P8034
		275	0.1			-3	P8035
		276	0.25			-4	P8084
		277	2.5			-5	P8037
		278	10	↓		-6	P8027
		279	AR1016 1.0	N			P7944
		280	AR1260 1.0	Y		-8	P7945
		281	AR1242 1.0			-9	P8086
		282	0.05			-10	P7946
		283	0.1			-11	P7947
		284	0.25			-12	P8091
		285	2.5			-13	P7949
		286	10	↓		-14	P8085
		287	AR1242 IND			-15	P8102
		288	AR1254 1.0			-16	P8095
		289	0.05			-17	P8029
		290	0.1			-18	P8030
		291	0.25			-19	P8090
11-14-15		292	2.5			-20	P8032
		293	10	↓		-21	P8026
		294	AR1254 IND			-22	P8103
		295	AR1221 1.0			-23	P8003
		296	AR1232 1.0			-24	P8042
		297	AR1248 1.0			-25	P7998
		298	AR1262 1.0			-26	P7952
		299	AR1268 1.0	↓		-27	P7954
		300	WG174002-1	Y			
		301	-2	↓			
		302	-3	↓			

**Katahdin Analytical Services, Inc.**

GC Laboratory Instrument Runlog

Instrument: GC07

Amount Injected: 2 uL

Column Numbers: 384/385

Method: SW846 **(8082)** / EPA 608  
(circle)

Standard	Standard ID
AR1660 1.0	P8092
↓ 0.25	P8104
AR1254 1.0	P8095
↓ 0.25	P8090
AR1242 1.0	P8086
↓ 0.25	P8091

Date	Init.	Result File	Sample ID	Y/N	Analytical Workgroup	Method	Comments
11-16-15	AWS	7IK363	AR 1016 1.0	Y	WG174334-7	P8096	P8105
		364	SI 9038 - 1 DL	Y	WG174354		1:2 100/200
		365	WG174344 - 1 DL				↓
		366	↓ - 2 DL				1:10 100/1000
		367	AR1660 0.25	↓			
11-17-15	AWS	7IK368	PRIME	N	WG174438		
		369	AR1660 1.0	Y			-1
		370	AR1254 1.0				-2
		371	AR1242 1.0				-3
		372	WG174418-1				
		373	↓ - 2				
		374	↓ - 3				
		375	SI 9258 - 1 DL				1:10 50/500
		376	↓ - 2 DL				1:20 50/1000
		377	↓ - 3 DL				1:50 50/500 → 100/500
		378	SI 9260 - 1 DL				1:100 50/500 X2
		379	↓ - 2 DL				↓
		380	AR1660 0.25				-4
		381	AR1254 0.25				-5
		382	AR1242 0.25	↓			-6
11-18-15	AWS	7IK383	PRIME	N	WG174478		
		384	AR1660 1.0	Y			
		385	AR1254 1.0				
		386	AR1242 1.0				
		387	WG174382-1				
		388	↓ - 2				
		389	↓ - 3				
		390	SI 9228-1	↓			surv ↓ A + B
		391	SI 9003-1				surv ↓ A + B
		392	SI 9087-1	Y			

# Katahdin Analytical Services, Inc.

GC Laboratory Instrument Runlog

Instrument: GC07

Amount Injected: 2 uL

Column Numbers: 384/385

Method: SW846 (8082) / EPA 608  
(circle)

Standard	Standard ID
AR1660 1.0	P8118
↓ 0.25	P8104
AR1254 1.0	P8095
↓ 0.25	P8116
AR1242 1.0	P8115
↓ 0.25	P8091

Date	Init.	Result File	Sample ID	Y/N	Analytical Workgroup	Method	Comments
12-9-15	AWS	7IL 084	PRIME	N	WG175634	P08096	
		085	AR1242 1.0	Y	↓		
		086	SI 9816-2 DL		↓		1:10 sc/sco
		087	AR1242 0.25		WG175763		
		088	AR1660 1.0		-1		
		089	AR1254 1.0				
		090	WG175582-1				
		091	↓ -2				
		092	↓ -3				
		093	SI 9708-1				
		094	↓ -3				
		095	SI 9654-10L				1:10 sc/sco
		096	AR1242 1.0				
		097	AR1254 0.25				
		098	AR1660 0.25				-2
12-10-15	AWS	7IL 099	PRIME	N	WG175876		
		100	PRIME	N			
		101	AR1660 1.0	Y	-1		<del>TCX</del> A + B 12/11/15
		102	AR1254 1.0				
		103	AR1242 1.0				
		104	WG175803-1				TCX + A
		105	↓ -2				
		106	↓ -3				
		107	↓ -4				
		108	↓ -5				
		109	SI 9892-1				TCX, PCB ↓ A+B
		110	SI 9749-1				
		111	↓ -2				
		112	↓ -3				
		113	↓ -4				





# Appendix C

## Data Validation Report

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**SDG L1531802 DV-88  
Data Validation Report**

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February 1, 2016

Mr. Paul Dragos  
Battelle  
141 Longwater Drive  
Suite 202  
Norwell, MA 02061

Subject: NBH Data Validation

Dear Mr. Dragos;

Enclosed is the final validation report for the sample delivery group (SDG) listed below.

<b><u>SDG #</u></b>	<b><u>Fraction</u></b>	<b><u>Date Received</u></b>
L1531802	Water Metals by ICP_MS	01/11/16

The data validation was performed at Tier I Stage 2A level using the following guidelines, as applicable to each method:

- EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, April 2013
- EPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review, January 2010

Please feel free to contact me if you have any questions at 412-341-5281 or [mwalters@edv-inc.com](mailto:mwalters@edv-inc.com).

Sincerely,

Maxine Wright-Walters, Ph.D

## Data Validation Report

Project Name	New Bedford Harbor
Task Order Number	10
Collection Date	December 2-3, 2015
Matrix	Water
Parameter(s)	Metals by ICP-MS
Validation Level	USEPA Region I Tier I Stage 2A Data Validation
Laboratory	Alpha Analytical – Westboro, MA
Validator	E. Cole
Report Date	February 1, 2016
Sample Delivery Group (SDG)	L1531802
<b>Sample Identification</b>	
<b>Sample ID</b>	<b>Lab ID</b>
MW-4A-120215	L1531802-01
MW-5-120215	L1531802-02
MW-5-120215-REP	L1531802-03
MW-01-120215	L1531802-04
MW-06-120215	L1531802-05
MW-7A-120315	L1531802-06
MW-03-120315	L1531802-07
EB-001-120315	L1531802-08

### Introduction

This data review covers the SDG and parameters listed above. The data validation was performed using EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (April 2013) and criteria listed in the task order QAPP. The data qualification summary details any data validation qualifiers that were assigned during the validation process.

### The following data validation qualifiers are defined for the purposes of this report:

U	Indicates the compound or analyte was analyzed for but not detected at or above the stated limit
J	Indicates an estimated value
UJ	Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value
R	Quality control data indicates the data are not usable

## Data Validation Report

### Data Qualification Summary

Sample ID(s)	Compound(s)	Flag	Reason
MW-4A-120215 MW-5-120215 MW-5-120215-REP MW-01-120215 MW-06-120215	Chromium	J	C-MS/MSD exceedance

\_\_\_ No qualifiers were assigned during data validation.

**Additional Comments (if required):**

**Attachment 1**  
**DATA VALIDATION CHECKLIST**

Matrix: Groundwater

Analysis: Metals

Laboratory Package ID: L1531802

Reviewed by: E. Cole

Data Validation Codes:

A = QC parameter met acceptance criteria

B = One or more QC parameters outside acceptance criteria, but data is useable

C = One or more QC parameter outside acceptance criteria and data is potentially unusable (see validation narrative)

Date: 2/1/16

N/A = not applicable

QC Parameter	Present Y/N	Acceptance Criteria	DV Code	Comments
<b>TIER I Stage 1</b>				
Data Package Complete	Y	Completeness checklist elements included	A	
Sample Receipt Conditions; Holding Time	Y	6 months to extraction and analysis	A	
<b>TIER I Stage 2A (plus Tier I Stage 1)</b>				
Laboratory Reagent Blank	Y	<Reporting limit	A	
Laboratory Control Sample	Y	80-120% Recovery	A	
Internal Standards	Y	70-120% Recovery	A	
Serial Dilution Sample	Y	±10% agreement between 1:5 dilution and undiluted sample for results >50xMDL	A	
<b>TIER I+ (plus Tier 1 Stage 2A) <sup>1,2</sup></b>				
Field Equipment/Rinsate Blank	Y	<Reporting limit	B	Cu results > RL. No samples qualified

<sup>1</sup> Shaded validation tiers are not applicable for this project.

<sup>2</sup> The DO#10 QAPP specifies validation of EB, FD, TB, MS/MSD, and IB results be validated as part of Tier I Stage 2A validation.



**Attachment 1**

**DATA VALIDATION CHECKLIST**

Field Replicates	Y	Relative Percent Difference (RPD) $\leq 30\%$	A	Field duplicate pair is: MW-5-120215-REP
Matrix Spike/Matrix Spike Duplicate	Y	75-125% Recovery; RPD $\leq 20\%$	C	Chromium results > QC limits Detects qualified.
Serial Dilution Sample		$\pm 10\%$ agreement between 1:5 dilution and undiluted sample for results > 50xMDL		
Post Dilution Spike		80 – 120 %R		
USACE QA Split Sample		Refer to Jacobs (2009) QAPP		
<b>TIER II (plus Tier 1 Stage 2A)</b>				
Initial Calibration Standard (ICAL)		Coefficient of Determination (r) > 0.998		
Independent Calibration Check (ICC)		$\leq 10\% D$		
Continuing Calibration Standard (CCV)		$\leq 10\% D$		
Reporting Limit Check (CRI)		80 – 120 %R		
Interference Check Samples (ICSA & ICSAB)		80 – 120 %R		
Recalculation checks (5%)				

**Additional Comments:**

The data package includes 7 field samples, 1 field blanks and 0 media blanks.

**Attachment 1**  
**DATA VALIDATION CHECKLIST**

**Data Completeness**

**QAPP Worksheet #34: Laboratory Data Completeness**

<b>Y/N</b>	<b>Completeness Criteria</b>
Y	Title sheet identifying laboratory name, location, contact information
Y	Authorization statement and dated signature
Y	Analytical case narrative (i.e., data quality report)
Y	Sample identification table
Y	Method summary
Y	Sample results including date and time of analysis, (metric units, dry weight basis for sediment)
Y	QC results and acceptance criteria
Y	Signed COC forms

**SDG L1531802 DV-89  
Data Validation Report**

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January 21, 2016

Mr. Paul Dragos  
Battelle  
141 Longwater Drive  
Suite 202  
Norwell, MA 02061

Subject: NBH Data Validation

Dear Mr.Dragos,

Enclosed is the final validation report for the sample delivery group (SDG) listed below.

<u>SDG #</u>	<u>Fraction</u>	<u>Date Received</u>
L1531802	GW Total Suspended Solids (TSS)	1/11/2016

The data validation was performed at Tier I Stage 1 level using the following guidelines, as applicable to each method:

- EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, April 2013
- EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

Please feel free to contact me if you have any questions at 781-681-5502 or [buhl@battelle.org](mailto:buhl@battelle.org).

Sincerely,

Rosanna Buhl  
Battelle Columbus Operations

## Data Validation Report

Project Name	New Bedford Harbor
Task Order Number	10
Collection Date	December 2 and 3, 2015
Matrix	Ground Water
Parameter(s)	Total Suspended Solids
Validation Level	Tier I Stage 1
Laboratory	Alpha Analytical – Mansfield, MA (Total Suspended Solids)
Auditor	Rosanna Buhl
Report Date	January 21, 2016
Sample Delivery Group (SDG)	L1531802
<b>Sample Identification</b>	
<b>Field Sample Identification</b>	<b>Laboratory Sample Identification</b>
MW-01-120215	L1531802-04
MW-03-120315	L1531802-07
MW-06-120215	L1531802-05
MW-4A-120215	L1531802-01
MW-5-120215	L1531802-02
MW-5-120215-REP	L1531802-03
MW-7A-120315	L1531802-06

### Introduction

This data review covers the SDG and parameters listed above. The data validation was performed using EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (April 2013) and criteria listed in the task order QAPP. The data qualification summary details any data validation qualifiers that were assigned during the validation process.

### The following data validation qualifiers are defined for the purposes of this report:

U	Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
J	Indicates an estimated value.
UJ	Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
R	Quality control data indicates the data is not usable.

# Data Validation Report

## Data Qualification Summary

Sample ID(s)	Compound(s)	Flag	Reason

No qualifiers were assigned during data validation.

**Additional Comments (if required):** none

**Attachment 1:** Data Validation checklist for Total Suspended Solids

## Attachment 1

### DATA VALIDATION CHECKLIST – TOTAL SUSPENDED SOLIDS

Matrix: Groundwater

Analysis: Total Suspended Solids (TSS)

Laboratory Package ID: L1531802

Reviewed by: Rosanna Buhl

Date: January 21, 2016

Data Validation Codes:

A = QC parameter met acceptance criteria

B = One or more QC parameters outside acceptance criteria, but data is useable

C = One or more QC parameter outside acceptance criteria and data is potentially unusable (see validation narrative)

N/A = not applicable

QC Parameter	Present Y/N	Acceptance Criteria	DV Code	Comments
<b>TIER I Stage 1</b>				
Data Package Complete	Y	Completeness checklist elements included	A	
Sample Receipt Conditions; Holding Time	Y	Ice, 4°C ± 2°C 7 days to analysis	A	Collect Date: Dec 2&3, 2015 Analysis Date: Dec 8, 2015
<b>TIER I Stage 2A (plus Tier I Stage 1)<sup>1</sup></b>				
Method Blank		<Reporting limit (2.0 mg/L)		
Laboratory Control Sample		80-120% Recovery		
Laboratory (Matrix) Duplicate Sample		1 per batch; Relative Percent Difference (RPD) ≤ 5% when results are >5x RL		
QA Split Sample		See Jacobs QAPP 2009		
<b>TIER I+ (plus Tier 1 Stage 2A)</b>				
Field Replicate		RPD ≤30%		

<sup>1</sup> Shaded validation tiers are not applicable for this project.



## Attachment 1

### DATA VALIDATION CHECKLIST – TOTAL SUSPENDED SOLIDS

#### QAPP Worksheet #34: Laboratory Data Completeness

Y/N	
Y	Title sheet identifying laboratory name, location, contact information
Y	Authorization statement and dated signature
Y	Analytical case narrative (i.e., data quality report)
Y	Sample identification table
Y	Method summary
Y	Sample results including date and time of analysis, (metric units, dry weight basis for sediment)
Y	QC results and acceptance criteria
Y	Signed COC forms

#### Additional Comments:

The data package includes 7 field samples, 1 field blanks<sup>2</sup> and 0 media blank.

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<sup>2</sup> Field blanks are not “reportable” in the project database.

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**SDGSI9749 DV-87**  
**Data Validation Report**

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March 7, 2016

Mr. Paul Dragos  
Battelle  
141 Longwater Drive  
Suite 202  
Norwell, MA 02061

Subject: NBH Data Validation

Dear Mr. Dragos;

Enclosed is the final validation report for the sample delivery group (SDG) listed below.

<b><u>SDG #</u></b>	<b><u>Fraction</u></b>	<b><u>Date Received</u></b>
SI9749	Groundwater VOA & PCB by 8260 & 8082	2/15/16

The data validation was performed at Tier I Stage 2A level using the following guidelines, as applicable to each method:

- EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, April 2013
- EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

Please feel free to contact me if you have any questions at 412-341-5281 or mwalters@edv-inc.com.

Sincerely,

Maxine Wright-Walters, Ph.D

## Data Validation Report

Project Name	New Bedford Harbor
Task Order Number	10
Collection Date	December 2-3, 2015
Matrix	Groundwater
Parameter(s)	VOA by 8260 & PCB by 8082
Validation Level	USEPA Region I Tier I Stage 2A Data Validation
Laboratory	Katahdin Analytical– Scarborough ME
Validator	L. Wright
Report Date	March 7, 2016
Sample Delivery Group (SDG)	SI9749
<b>Sample Identification</b>	

Sample ID	Lab ID
MW-4A-120215	S19749-1
MW-5-120215	S19749-2
MW-5-120215-REP	S19749-3
MW-01-120215	S19749-4
MW-06-120215	S19749-S
MW-7A-120315	S19749-6
MW-03-120315	S19749-7
EB-001-120315	S19749-8
TRIP BLANK	S19749-9

### Introduction

This data review covers the SDG and parameters listed above. The data validation was performed using EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (April 2013) and criteria listed in the task order QAPP. The data qualification summary details any data validation qualifiers that were assigned during the validation process.

### The following data validation qualifiers are defined for the purposes of this report:

U	Indicates the compound or analyte was analyzed for but not detected at or above the stated limit
J	Indicates an estimated value
UJ	Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value
R	Quality control data indicates the data are not usable

## Data Validation Report

### Data Qualification Summary

Sample ID(s)	Compound(s)	Flag	Reason
TRIP BLANK MW-7A-120315 MW-5-120215-REP EB-001-120315	Acetone Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform Bromomethane Carbon Disulfide Carbon Tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane Cis-1,2-Dichloroethene Cis-1,3-Dichloropropene Dibromochloromethane Dibromomethane Dichlorodifluoromethane Diethyl Ether Di-Isopropyl Ether Ethyl Tertiary-Butyl Ether Ethylbenzene Hexachlorobutadiene Isopropylbenzene Methylene Chloride Methyl-Tert-Butyl-Ether (MTBE) N-Butylbenzene N-Propylbenzene O-Xylene P-Isopropyltoluene P/M Xylene Sec-Butylbenzene Styrene Tert-Butylbenzene Tertiary-Amyl Methyl Ether Tetrachloroethene Toluene Trans-1,2-Dichloroethene	UJ	C-Preservation deficiency

## Data Validation Report

Sample ID(s)	Compound(s)	Flag	Reason
	Trans-1,3-Dichloropropene Trichloroethene Trichlorofluoromethane Vinyl Chloride 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,1,1-Trichloroethane 1,1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1,2,2-Tetrachloroethane 1,2-Dibromoethane 1,2-Dibromo-3-Chloropropane 1,2-Dichlorobenzene 1,2-Dichloroethane 1,2-Dichloropropane 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,3-Dichlorobenzene 1,3-Dichloropropane 1,3,5-Trimethylbenzene 1,4-Dichlorobenzene 1,4-Dioxane (P-Dioxane) 2-Butanone 2-Chlorotoluene 2-Hexanone 2,2-Dichloropropane 4-Chlorotoluene 4-Methyl-2-Pentanone Tetrahydrofuran Naphthalene		
MW-5-120215 MW-4A-120215 MW-06-120215 MW-03-120315 MW-01-120215	Acetone Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform	UJ	C-Preservation deficiency



## Data Validation Report

Sample ID(s)	Compound(s)	Flag	Reason
	Bromomethane		
	Carbon Disulfide		
	Carbon Tetrachloride		
	Chlorobenzene		
	Chloroethane		
	Chloroform		
	Chloromethane		
	Cis-1,2-Dichloroethene		
	Cis-1,3-Dichloropropene		
	Dibromochloromethane		
	Dibromomethane		
	Dichlorodifluoromethane		
	Diethyl Ether		
	Di-Isopropyl Ether		
	Ethyl Tertiary-Butyl Ether		
	Ethylbenzene		
	Hexachlorobutadiene		
	Isopropylbenzene		
	Methylene Chloride		
	Methyl-Tert-Butyl-Ether (Mtbe)		
	N-Butylbenzene		
	N-Propylbenzene		
	O-Xylene		
	P-Isopropyltoluene		
	P/M Xylene		
	Sec-Butylbenzene		
	Styrene		
	Tert-Butylbenzene		
	Tertiary-Amyl Methyl Ether		
	Toluene		
	Trans-1,2-Dichloroethene		
	Trans-1,3-Dichloropropene		
	Trichloroethene		
	Trichlorofluoromethane		
	Vinyl Chloride		
	1,1-Dichloroethane		
	1,1-Dichloroethene		
	1,1-Dichloropropene		
	1,1,1-Trichloroethane		

## Data Validation Report

Sample ID(s)	Compound(s)	Flag	Reason
	1,1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1,2,2-Tetrachloroethane 1,2-Dibromoethane 1,2-Dibromo-3-Chloropropane 1,2-Dichlorobenzene 1,2-Dichloroethane 1,2-Dichloropropane 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,3-Dichlorobenzene 1,3-Dichloropropane 1,3,5-Trimethylbenzene 1,4-Dichlorobenzene 1,4-Dioxane (P-Dioxane) 2-Butanone 2-Chlorotoluene 2-Hexanone 2,2-Dichloropropane 4-Chlorotoluene 4-Methyl-2-Pentanone Tetrahydrofuran Naphthalene		
MW-5-120215 MW-4A-120215 MW-06-120215 MW-03-120315 MW-01-120215	Tetrachloroethene	J	C-Preservation deficiency

**Additional Comments (if required):** (None)

The data package includes 7 field samples, 1 field blanks, 1 trip blank, and 0 media blanks.

**Attachment 1:** Data validation checklist for VOCs

**Attachment 2:** Data validation Checklist for PCBs

**Attachment 1**  
**DATA VALIDATION CHECKLIST**

Matrix: Groundwater

Analysis: VOCs

Laboratory Package ID: SI9749

Reviewed by: L Wright

Date: 3/7/16

Data Validation Codes:

A = QC parameter met acceptance criteria

B = One or more QC parameters outside acceptance criteria, but data is useable

C = One or more QC parameter outside acceptance criteria and data is potentially unusable (see validation narrative)

N/A = not applicable

QC Parameter	Present Y/N	Acceptance Criteria	DV Code	Comments
<b>TIER I Stage 1</b>				
Data Package Complete	Y	Completeness checklist elements included	A	
Sample Receipt Conditions; Holding Time	Y	14 days to extraction and analysis; pH ≤ 2 at receipt	C	Elevated temperature on sample coolers. All detects qualified "J" and non-detects "UJ."
<b>TIER I Stage 2A (plus Tier I Stage 1)</b>				
Method Blank	Y	Acetone, 2-Butanone, & Methylene Cl ≤ 2x RL; all other analytes < RL	A	
Laboratory Control Sample/ Laboratory Control Sample Duplicate	Y	% Recovery (R) is within lab limits; RPD ≤ 20%	B	
Surrogate Recovery	Y	% Recovery (R) is within lab limits	A	
Internal Standards	Y	-50% to +100% of area counts at ICAL	A	

## Attachment 1

### DATA VALIDATION CHECKLIST

QC Parameter	Present Y/N	Acceptance Criteria	DV Code	Comments
USACE QA Split	Y	Refer to Jacobs (2009) QAPP	A	
<b>TIER I+ (plus Tier 1 Stage 2A) <sup>1,2</sup></b>				
Field Equipment/Rinsate Blank	Y	<Reporting limit	A	
Field Trip Blank	Y	<Reporting limit	A	
Field Replicate	Y	Relative Percent Difference (RPD) ≤30%	A	Field duplicate pair is: MW-5-120215-REP RPD<QC limit
Matrix Spike/Matrix Spike Duplicate	Y	%R is within lab limits; RPD ≤ 20%	A	
<b>TIER II (plus Tier 1 Stage 2A)</b>				
Initial Calibration Standard (ICAL)		RSD ≤20% or COD or $r^2 > 0.99$ on both GC columns		
Initial Calibration Verification (ICV)		%D ≤ ±20% on both GC columns		
Continuing Calibration Verification (CCV)		%D ≤ ±20% on both GC columns		

### QAPP Worksheet #34: Laboratory Data Completeness

Y/N	Completeness Criteria
Y	Title sheet identifying laboratory name, location, contact information
Y	Authorization statement and dated signature
Y	Analytical case narrative (i.e., data quality report)
Y	Sample identification table
Y	Method summary
Y	Sample results including date and time of analysis, (metric units, dry weight basis for sediment)
Y	QC results and acceptance criteria
Y	Signed COC forms

<sup>1</sup> Shaded validation tiers are not applicable for this project.

<sup>2</sup> The DO#10 QAPP specifies validation of EB, FD, TB, MS/MSD, and IB results be validated as part of Tier I Stage 2A validation.

**Attachment 2**  
**DATA VALIDATION CHECKLIST**

Matrix: Groundwater

Analysis: PCBs - Aroclors

Laboratory Package ID: SI9749

Reviewed by: H. Campbell

Date: 3/7/16

Data Validation Codes:

A = QC parameter met acceptance criteria

B = One or more QC parameters outside acceptance criteria, but data is useable

C = One or more QC parameter outside acceptance criteria and data is potentially unusable (see validation narrative)

N/A = not applicable

QC Parameter	Present Y/N	Acceptance Criteria	DV Code	Comments
<b>TIER I Stage 1</b>				
Data Package Complete	Y	Completeness checklist elements included	A	
Sample Receipt Conditions; Holding Time	Y	Ice, 4°C ± 2°C 30 days to extraction; 40 days to analysis	B	Elevated sample cooler temperature. Sample integrity not compromised as they are PCBs. No qualifier
<b>TIER I Stage 2A (plus Tier I Stage 1)</b>				
Method Blank	Y	<Reporting limit (0.5 µg/L)	A	
Laboratory Control Sample/ Laboratory Control Sample Duplicate	Y	Aroclor 1016 and Aroclor 1260 %R within lab limits; RPD ≤ 30%	A	
Surrogate Recovery	Y	%R within lab limits	A	
USACE QA Split	Y	Refer to Jacobs (2009) QAPP	A	
<b>TIER I+ (plus Tier 1 Stage 2A) <sup>3,4</sup></b>				
Field/Equipment Blank	Y	<Reporting Limit (0.5 µg/L)	A	

<sup>3</sup> Shaded validation tiers are not applicable for this project.

<sup>4</sup> The DO#10 QAPP specifies validation of EB, FD, TB, MS/MSD, and IB results be validated as part of Tier I Stage 2A validation.

**Attachment 2**

**DATA VALIDATION CHECKLIST**

<b>QC Parameter</b>	<b>Present Y/N</b>	<b>Acceptance Criteria</b>	<b>DV Code</b>	<b>Comments</b>
Field Replicates	Y	Relative Percent Difference $\leq$ 30%	A	Field duplicate pair is: MW-5-120215-REP. RPDs < QC limit
Matrix Spike/Matrix Spike Duplicate	Y	Aroclor 1016 and Aroclor 1260 %R within lab limits; RPD $\leq$ 30%	A	
Sulfur Cleanup (not routine for groundwater)		Sulfur clean-up performed; sulfur co-elution does not interfere with peak integration.		
<b>TIER II (plus Tier 1 Stage 2A)</b>				
Initial Calibration Standard (ICAL)		RSD $\leq$ 20% or COD or $r^2 > 0.99$ on both GC columns		
Initial Calibration Verification (ICV)		%D $\leq \pm 20\%$ on both GC columns		
Continuing Calibration Verification (CCV)		%D $\leq \pm 20\%$ on both GC columns		

**Additional Comments:** (none)

**QAPP Worksheet #34: Laboratory Data Completeness**

<b>Y/N</b>	<b>Completeness Criteria</b>
Y	Title sheet identifying laboratory name, location, contact information
Y	Authorization statement and dated signature
Y	Analytical case narrative (i.e., data quality report)
Y	Sample identification table
Y	Method summary
Y	Sample results including date and time of analysis, (metric units, dry weight basis for sediment)
Y	QC results and acceptance criteria
Y	Signed COC forms

# **Appendix D**

## **Inter-laboratory Comparison Results**

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Data Validation Level	Matrix	Preservation	Temperature Sample Receipt	Laboratory	SDG Number
Tier I+ SEDD 2A  Level II Data Package	Aqueous GW Monitoring	Various (As appropriate by Method)	One (1) sample cooler was received by TAL-VT on 12-3-15 at 2.3 °C	Test America Laboratory, VT 30 Community Drive, South Burlington, VT 05403 POC: Jim Madison 802-660-1990	SDG# or Lab W.O. No. 200-31032-1
Site: New Bedford Harbor Superfund Site 2015 Sawyer St GW Monitoring QA-Split Sampling-					

**Field Identification of Samples Evaluated:**

Field ID	Sample Location	Lab Sample Number	Sample Date
MW-001-120215-QA	NBH Sawyer St	200-31032-1	12-2-15

*Note: One QA split sample was collected for the annual Groundwater Monitoring at the Sawyer Street Pilot Study Confined Disposal Facility at the New Bedford Harbor Superfund Site located in New Bedford, MA. The following suite of analysis parameters were performed by the sub-contracted lab Test America, Inc., Burlington, VT. The appropriate sample handling, shipping, COCs, COC seals, certified pre-clean sample containers and preservatives were used. All of the appropriate coolers, sample containers were provided by the primary laboratory, Katahdin Analytical Services, Scarborough ME.*

Data Validation Chemist:

Mark R. Koenig  
 Senior Project Chemist  
 USACE, New England District  
 696 Virginia Road  
 Concord, MA 01742-2751  
 Ph: 978-318-8312  
 Fax: 978-318-8664

Analytical Parameters collected 12-2-16:

15 JMT  
5/10/16

VOCs by Method 5030B/8260B

PCBs by Method 3510C/8082-Aroclors

Metals by Methods 3010A/6010C-AES-ICP (Cd, Cr, Cu and Pb)

TSS (Total Suspended Solids) by ASTM Method 2540D

Note: One QA Split sample was collected.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED	Inventory	QUAL	BIAS
COC	1) Unbroken custody (accept or if broken R) 2) Temp ≤ 6° (Soil-J detects, R - nondetects) 3) Preserved per method (amber bottles, temperature, J, UJ, or R (function of HT and compound)).	Cooler temperature at 2.3 degrees C. Sample preservation was adequate. The samples were transported to the laboratory in 1 cooler with ice packs but were not frozen upon receipt. Sample custody was transferred from Field Team Leader to and the sub-contracted laboratory TAL-VT. The Chain of Custody was intact. The laboratory sample receipt and login checklist indicates that sample integrity was maintained during transport. No qualifications were required.	X	-	
Holding Times (All analyses)	1) 7 Days water, 14 days soil to extraction; (40 days after extraction) 2) J - detects, UJ or R - nondetects (function of time) 3) 180-days for metals, Hg 28-days	1. All samples were extracted within 7 days from sample collection and analyzed within 40 days from sample extraction. Metals were digested and analyzed within the 180 holding times. No qualifications were required.	X	-	
% Solids Check (SOLIDS)	30% < Solids: if no sample weight adjustment made 1) < 10% R entire sample 2) 10% > and < 30%; J-detects, NDs -R	Not applicable	-	-	
Results > Cal Range or < Cal Range	1) > Upper Cal Range J-detects - ensure instrument blank performed 2) < MRL but > MDL - J - detects (estimated)	1. No reported results were outside of the linear calibration range. No qualifications were required.	X	-	
Equipment Blank (EB)	< 5x (< 10x common) contaminants for aqueous samples	1. Equipment Blank was not submitted with the QA-split sample. The trip blank was within all of the acceptance criteria.	-	-	
Surrogates	Surrogate Recoveries (All methods)  8260B- sample MW-001-052914-QA  1,2-Dichloroethane-d4 @ 92% (80-120) 4-Bromofluorobenzene @ 85% (80-125) 1,2-Dichlorobenzene-d4 @ 86 (75-125) Toluene-d8 @ 91% (80-120)  8082- sample MW-06-QA-120215  TCMX @ 60% (20-143) DCB @ 62% (36-140)	8260B- sample and QC samples  All the surrogate recoveries for sample MW-06-120215-QA, MB and LCS/LCSD were within the acceptance limits. No qualifiers were required.  8082- sample and QC samples  All the surrogate recoveries for sample MW-06-120215-QA, MB and LCS/LCSD were within the acceptance limits. No qualifiers required.	X	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED	Inventory	QUAL	BIAS
Laboratory Method Blanks (MB)	1) < 5x contaminants – U 2) analytes <lab RL (contract lab)	1 All of the Method Blanks for all of the analytical methods associated with sample MW-6-120515-QA were free of contamination above the RLs or LOQs. All of the metals in the MB 200-31032-1 were below the LOQs. No qualifiers required.	X	-	
Laboratory Control Sample (LCS) Percent Recovery	1) LCS TAL-VT laboratory acceptance limits (Battelle UFP-QAPP) 2) DOD QSM Table D-12 (aqueous)  10% and <LCL% J detects, UJ -NDs >UCL% J detects <10% R NDs, J-detects	1. All of the LCS/LCSD QC samples for all the analytical analyses were within the acceptance limits. No qualifier required	X	-	
LCS/LCSD Relative Percent Difference (RPD)	RPD < 30% laboratory SOP	All of the LCS/LCSDs for all methods performed were within the laboratory acceptance limits for precision.	X	-	
Matrix Spike/ Matrix Spike Duplicate (MS/MSD) Percent Recovery	1) MS/MSD ESS Lab acceptance limits (Battelle UFP-QAPP limits). 2) DOD QSM Table D-12 (aqueous) D-13 (s) QAPP limits (if MS > 4X native levels) Qualification of MS sample: <10% J detects, R NDs >10% and <LCL J detects, UJ -NDs >UCL J detects	1. Metals- No MS/MSD or MS were required. No evaluation of matrix effects or % recoveries on sample MW-6-120215-QA could be made. 2. 8082 PCBs by aroclors: No MS/MSD or MS required. No evaluation of matrix effects or % recoveries on sample MW-6-120215-QA could be made. 3. 8260B VOCs: No MS/MSD or MS required. No evaluation of matrix effects or % recoveries on sample MW-6-120215-QA could be made. 4. TSS by Method 2540D: No MS/MSD was performed on TSS.	-	-	
MS/MSD RPD	RPD ≤ 30% (Battelle UFP-QAPP) J-detects in MS sample UJ-non detects	See above. No MS/MSDs were requested. Matrix effects, %Recoveries or precision could not be made.	-	-	

USACE, New England District  
 Region I Data Review Worksheet

Project: New Bedford Harbor- Sawyer St GW Monitoring QA

Data Validation Report

Review Criteria: NBH UFP-QAPP  
 USEPA Region I Tier I+ Guidance  
 SEDD 2A

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED	Inventory	QUAL	BIAS
Retention times	Within 3X standard deviation for each analyte from ICAL/CCV –lab window limits. Once per ICAL determined and evaluated with each CCV Exceeds: determine if false positives reported	No samples qualified.	X	-	
Field Duplicate RPD	1) RPD ≤ 50% water Results > X MRL (FD pair only) J-detects (both > X PQL) 2) If one >X MRL, other ND, J-detections, UJ non-detect Other conditions use judgment	1. A field duplicate for TSS was not collected for the QA-split sample.	-	-	
Initial Calibration (ICAL) (Linearity)	Correct calibration standards %RSD < 20% use average RF for calibration DOD QSM %RSD > 20% use least squares regression r > 0.995 MMR QAPP	1. Not evaluated as part of the Tier I+ or SEDD 2A DV.	X	-	
2 <sup>nd</sup> Source Initial Calibration Verification (ICV)	%D ≤ 20% DOD QSM, 20% WHG UFP-QAPP once after ICAL Qualification: J detects, R or UJ ND's	1. Not evaluated as part of the Tier I+ or SEDD 2A DV.	X	-	
Continuing Calibration Verification (CCV)	1) 20 %D/drift of expected value (primary column) 2) 20% of expected value (confirmation column) WHG UFP-QAPP  Analyzed after every 10 samples and at end of sequence.	1. Not evaluated as part of the Tier I+ or SEDD 2A DV.	X	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED	Inventory	QUAL	BIAS
Compound Detection Confirmed	1) Detects within proper retention time windows 2) Primary column detects confirmed by secondary column detects for PCB aroclors. 3) RPD <40% between column detections for PCBs by Method 8082 by aroclors. 4) MS/MSD no matrix interferences noted.	1. No QC deviations were observed.  2. Executive Summary of Detections of QA-split sample MW-06-120215-QA, no detects:  <b>8260B-</b> All reported target analytes were NDs at the LOQ. No qualifiers required.  <b>8082 Aroclors-</b> All 9 Aroclors were reported as NDs at the LOQ.  <b>Metals-6010C, no validation qualifiers applied.</b> Cadmium @ 5.0 U ug/l (LOD @ 0.56 ug/l, LOQ @ 5.0 ug/l) Chromium @ 0.92 J ug/l (LOD @ 1.1 ug/l, LOQ @ 10 ug/l) Copper @ 3.4 J ug/l (LOD) @ 4.2 ug/l, LOQ @ 25 ug/l) Lead @ 15.0 U ug/l (LOD @ 3.7 ug/l, LOQ @ 15.0 ug/l)  <b>TSS-</b> TSS at <del>32</del> <sup>6</sup> mg/l for the sample. <i>just 5/10/16</i>	X	Refer to Table 3	
Quantitation Sensitivity	Check MRL per Battelle UFP-QAPP Check if dilutions have raised MRL>Battelle UFP-QAPP limits	Acceptable	X	-	
Overall Evaluation of Data Usability	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	<u>Analytical Error Evaluation:</u> 1. All LCS/LCSD %REC's and RPD's were within QC limits. 2. MS and MSD were not required since there was only one QA sample. 3. Method Blanks for all methods were free of contamination. No qualifiers were required.  <u>Data Usability Evaluation:</u> All of the data is usable for the intended purposes. Minor data discrepancies were noted for VOCs, but based on the low-level detection they don't affect the usability of the QA data.	X	-	

\*(Tier I+, SEDD 2A Check items) Completeness Check: Inventory Check Sheet\_ X\_ Sample Quantitation Calculations (TIER II ONLY):  
 Lab Correspondence: none

DATA COMPARISON TABLES (VALIDATED RESULTS)							
PROJECT: NEW BEDFORD HARBOR SUPERFUND SITE, SAWYER ST GW MONITORING							
12-2-15 Sampling Event							
Katahdin			TAL-VT				
Laboratory Sample ID:	NA			200-31032-1			
Field Sample ID:	MW-06-120215			MW-06-120215			
Date Sampled:	12/2/15			12/2/15			
Date Received:	12/2/15			12/3/15			
Date Estimated:	12/4/15			12/1/15			
Date Analyzed:	12/5/15			12/17/15			
Extraction Method:	5030B			5030B			
Analysis Method:	8260B			8260B			
Matrix:	Groundwater			Groundwater			
Concentration Units:	ug/L			ug/L			
Dilution Factor:	1.0			1.0			
Target Analytes	Katahdin LOD	Primary Lab Results Katahdin	TAL-VT RL	QA Lab Results TAL-VT	USACE Comparison Code	USACE %RPD	USACE Discrep.
1,1,1,2-Tetrachloroethane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,1,1-Trichloroethane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,1,2,2-Tetrachloroethane	1.0 U	0.50 U	1.0 U	0.5 U	0		NC
1,1,2-Trichloroethane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,1-Dichloroethane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,1-Dichloroethene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,1-Dichloropropene	2.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,2,3-Trichlorobenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,2,3-Trichloropropane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,2,4-Trichlorobenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,2,4-Trimethylbenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,2-Dibromo-3-chloropropane	2.0 U	1.0 U	1.0 U	1.0 U	0		NC
1,2-Dibromoethane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,2-Dichlorobenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,2-Dichloroethane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,2-Dichloropropane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,3,5-Trimethylbenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,3-Dichlorobenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,3-Dichloropropane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1,4-Dichlorobenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
1-Chlorohexane	NA	NA	NA	NA	0		NC
1,4-Dioxane	10.0 U	5.0 U	5.0 U	5.0 U	0		NC
2,2-Dichloropropane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
2-Butanone	5.0 U	2.5 U	5.0 U	5.0 U	0		NC
2-Hexanone	5.0 U	2.5 U	5.0 U	5.0 U	0		NC
4-Chlorotoluene	2.0 U	0.50 U	1.0 U	1.0 U	0		NC
4-Isopropyltoluene	1.0 U	0.50 U	NA	NA	0		NC
4-Methyl-2-pentanone	5.0 U	2.5 U	5.0 U	5.0 U	0		NC
Acetone	5.0 U	2.5 U	5.0 U	5.0 U	0		NC
Benzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Bromobenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Bromochloromethane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Bromodichloromethane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Bromoforn	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Bromomethane	2.0 U	1.0 U	1.0 U	1.0 U	0		NC
Carbon disulfide	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Carbon tetrachloride	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Chlorobenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Chloroethane	2.0 U	1.0 U	1.0 U	1.0 U	0		NC
Chloroform	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Chloromethane	2.0 U	1.0 U	1.0 U	1.0 U	0		NC
cis-1,2-Dichloroethene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
cis-1,3-Dichloropropene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Dibromochloromethane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Dibromomethane	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Dichlorodifluoromethane	2.0 U	1.0 U	1.0 U	1.0 U	0		NC
Ethyl ether	NA	NA	NA	NA	0		NC
Ethylbenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Ethyl-Tert-Butyl-Ether	1.0 U	0.50 U	NA	NA	0		NC
Hexachlorobutadiene	1.0 U	0.75 U	1.0 U	1.0 U	0		NC
Isopropyl Ether	NA	NA	NA	NA	0		NC
Isopropylbenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Methyl tert butyl ether	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Methylene chloride	5.0 U	2.5 U	1.0 U	1.0 U	0		NC
Naphthalene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
n-Butylbenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
n-Propylbenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
o-Chlorotoluene	1.0 U	0.50 U	NA	NA	0		NC
o-Xylene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
p-Xylene	2.0 U	1.0 U	1.0 U	1.0 U	0		NC
p-Chlorotoluene	1.0 U	0.50 U	NA	NA	0		NC
p-Isopropyltoluene	1.0 U	0.50 U	NA	NA	0		NC
sec-Butylbenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Styrene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
tert-Butylbenzene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Tertiary-Amyl Methyl Ether	1.0 U	0.50 U	NA	NA	0		NC
Tetrachloroethene	1.0 U	1.3 U	1.0 U	1.0 U	0		NC
Tetrahydrofuran	10.0 U	5.0 U	14.0 U	14.0 U	0		NC
Toluene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
trans-1,2-Dichloroethene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
trans-1,3-Dichloropropene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Trichloroethene	1.0 U	0.50 U	1.0 U	1.0 U	0		NC
Trichlorofluoromethane	2.0 U	1.0 U	1.0 U	1.0 U	0		NC
Vinyl chloride	2.0 U	1.0 U	1.0 U	1.0 U	0		NC
SURROGATE RECOVERIES(%)	Primary Lab Katahdin			QA Lab TAL VT			
1,2-Dichloroethane-d4 (70-130)	101 %		1,2-Dichloroethane-d4 (80-120)		92 %		
Toluene-d8 (70-130)	101 %		Toluene-d8 (80-120)		91 %		
4-Bromofluorobenzene (70-130)	101 %		4-Bromofluorobenzene (70-125)		85 %		
Dibromofluoromethane (70-130)	100 %		1,2-Dibromobenzene-d4 (75-120)		86 %		
SEE APPENDIX A FOR KEY TO COMMENTS							
U= Not Detected above the Reporting Limit							
NA= Not Analyzed							
NC= Not Calculated							
* = Surrogate recoveries outside acceptance limits							

DATA COMPARISON TABLES VALIDATED RESULTS									
PROJECT: NEW BEDFORD HARBOR SUPERFUND SITE, SAWYER ST GW MONITORING									
		12/2/15	Sampling Event						
		Katahdin		TAL-VT					
Laboratory Sample ID:		NA		200-31032-1					
Field Sample ID:		MW-06-120215		MW-06-120215-QA					
Date Sampled:		12/2/15		12/2/15					
Date Received:		12/3/15		12/3/15					
Date Extracted:				12/11/15					
Date Analyzed:				12/21/15					
Extraction Method:		3510C		3510C					
Analysis Method:		8082-Aroclors		8082-Aroclors					
Matrix:		Groundwater		Groundwater					
Concentration Units:		ug/L		ug/L					
Dilution Factor:		1.0		1.0					
		Katahdin		TAL-VT					
PRIMARY LAB		PRIMARY LAB		QA LAB		QA LAB		COMPARISON	
TARGET ANALYTE	RL	RESULTS	RL	RESULTS	CODE	%RPD			
Aroclor-1016	0.026 U	0.026 U	0.14 U	0.14 U	0	0	0		
Aroclor-1221	0.026 U	0.026 U	0.14 U	0.14 U	0	0	0		
Aroclor-1232	0.026 U	0.026 U	0.14 U	0.14 U	0	0	0		
Aroclor-1242	0.026 U	0.026 U	0.14 U	0.14 U	0	0	0		
Aroclor-1248	0.026 U	0.026 U	0.14 U	0.14 U	0	0	0		
Aroclor-1254	0.026 U	0.026 U	0.14 U	0.14 U	0	0	0		
Aroclor-1260	0.026 U	0.026 U	0.14 U	0.14 U	0	0	0		
Total PCBs		0.026 U		0.14 U			0		
SURROGATE RECOVERIES (%)		QA		CONTRACTOR					
		column 1	column 2	column 1	column 2				
Tetrachloro-m-xylene (20-123%)		NR		Tetrachloro-m-xylene (20-123%)	60	NR			
Decachlorobiphenyl (36-136%)		NR		Decachlorobiphenyl (36-136%)	62	NR			
SEE APPENDIX A FOR KEY TO COMMENTS									
U= Indicates compound was analyzed for but not detected above the reporting limit.									
J= Indicates an estimated value. This flag is used when the result is less than the reporting limit, but > 1/2 MDL.									
D= Surrogate diluted out.									
NA= Not applicable									
NR= Not reported									
*= Surrogate recoveries outside acceptance limits									





COMPARISON OF QA & CONTRACTOR VALIDATED RESULTS  
 PROJECT: NEW BEDFORD HARBOR SUPERFUND SITE, SAWYER ST GW MONITORING  
 120215 QA SAMPLING EVENT

		Alpha		TAL-VT					
Laboratory Sample ID:		L1411797-04		200-31032-1					
Field Sample ID:		MW-06-120215		MW-06-120215-QA					
Date Sampled:		12/2/15		12/2/15					
Date Received:		12/4/15		12/3/15					
Date Analyzed:		NA		NA					
Analysis Method:		2540D		2540D					
Matrix:		Groundwater		Groundwater					
Concentration Units:		mg/L		mg/L					
Dilution Factor:		1.0		1.0					

Inorganic Target Analyte	ALPHA	Alpha	TAL-VT	TAL-VT	USACE
Analysis Method	Primary Lab RL	PRIMARY IAB RESULTS	QA LAB RL	QA LAB RESULTS	COMPARISON CODE RPD
Total Suspended Solids (TSS)	2540D 1.0 U	21 mg/l	5.0 U	6.0 mg/l	0 200%

SEE APPENDIX A FOR KEY TO COMPARISON CODES  
 NR= NOT REPORTED  
 NC= NOT CALCULATED  
 U= Not detected at or above the Reporting Limit  
 J= Estimated value, below the Reporting Limit  
 LRL= Laboratory Reporting Limit