Microbac

Laboratory Report Number: L14121207

Victoria Sigler
Ohio Environmental Protection Agency
4675 Homer Ohio Lane
Groveport, OH 43125
Site: TREMONT CITY LANDFILL

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on January 12 2015

David E. Vandenberg

David Vandenberg – Managing Director

State of Origin: OH
Accrediting Authority: N/A ID:OH00218
QAPP: Microbac OVD

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
Sample ID per COC: FB-1 @ 17:40. Label on bottles say, FB2 @ 17:40. BRG	Please log per the COC. SLM

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00112278	H	0.0			X
00112279	H	3.0			X
0017716	H	1.0			X
00112176	H	3.0			X
0010134	H	1.0			X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	No
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
HMW-305	L14121207-01	12/18/2014 11:45	12/19/2014 14:38
HMW-305	L14121207-02	12/18/2014 11:45	12/19/2014 14:38
HMW-305	L14121207-03	12/18/2014 11:45	12/19/2014 14:38
HMW-305F	L14121207-04	12/18/2014 11:45	12/19/2014 14:38
HMW-305F	L14121207-05	12/18/2014 11:45	12/19/2014 14:38
HMW-305F	L14121207-06	12/18/2014 11:45	12/19/2014 14:38
HBF-20D	L14121207-07	12/18/2014 11:40	12/19/2014 14:38
HBF-20DVOC	L14121207-08	12/18/2014 11:40	12/19/2014 14:38
HMW-401	L14121207-09	12/18/2014 16:00	12/19/2014 14:38
HMW-401VOC	L14121207-10	12/18/2014 16:00	12/19/2014 14:38
HOW-2B	L14121207-11	12/18/2014 13:25	12/19/2014 14:38
BF-21DD	L14121207-12	12/18/2014 09:50	12/19/2014 14:38
FB-1	L14121207-13	12/18/2014 17:40	12/19/2014 14:38
FB-2	L14121207-14	12/18/2014 17:30	12/19/2014 14:38
TB-2	L14121207-15	12/18/2014 00:01	12/19/2014 14:38

Login Number: L14121207
Department: Volatiles
Analyst: Franci Bolden

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260B

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: Recoveries out of range were observed for the following analytes: vinyl acetate. Please see the applicable QC report for a detailed presentation of the failures.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Vinyl Acetate. Please see the applicable QC report for a detailed presentation of the failures.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Cyclohexane, 2-Chloroethyl vinyl ether, Methyl Cyclohexane. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Other: None.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak. This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline. There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 93974
Approved By: Franci Bolden

Login Number: L14121207
Department: Semivolatiles
Analyst: Anthony Canter

METHOD

Preparation 3510C

Analysis SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analyte: Benzoic Acid. Please see the applicable QC report for a detailed presentation of the failure.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analyte: Benzoic Acid. Please see the applicable QC report for a detailed presentation of the failure.

BATCH QA/QC

Method Blank: No associated samples took hits of the failing compounds.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG505807-01	2-Methylphenol	2014-12-23 15:50:00	4.56	2.50	5.00	RL
WG505807-01	3-,4-Methylphenol	2014-12-23 15:50:00	5.02	2.50	5.00	RL
WG505807-01	Benzyl Alcohol	2014-12-23 15:50:00	4.55	2.50	5.00	RL
WG505807-01	Phenol	2014-12-23 15:50:00	4.07	2.50	5.00	RL

Laboratory Control Sample:

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG505807-02	Benzo[a]pyrene	2014-12-23 16:22:00	69.0	70	145	Recovery
WG505807-02	Benzo[k]fluoranthene	2014-12-23 16:22:00	69.0	70	150	Recovery
WG505807-02	Caprolactam	2014-12-23 16:22:00	17.0	50	165	Recovery
WG505807-02	Chrysene	2014-12-23 16:22:00	73.0	75	150	Recovery
WG505807-02	Di-n-Octyl Phthalate	2014-12-23 16:22:00	63.0	70	150	Recovery

Matrix Spikes: Recoveries out of range were observed for several analytes. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates:

Sample #	Analyte	Date	Result	Lower	Upper	Type
L14121207-01	2-Fluorophenol	2014-12-29 23:19:00	20.3	21	100	Recovery
L14121207-01	p-Terphenyl-d14	2014-12-29 23:19:00	13.9	33	141	Recovery
L14121207-02	p-Terphenyl-d14	2014-12-29 23:51:00	15.0	33	141	Recovery
L14121207-03	p-Terphenyl-d14	2014-12-30 00:23:00	16.0	33	141	Recovery

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peakcompletely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low areacounts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene andbenzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be

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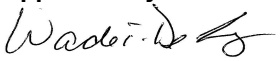
Narrative ID: 94096
Approved By: Wade DeLong



Login Number: L14121207
Department: General Chromatography
Analyst: Eric Lawson

METHOD

Analysis SW-846 8081

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 20%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: alpha-Chlordane, 4,4'-DDD, alpha-BHC, delta-BHC, gamma-BHC, beta-BHC, Dieldrin, Endosulfan II, gamma-Chlordane, Heptachlor Epoxide. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG506396-05	alpha-Chlordane	2014-12-30 01:35:00	0.000		20	%Drift
WG506396-05	4,4'-DDD	2014-12-30 02:03:00	0.000		20	%Drift
WG506396-05	alpha-BHC	2014-12-30 02:03:00	0.000		20	%Drift
WG506396-05	delta-BHC	2014-12-30 02:03:00	0.000		20	%Drift
WG506396-05	gamma-BHC	2014-12-30 02:03:00	0.000		20	%Drift
WG506396-06	4,4'-DDD	2014-12-30 07:37:00	0.000		20	%Drift
WG506396-06	alpha-BHC	2014-12-30 07:37:00	0.000		20	%Drift
WG506396-06	beta-BHC	2014-12-30 07:37:00	0.000		20	%Drift
WG506396-06	delta-BHC	2014-12-30 07:37:00	0.000		20	%Drift
WG506396-06	Dieldrin	2014-12-30 07:37:00	0.000		20	%Drift
WG506396-06	Endosulfan II	2014-12-30 07:37:00	0.000		20	%Drift

WG506396-06	gamma-BHC	2014-12-30 07:37:00	0.000		20	%Drift
WG506396-06	gamma-Chlordane	2014-12-30 07:37:00	0.000		20	%Drift
WG506396-06	Heptachlor Epoxide	2014-12-30 07:37:00	0.000		20	%Drift

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peakcompletely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low areacounts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene andbenzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

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Narrative ID: 93967
Approved By: Eric Lawson

Login Number: L14121207
Department: Metals
Analyst: Qin Xu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG505878 - All acceptance criteria were met.

Matrix Spikes: WG505878 - Sample 01 was chosen by the client for MS/MSD analysis. Samples 02(MS) and 03(MSD) yielded noncompliant recoveries for four analytes. Sample 04 was chosen by the client for MS/MSD analysis. Samples 05(MS) and 06(MSD) yielded noncompliant recoveries for two analytes.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 93776
Approved By: Sheri Pfalzgraf

Login Number: L14121207
Department: Metals
Analyst: Ji Hu
Analyst #2: Pierce Morris

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG505894 - All acceptance criteria were met.

Matrix Spikes: WG505894 - Sample 01 was chosen by the client for MS/MSD analysis. Samples 02 (MS) and 03 (MSD) met all acceptance criteria. Sample 04 was chosen by the client for MS/MSD analysis. Samples 05 (MS) and 06 (MSD) met all acceptance criteria.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 93774
Approved By: Maren Beery
Maren Beery

Login Number: L14121207
Department: Metals - AA
Analyst: Brendan Torrence

METHOD

Preparation: SW-846 7470

Analysis: SW-846 7470

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG506487 - All acceptance criteria were met.

Matrix Spikes: WG506487 - Sample 01 was chosen by the client for MS/MSD analysis. Samples 02 (MS) and 03 (MSD) met all acceptance criteria for mercury. Sample 04 was chosen by the client for MS/MSD analysis. Samples 05 (MS) and 06 (MSD) met all acceptance criteria for mercury.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 93915
Approved By: Maren Beery

Certificate of Analysis

Sample #:	L14121207-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	HMW-305	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/03/2014 22:04
Workgroup #:	WG506183	**Analyst:**	FJB	**Run Date:**	12/24/2014 19:49
Collect Date:	12/18/2014 11:45	**Dilution:**	1	**File ID:**	6M130437
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4	1.45		1.00	0.500
Methyl Cyclohexane	108-87-2		U	5.00	1.00
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	109	86	118	
1,2-Dichloroethane-d4	110	80	120	

Toluene-d8	92.0	88	110	
4-Bromofluorobenzene	96.1	86	115	

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-01
Client ID: HMW-305
Matrix: Water
Workgroup #: WG505941
Collect Date: 12/18/2014 11:45
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3510C
Analytical Method: 8270C
Analyst: ADC
Dilution: 1
Units: ug/L

Instrument: HPMS12
Prep Date: 12/22/2014 10:00
Cal Date: 12/13/2014 22:28
Run Date: 12/29/2014 23:19
File ID: 12M51255

Analyte	CAS #	Result	Qual	RL	MDL
1,2,4-Trichlorobenzene	120-82-1		U	5.38	2.69
1,2-Dichlorobenzene	95-50-1		U	5.38	2.69
1,3-Dichlorobenzene	541-73-1		U	5.38	2.69
1,4-Dichlorobenzene	106-46-7		U	5.38	2.69
2,4,5-Trichlorophenol	95-95-4		U	5.38	2.69
2,4,6-Trichlorophenol	88-06-2		U	5.38	2.69
2,4-Dichlorophenol	120-83-2		U	5.38	2.69
2,4-Dimethylphenol	105-67-9		U	5.38	2.69
2,4-Dinitrophenol	51-28-5		U	26.9	13.4
2,4-Dinitrotoluene	121-14-2		U	5.38	2.69
2,6-Dinitrotoluene	606-20-2		U	5.38	2.69
2-Chloronaphthalene	91-58-7		U	5.38	2.69
2-Chlorophenol	95-57-8		U	5.38	2.69
2-Methylnaphthalene	91-57-6		U	5.38	2.69
2-Methylphenol	95-48-7		U	5.38	2.69
2-Nitroaniline	88-74-4		U	26.9	13.4
2-Nitrophenol	88-75-5		U	5.38	2.69
3,3'-Dichlorobenzidine	91-94-1		U	10.8	2.69
3-,4-Methylphenol	106-44-5		U	5.38	2.69
3-Nitroaniline	99-09-2		U	26.9	13.4
4,6-Dinitro-2-methylphenol	534-52-1		U	26.9	13.4
4-Bromophenyl-phenylether	101-55-3		U	5.38	2.69
4-Chloro-3-methylphenol	59-50-7		U	5.38	2.69
4-Chloroaniline	106-47-8		U	5.38	2.69
4-Chlorophenyl-phenyl ether	7005-72-3		U	5.38	2.69
4-Nitroaniline	100-01-6		U	26.9	13.4
4-Nitrophenol	100-02-7		U	26.9	13.4
Acenaphthene	83-32-9		U	5.38	2.69
Acenaphthylene	208-96-8		U	5.38	2.69

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Anthracene	120-12-7		U	5.38	2.69
Benzo(a)anthracene	56-55-3		U	5.38	2.69
Benzo(a)pyrene	50-32-8		U	5.38	2.69
Benzo(b)fluoranthene	205-99-2		U	5.38	2.69
Benzo(g,h,i)Perylene	191-24-2		U	5.38	2.69
Benzo(k)fluoranthene	207-08-9		U	5.38	2.69
Benzoic acid	65-85-0		U	26.9	13.4
Benzyl alcohol	100-51-6		U	5.38	2.69
Benzaldehyde	100-52-7		U	21.5	10.8
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.38	2.69
Bis(2-Chloroethyl)ether	111-44-4		U	5.38	2.69
bis(2-Chloroisopropyl)ether	39638-32-9		U	5.38	2.69
bis(2-Ethylhexyl)phthalate	117-81-7		U	5.38	2.69
Butylbenzylphthalate	85-68-7		U	5.38	2.69
Caprolactam	105-60-2	3.62	J	21.5	2.69
Chrysene	218-01-9		U	5.38	2.69
Di-N-Butylphthalate	84-74-2		U	5.38	2.69
Di-n-octylphthalate	117-84-0		U	5.38	2.69
Dibenzo(a,h)Anthracene	53-70-3		U	5.38	2.69
Dibenzofuran	132-64-9		U	5.38	2.69
Diethylphthalate	84-66-2		U	5.38	2.69
Dimethylphthalate	131-11-3		U	5.38	2.69
Fluoranthene	206-44-0		U	5.38	2.69
Fluorene	86-73-7		U	5.38	2.69
Hexachlorobenzene	118-74-1		U	5.38	2.69
Hexachlorobutadiene	87-68-3		U	5.38	2.69
Hexachlorocyclopentadiene	77-47-4		U	10.8	5.38
Hexachloroethane	67-72-1		U	5.38	2.69
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.38	2.69
Isophorone	78-59-1		U	5.38	2.69
Diphenylamine/n-Nitrosodiphenylamine	86-30-6		U	5.38	2.69
N-Nitrosodipropylamine	621-64-7		U	5.38	2.69
Naphthalene	91-20-3		U	5.38	2.69
Nitrobenzene	98-95-3		U	5.38	2.69
Pentachlorophenol	87-86-5		U	26.9	13.4
Phenanthrene	85-01-8		U	5.38	2.69
Phenol	108-95-2		U	5.38	2.69
Pyrene	129-00-0		U	5.38	2.69

Surrogate	Recovery	Lower Limit	Upper Limit	Q

Certificate of Analysis

2,4,6-Tribromophenol	30.1	10	123	
2-Fluorobiphenyl	46.0	43	116	
2-Fluorophenol	20.3	21	100	*
Nitrobenzene-d5	49.6	35	114	
p-Terphenyl-d14	13.9	33	141	*
Phenol-d5	15.5	10	94	

*	Surrogate or spike compound out of range
J	The analyte was positively identified, but the quantitation was below the RL
U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-01
Client ID: HMW-305
Matrix: Water
Workgroup #: WG505969
Collect Date: 12/18/2014 11:45
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3510C
Analytical Method: 8081A
Analyst: ECL
Dilution: 1
Units: ug/L

Instrument: HP15
Prep Date: 12/20/2014 09:00
Cal Date: 12/30/2014 20:18
Run Date: 12/30/2014 21:14
File ID: 15G47576.F

Analyte	CAS #	Result	Qual	RL	MDL
4,4'-DDD	72-54-8		U	0.0543	0.0109
4,4'-DDE	72-55-9		U	0.0543	0.0109
4,4'-DDT	50-29-3		U	0.0543	0.0109
Aldrin	309-00-2		U	0.0543	0.0109
alpha Chlordane	5103-71-9		U	0.0543	0.0109
alpha-BHC	319-84-6		U	0.0543	0.0109
beta-BHC	319-85-7		U	0.0543	0.0109
delta-BHC	319-86-8		U	0.0543	0.0109
Dieldrin	60-57-1		U	0.0543	0.0109
Endosulfan I	959-98-8		U	0.0543	0.0109
Endosulfan II	33213-65-9		U	0.0543	0.0109
Endosulfan sulfate	1031-07-8		U	0.0543	0.0109
Endrin	72-20-8		U	0.0543	0.0109
Endrin aldehyde	7421-93-4		U	0.0543	0.0109
Endrin ketone	53494-70-5		U	0.0543	0.0109
gamma Chlordane	5103-74-2		U	0.0543	0.0109
gamma-BHC (Lindane)	58-89-9		U	0.0543	0.0109
Heptachlor	76-44-8		U	0.0543	0.0109
Heptachlor epoxide	1024-57-3		U	0.0543	0.0109
Methoxychlor	72-43-5		U	0.0543	0.0109
Toxaphene	8001-35-2		U	1.09	0.326

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	58.1	20	180	

Decachlorobiphenyl	32.0	25	140	

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-01 **PrePrep Method:** N/A **Instrument:** ICP-THERMO2
Client ID: HMW-305 **Prep Method:** 3015 **Prep Date:** 12/22/2014 07:40
Matrix: Water **Analytical Method:** 6010B **Cal Date:** 12/23/2014 10:10
Workgroup #: WG505878 **Analyst:** QX **Run Date:** 12/23/2014 12:04
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** T2.122314.120454
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	1.98		0.200	0.100
Arsenic, Total	7440-38-2	0.0159		0.0100	0.00500
Barium, Total	7440-39-3	0.144		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.0100	0.00500
Cadmium, Total	7440-43-9		U	0.0100	0.00500
Calcium, Total	7440-70-2	97.6		0.500	0.250
Chromium, Total	7440-47-3		U	0.0200	0.0100
Cobalt, Total	7440-48-4		U	0.0200	0.0100
Copper, Total	7440-50-8		U	0.0200	0.0100
Iron, Total	7439-89-6	5.65		0.100	0.0500
Lead, Total	7439-92-1		U	0.0100	0.00500
Magnesium, Total	7439-95-4	37.5		0.500	0.250
Manganese, Total	7439-96-5	0.136		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	2.02		1.00	0.500
Silver, Total	7440-22-4		U	0.0100	0.00500
Sodium, Total	7440-23-5	15.4		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6	0.0131	J	0.0200	0.0100

J	The analyte was positively identified, but the quantitation was below the RL
U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-01 **PrePrep Method:** N/A **Instrument:** ICP-MS2
Client ID: HMW-305 **Prep Method:** 3015 **Prep Date:** 12/22/2014 08:35
Matrix: Water **Analytical Method:** 6020 **Cal Date:** 12/23/2014 16:04
Workgroup #: WG505894 **Analyst:** JYH **Run Date:** 12/23/2014 19:14
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** NI.122314.191458
Sample Tag: 01 **Units:** mg/L

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Selenium, Total	7782-49-2	0.00284		0.00100	0.000500
Thallium, Total	7440-28-0	0.000104	J	0.000200	0.000100

J	The analyte was positively identified, but the quantitation was below the RL
U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-01 **PrePrep Method:** N/A **Instrument:** CVAA1
Client ID: HMW-305 **Prep Method:** 7470A **Prep Date:** 12/30/2014 10:17
Matrix: Water **Analytical Method:** 7470A **Cal Date:** 12/30/2014 11:28
Workgroup #: WG506487 **Analyst:** BKT **Run Date:** 12/30/2014 11:45
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** M7.123014.114556
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-02 **PrePrep Method:** N/A **Instrument:** HPMS6
Client ID: HMW-305 **Prep Method:** 5030B/5030C/5035A **Prep Date:** N/A
Matrix: Water **Analytical Method:** 8260B **Cal Date:** 11/03/2014 22:04
Workgroup #: WG506183 **Analyst:** FJB **Run Date:** 12/24/2014 20:53
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** 6M130439
Sample Tag: 01 **Units:** ug/L

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1	25.8		10.0	2.50
Benzene	71-43-2	17.7		1.00	0.125
Bromobenzene	108-86-1	19.5		1.00	0.125
Bromochloromethane	74-97-5	23.5		1.00	0.200
Bromodichloromethane	75-27-4	21.8		1.00	0.250
Bromoform	75-25-2	19.6		1.00	0.500
Bromomethane	74-83-9	10.2		1.00	0.500
2-Butanone	78-93-3	20.6		10.0	2.50
n-Butylbenzene	104-51-8	18.5		1.00	0.250
sec-Butylbenzene	135-98-8	19.6		1.00	0.250
tert-Butylbenzene	98-06-6	19.0		1.00	0.250
Carbon disulfide	75-15-0	15.9		1.00	0.500
Carbon tetrachloride	56-23-5	22.1		1.00	0.250
Chlorobenzene	108-90-7	19.9		1.00	0.125
Chlorodibromomethane	124-48-1	21.9		1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Chloroethane	75-00-3	19.1		1.00	0.500
Cyclohexane	110-82-7	12.3		5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	23.0		1.00	0.125
Chloromethane	74-87-3	14.6		1.00	0.500
2-Chlorotoluene	95-49-8	19.5		1.00	0.125
4-Chlorotoluene	106-43-4	19.3		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	18.8		5.00	1.00
1,2-Dibromoethane	106-93-4	19.9		1.00	0.250
Dibromomethane	74-95-3	22.8		1.00	0.250
1,2-Dichlorobenzene	95-50-1	20.4		1.00	0.125
1,3-Dichlorobenzene	541-73-1	19.8		1.00	0.250
1,4-Dichlorobenzene	106-46-7	19.0		1.00	0.125
Dichlorodifluoromethane	75-71-8	16.1		1.00	0.250
1,1-Dichloroethane	75-34-3	20.0		1.00	0.125
1,2-Dichloroethane	107-06-2	23.3		1.00	0.250
1,1-Dichloroethene	75-35-4	19.2		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.2		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	19.5		1.00	0.250
1,2-Dichloropropane	78-87-5	18.0		1.00	0.200
1,3-Dichloropropane	142-28-9	18.6		1.00	0.200
2,2-Dichloropropane	594-20-7	18.4		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	20.3		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	17.2		1.00	0.500
1,1-Dichloropropene	563-58-6	19.0		1.00	0.250
Ethylbenzene	100-41-4	18.8		1.00	0.250
2-Hexanone	591-78-6	17.5		10.0	2.50
Hexachlorobutadiene	87-68-3	19.2		1.00	0.250
Isopropylbenzene	98-82-8	21.6		1.00	0.250
p-Isopropyltoluene	99-87-6	20.0		1.00	0.250
4-Methyl-2-pentanone	108-10-1	18.8		10.0	2.50
Methylene chloride	75-09-2	20.2		5.00	0.250
Methyl tert butyl ether	1634-04-4	22.9		1.00	0.500
Methyl Cyclohexane	108-87-2	13.9		5.00	1.00
Naphthalene	91-20-3	21.1		1.00	0.200
n-Propylbenzene	103-65-1	19.3		1.00	0.125
Styrene	100-42-5	20.7		1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6	20.3		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	17.8		1.00	0.200

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Tetrachloroethene	127-18-4	20.1		1.00	0.250
Toluene	108-88-3	18.9		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	21.9		1.00	0.150
1,2,4-Trichlorobenzene	120-82-1	20.6		1.00	0.200
1,1,1-Trichloroethane	71-55-6	22.9		1.00	0.250
1,1,2-Trichloroethane	79-00-5	19.4		1.00	0.250
Trichloroethene	79-01-6	21.6		1.00	0.250
Trichlorofluoromethane	75-69-4	19.4		1.00	0.250
1,2,3-Trichloropropane	96-18-4	20.0		1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.8		1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	20.2		1.00	0.250
Vinyl acetate	108-05-4	37.3		10.0	2.50
Vinyl chloride	75-01-4	20.0		1.00	0.250
o-Xylene	95-47-6	20.3		1.00	0.250
m-,p-Xylene	179601-23-1	40.0		1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	110	86	118	
1,2-Dichloroethane-d4	107	80	120	
Toluene-d8	92.3	88	110	
4-Bromofluorobenzene	93.8	86	115	

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-02
Client ID: HMW-305
Matrix: Water
Workgroup #: WG505941
Collect Date: 12/18/2014 11:45
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3510C
Analytical Method: 8270C
Analyst: ADC
Dilution: 1
Units: ug/L

Instrument: HPMS12
Prep Date: 12/22/2014 10:00
Cal Date: 12/13/2014 22:28
Run Date: 12/29/2014 23:51
File ID: 12M51256

Analyte	CAS #	Result	Qual	RL	MDL
1,2,4-Trichlorobenzene	120-82-1	27.1		5.43	2.72
1,2-Dichlorobenzene	95-50-1	25.5		5.43	2.72
1,3-Dichlorobenzene	541-73-1	23.3		5.43	2.72
1,4-Dichlorobenzene	106-46-7	24.3		5.43	2.72
2,4,5-Trichlorophenol	95-95-4	20.3		5.43	2.72
2,4,6-Trichlorophenol	88-06-2	19.4		5.43	2.72
2,4-Dichlorophenol	120-83-2	18.4		5.43	2.72
2,4-Dimethylphenol	105-67-9	17.8		5.43	2.72
2,4-Dinitrophenol	51-28-5	18.5	J	27.2	13.6
2,4-Dinitrotoluene	121-14-2	39.1		5.43	2.72

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
2,6-Dinitrotoluene	606-20-2	37.7		5.43	2.72
2-Chloronaphthalene	91-58-7	29.5		5.43	2.72
2-Chlorophenol	95-57-8	16.4		5.43	2.72
2-Methylnaphthalene	91-57-6	30.0		5.43	2.72
2-Methylphenol	95-48-7	15.6		5.43	2.72
2-Nitroaniline	88-74-4	39.0		27.2	13.6
2-Nitrophenol	88-75-5	20.4		5.43	2.72
3,3'-Dichlorobenzidine	91-94-1	32.7		10.9	2.72
3-,4-Methylphenol	106-44-5	14.8	B	5.43	2.72
3-Nitroaniline	99-09-2	34.4		27.2	13.6
4,6-Dinitro-2-methylphenol	534-52-1	19.5	J	27.2	13.6
4-Bromophenyl-phenylether	101-55-3	29.3		5.43	2.72
4-Chloro-3-methylphenol	59-50-7	19.3		5.43	2.72
4-Chloroaniline	106-47-8	69.7		5.43	2.72
4-Chlorophenyl-phenyl ether	7005-72-3	29.2		5.43	2.72
4-Nitroaniline	100-01-6	35.8		27.2	13.6
4-Nitrophenol	100-02-7	13.6	J	27.2	13.6
Acenaphthene	83-32-9	31.8		5.43	2.72
Acenaphthylene	208-96-8	31.8		5.43	2.72
Anthracene	120-12-7	30.4		5.43	2.72
Benzo(a)anthracene	56-55-3	27.3		5.43	2.72
Benzo(a)pyrene	50-32-8	26.4		5.43	2.72
Benzo(b)fluoranthene	205-99-2	24.9		5.43	2.72
Benzo(g,h,i)Perylene	191-24-2	28.3		5.43	2.72
Benzo(k)fluoranthene	207-08-9	26.6		5.43	2.72
Benzoic acid	65-85-0	36.9		27.2	13.6
Benzyl alcohol	100-51-6	25.4		5.43	2.72
Benzaldehyde	100-52-7	31.8		21.7	10.9
Bis(2-Chloroethoxy)Methane	111-91-1	26.3		5.43	2.72
Bis(2-Chloroethyl)ether	111-44-4	29.2		5.43	2.72
bis(2-Chloroisopropyl)ether	39638-32-9	31.8		5.43	2.72
bis(2-Ethylhexyl)phthalate	117-81-7	30.2		5.43	2.72
Butylbenzylphthalate	85-68-7	28.3		5.43	2.72
Caprolactam	105-60-2	12.6	J	21.7	2.72
Chrysene	218-01-9	28.4		5.43	2.72
Di-N-Butylphthalate	84-74-2	28.7		5.43	2.72
Di-n-octylphthalate	117-84-0	26.8		5.43	2.72
Dibenzo(a,h)Anthracene	53-70-3	16.9		5.43	2.72
Dibenzofuran	132-64-9	33.5		5.43	2.72

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Diethylphthalate	84-66-2	26.2		5.43	2.72
Dimethylphthalate	131-11-3	20.0		5.43	2.72
Fluoranthene	206-44-0	28.1		5.43	2.72
Fluorene	86-73-7	33.1		5.43	2.72
Hexachlorobenzene	118-74-1	26.3		5.43	2.72
Hexachlorobutadiene	87-68-3	22.8		5.43	2.72
Hexachlorocyclopentadiene	77-47-4	15.8		10.9	5.43
Hexachloroethane	67-72-1	20.5		5.43	2.72
Indeno(1,2,3-cd)pyrene	193-39-5	25.5		5.43	2.72
Isophorone	78-59-1	32.7		5.43	2.72
Diphenylamine/n-Nitrosodiphenylamine	86-30-6	37.5		5.43	2.72
N-Nitrosodipropylamine	621-64-7	35.3		5.43	2.72
Naphthalene	91-20-3	30.2		5.43	2.72
Nitrobenzene	98-95-3	32.8		5.43	2.72
Pentachlorophenol	87-86-5	17.7	J	27.2	13.6
Phenanthrene	85-01-8	31.6		5.43	2.72
Phenol	108-95-2	11.0		5.43	2.72
Pyrene	129-00-0	27.2		5.43	2.72

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	35.8	10	123	
2-Fluorobiphenyl	54.3	43	116	
2-Fluorophenol	22.1	21	100	
Nitrobenzene-d5	59.3	35	114	
p-Terphenyl-d14	15.0	33	141	*
Phenol-d5	17.8	10	94	

*	Surrogate or spike compound out of range
B	Analyte present in method blank
J	The analyte was positively identified, but the quantitation was below the RL

Sample #: L14121207-02
Client ID: HMW-305
Matrix: Water
Workgroup #: WG505969
Collect Date: 12/18/2014 11:45
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3510C
Analytical Method: 8081A
Analyst: ECL
Dilution: 1
Units: ug/L

Instrument: HP15
Prep Date: 12/20/2014 09:00
Cal Date: 12/30/2014 20:18
Run Date: 12/30/2014 21:42
File ID: 15G47577.F

Analyte	CAS #	Result	Qual	RL	MDL
4,4'-DDD	72-54-8	0.352		0.0526	0.0105
4,4'-DDE	72-55-9	0.239		0.0526	0.0105
4,4'-DDT	50-29-3	0.353		0.0526	0.0105

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Aldrin	309-00-2	0.289		0.0526	0.0105
alpha Chlordane	5103-71-9	0.312		0.0526	0.0105
alpha-BHC	319-84-6	0.331		0.0526	0.0105
beta-BHC	319-85-7	0.421		0.0526	0.0105
delta-BHC	319-86-8	0.398		0.0526	0.0105
Dieldrin	60-57-1	0.382		0.0526	0.0105
Endosulfan I	959-98-8	0.386		0.0526	0.0105
Endosulfan II	33213-65-9	0.390		0.0526	0.0105
Endosulfan sulfate	1031-07-8	0.395		0.0526	0.0105
Endrin	72-20-8	0.413		0.0526	0.0105
Endrin aldehyde	7421-93-4	0.283		0.0526	0.0105
Endrin ketone	53494-70-5	0.368		0.0526	0.0105
gamma Chlordane	5103-74-2	0.350		0.0526	0.0105
gamma-BHC (Lindane)	58-89-9	0.351		0.0526	0.0105
Heptachlor	76-44-8	0.345		0.0526	0.0105
Heptachlor epoxide	1024-57-3	0.403		0.0526	0.0105
Methoxychlor	72-43-5	0.487		0.0526	0.0105
Toxaphene	8001-35-2		U	1.05	0.316

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	58.2	20	180	
Decachlorobiphenyl	25.2	25	140	

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-02
Client ID: HMW-305
Matrix: Water
Workgroup #: WG505878
Collect Date: 12/18/2014 11:45
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3015
Analytical Method: 6010B
Analyst: QX
Dilution: 1
Units: mg/L

Instrument: ICP-THERMO2
Prep Date: 12/22/2014 07:40
Cal Date: 12/23/2014 10:10
Run Date: 12/23/2014 12:08
File ID: T2.122314.120825

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	7.30		0.200	0.100
Arsenic, Total	7440-38-2	0.255		0.0100	0.00500
Barium, Total	7440-39-3	0.756		0.0100	0.00500
Beryllium, Total	7440-41-7	0.0306		0.0100	0.00500
Cadmium, Total	7440-43-9	0.0309		0.0100	0.00500
Calcium, Total	7440-70-2	102		0.500	0.250
Chromium, Total	7440-47-3	0.316		0.0200	0.0100
Cobalt, Total	7440-48-4	0.123		0.0200	0.0100
Copper, Total	7440-50-8	0.309		0.0200	0.0100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Iron, Total	7439-89-6	6.77		0.100	0.0500
Lead, Total	7439-92-1	0.306		0.0100	0.00500
Magnesium, Total	7439-95-4	42.4		0.500	0.250
Manganese, Total	7439-96-5	0.413		0.0100	0.00500
Nickel, Total	7440-02-0	0.313		0.0400	0.0200
Potassium, Total	7440-09-7	32.5		1.00	0.500
Silver, Total	7440-22-4	0.248		0.0100	0.00500
Sodium, Total	7440-23-5	46.4		0.500	0.250
Vanadium, Total	7440-62-2	0.624		0.0100	0.00500
Zinc, Total	7440-66-6	0.618		0.0200	0.0100

Sample #: L14121207-02 **PrePrep Method:** N/A **Instrument:** ICP-MS2
Client ID: HMW-305 **Prep Method:** 3015 **Prep Date:** 12/22/2014 08:35
Matrix: Water **Analytical Method:** 6020 **Cal Date:** 12/23/2014 16:04
Workgroup #: WG505894 **Analyst:** JYH **Run Date:** 12/23/2014 19:18
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** NI.122314.191806
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.141		0.00100	0.000500
Selenium, Total	7782-49-2	0.142		0.00100	0.000500
Thallium, Total	7440-28-0	0.131		0.000200	0.000100

Sample #: L14121207-02 **PrePrep Method:** N/A **Instrument:** CVAA1
Client ID: HMW-305 **Prep Method:** 7470A **Prep Date:** 12/30/2014 10:17
Matrix: Water **Analytical Method:** 7470A **Cal Date:** 12/30/2014 11:28
Workgroup #: WG506487 **Analyst:** BKT **Run Date:** 12/30/2014 11:48
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** M7.123014.114827
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.00401		0.000222	0.000111

Sample #: L14121207-03 **PrePrep Method:** N/A **Instrument:** HPMS6
Client ID: HMW-305 **Prep Method:** 5030B/5030C/5035A **Prep Date:** N/A
Matrix: Water **Analytical Method:** 8260B **Cal Date:** 11/03/2014 22:04
Workgroup #: WG506183 **Analyst:** FJB **Run Date:** 12/24/2014 21:24
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** 6M130440
Sample Tag: 01 **Units:** ug/L

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1	24.5		10.0	2.50
Benzene	71-43-2	17.8		1.00	0.125
Bromobenzene	108-86-1	19.6		1.00	0.125
Bromochloromethane	74-97-5	22.7		1.00	0.200
Bromodichloromethane	75-27-4	21.6		1.00	0.250
Bromoform	75-25-2	19.3		1.00	0.500
Bromomethane	74-83-9	12.2		1.00	0.500
2-Butanone	78-93-3	19.4		10.0	2.50
n-Butylbenzene	104-51-8	18.8		1.00	0.250
sec-Butylbenzene	135-98-8	20.1		1.00	0.250
tert-Butylbenzene	98-06-6	19.1		1.00	0.250
Carbon disulfide	75-15-0	17.1		1.00	0.500
Carbon tetrachloride	56-23-5	22.1		1.00	0.250
Chlorobenzene	108-90-7	19.6		1.00	0.125
Chlorodibromomethane	124-48-1	21.5		1.00	0.250
Chloroethane	75-00-3	19.1		1.00	0.500
Cyclohexane	110-82-7	14.0		5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	22.8		1.00	0.125
Chloromethane	74-87-3	14.7		1.00	0.500
2-Chlorotoluene	95-49-8	19.6		1.00	0.125
4-Chlorotoluene	106-43-4	19.3		1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.8		5.00	1.00
1,2-Dibromoethane	106-93-4	19.3		1.00	0.250
Dibromomethane	74-95-3	22.4		1.00	0.250
1,2-Dichlorobenzene	95-50-1	20.6		1.00	0.125
1,3-Dichlorobenzene	541-73-1	20.0		1.00	0.250
1,4-Dichlorobenzene	106-46-7	19.1		1.00	0.125
Dichlorodifluoromethane	75-71-8	17.2		1.00	0.250
1,1-Dichloroethane	75-34-3	19.8		1.00	0.125
1,2-Dichloroethane	107-06-2	22.8		1.00	0.250
1,1-Dichloroethene	75-35-4	19.0		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.4		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	19.6		1.00	0.250
1,2-Dichloropropane	78-87-5	17.9		1.00	0.200
1,3-Dichloropropane	142-28-9	18.3		1.00	0.200
2,2-Dichloropropane	594-20-7	18.1		1.00	0.250
cis-1,3-Dichloropropene	10061-01-5	20.2		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	17.0		1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,1-Dichloropropene	563-58-6	19.0		1.00	0.250
Ethylbenzene	100-41-4	18.9		1.00	0.250
2-Hexanone	591-78-6	17.2		10.0	2.50
Hexachlorobutadiene	87-68-3	20.5		1.00	0.250
Isopropylbenzene	98-82-8	21.4		1.00	0.250
p-Isopropyltoluene	99-87-6	20.3		1.00	0.250
4-Methyl-2-pentanone	108-10-1	19.1		10.0	2.50
Methylene chloride	75-09-2	20.4		5.00	0.250
Methyl tert butyl ether	1634-04-4	22.2		1.00	0.500
Methyl Cyclohexane	108-87-2	15.9		5.00	1.00
Naphthalene	91-20-3	21.3		1.00	0.200
n-Propylbenzene	103-65-1	19.5		1.00	0.125
Styrene	100-42-5	20.4		1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6	20.4		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	18.1		1.00	0.200
Tetrachloroethene	127-18-4	20.1		1.00	0.250
Toluene	108-88-3	18.9		1.00	0.250
1,2,3-Trichlorobenzene	87-61-6	21.9		1.00	0.150
1,2,4-Trichlorobenzene	120-82-1	20.7		1.00	0.200
1,1,1-Trichloroethane	71-55-6	23.0		1.00	0.250
1,1,2-Trichloroethane	79-00-5	19.0		1.00	0.250
Trichloroethene	79-01-6	21.2		1.00	0.250
Trichlorofluoromethane	75-69-4	20.4		1.00	0.250
1,2,3-Trichloropropane	96-18-4	20.0		1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.9		1.00	0.250
1,3,5-Trimethylbenzene	108-67-8	20.3		1.00	0.250
Vinyl acetate	108-05-4	35.9		10.0	2.50
Vinyl chloride	75-01-4	19.9		1.00	0.250
o-Xylene	95-47-6	20.4		1.00	0.250
m-,p-Xylene	179601-23-1	40.0		1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	109	86	118	
1,2-Dichloroethane-d4	106	80	120	
Toluene-d8	93.4	88	110	
4-Bromofluorobenzene	94.5	86	115	

U	Not detected at or above adjusted sample detection limit

Certificate of Analysis

Sample #:	L14121207-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS12
Client ID:	HMW-305	**Prep Method:**	3510C	**Prep Date:**	12/22/2014 10:00
Matrix:	Water	**Analytical Method:**	8270C	**Cal Date:**	12/13/2014 22:28
Workgroup #:	WG505941	**Analyst:**	ADC	**Run Date:**	12/30/2014 00:23
Collect Date:	12/18/2014 11:45	**Dilution:**	1	**File ID:**	12M51257
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	RL	MDL
1,2,4-Trichlorobenzene	120-82-1	23.1		5.00	2.50
1,2-Dichlorobenzene	95-50-1	22.8		5.00	2.50
1,3-Dichlorobenzene	541-73-1	21.4		5.00	2.50
1,4-Dichlorobenzene	106-46-7	22.3		5.00	2.50
2,4,5-Trichlorophenol	95-95-4	17.9		5.00	2.50
2,4,6-Trichlorophenol	88-06-2	17.3		5.00	2.50
2,4-Dichlorophenol	120-83-2	16.5		5.00	2.50
2,4-Dimethylphenol	105-67-9	15.7		5.00	2.50
2,4-Dinitrophenol	51-28-5	18.3	J	25.0	12.5
2,4-Dinitrotoluene	121-14-2	32.9		5.00	2.50
2,6-Dinitrotoluene	606-20-2	30.7		5.00	2.50
2-Chloronaphthalene	91-58-7	25.5		5.00	2.50
2-Chlorophenol	95-57-8	14.7		5.00	2.50
2-Methylnaphthalene	91-57-6	25.1		5.00	2.50
2-Methylphenol	95-48-7	14.0		5.00	2.50
2-Nitroaniline	88-74-4	31.6		25.0	12.5
2-Nitrophenol	88-75-5	18.0		5.00	2.50
3,3'-Dichlorobenzidine	91-94-1	26.5		10.0	2.50
3-,4-Methylphenol	106-44-5	13.6	B	5.00	2.50
3-Nitroaniline	99-09-2	27.8		25.0	12.5
4,6-Dinitro-2-methylphenol	534-52-1	18.5	J	25.0	12.5
4-Bromophenyl-phenylether	101-55-3	26.6		5.00	2.50
4-Chloro-3-methylphenol	59-50-7	16.5		5.00	2.50
4-Chloroaniline	106-47-8	25.2		5.00	2.50
4-Chlorophenyl-phenyl ether	7005-72-3	25.5		5.00	2.50
4-Nitroaniline	100-01-6	29.4		25.0	12.5
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9	27.1		5.00	2.50
Acenaphthylene	208-96-8	26.5		5.00	2.50
Anthracene	120-12-7	28.4		5.00	2.50
Benzo(a)anthracene	56-55-3	26.1		5.00	2.50
Benzo(a)pyrene	50-32-8	25.5		5.00	2.50
Benzo(b)fluoranthene	205-99-2	25.3		5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Benzo(g,h,i)Perylene	191-24-2	26.7		5.00	2.50
Benzo(k)fluoranthene	207-08-9	26.1		5.00	2.50
Benzoic acid	65-85-0	34.2		25.0	12.5
Benzyl alcohol	100-51-6	21.4		5.00	2.50
Benzaldehyde	100-52-7	26.2		20.0	10.0
Bis(2-Chloroethoxy)Methane	111-91-1	21.5		5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4	23.8		5.00	2.50
bis(2-Chloroisopropyl)ether	39638-32-9	26.3		5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7	28.5		5.00	2.50
Butylbenzylphthalate	85-68-7	26.7		5.00	2.50
Caprolactam	105-60-2	10.8	J	20.0	2.50
Chrysene	218-01-9	27.1		5.00	2.50
Di-N-Butylphthalate	84-74-2	26.9		5.00	2.50
Di-n-octylphthalate	117-84-0	25.9		5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3	16.1		5.00	2.50
Dibenzofuran	132-64-9	28.2		5.00	2.50
Diethylphthalate	84-66-2	21.8		5.00	2.50
Dimethylphthalate	131-11-3	17.3		5.00	2.50
Fluoranthene	206-44-0	27.4		5.00	2.50
Fluorene	86-73-7	28.3		5.00	2.50
Hexachlorobenzene	118-74-1	24.3		5.00	2.50
Hexachlorobutadiene	87-68-3	20.8		5.00	2.50
Hexachlorocyclopentadiene	77-47-4	15.9		10.0	5.00
Hexachloroethane	67-72-1	19.6		5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5	24.2		5.00	2.50
Isophorone	78-59-1	26.9		5.00	2.50
Diphenylamine/n-Nitrosodiphenylamine	86-30-6	31.1		5.00	2.50
N-Nitrosodipropylamine	621-64-7	29.2		5.00	2.50
Naphthalene	91-20-3	25.0		5.00	2.50
Nitrobenzene	98-95-3	27.1		5.00	2.50
Pentachlorophenol	87-86-5	19.3	J	25.0	12.5
Phenanthrene	85-01-8	29.2		5.00	2.50
Phenol	108-95-2	9.24		5.00	2.50
Pyrene	129-00-0	26.3		5.00	2.50

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,6-Tribromophenol	36.2	10	123	
2-Fluorobiphenyl	48.3	43	116	
2-Fluorophenol	21.2	21	100	
Nitrobenzene-d5	52.6	35	114	

Certificate of Analysis

p-Terphenyl-d14	16.0	33	141	*
Phenol-d5	16.3	10	94	

*	Surrogate or spike compound out of range
B	Analyte present in method blank
J	The analyte was positively identified, but the quantitation was below the RL
U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-03
Client ID: HMW-305
Matrix: Water
Workgroup #: WG505969
Collect Date: 12/18/2014 11:45
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3510C
Analytical Method: 8081A
Analyst: ECL
Dilution: 1
Units: ug/L

Instrument: HP15
Prep Date: 12/20/2014 09:00
Cal Date: 12/30/2014 20:18
Run Date: 12/30/2014 22:10
File ID: 15G47578.F

Analyte	CAS #	Result	Qual	RL	MDL
4,4'-DDD	72-54-8	0.426		0.0581	0.0116
4,4'-DDE	72-55-9	0.319		0.0581	0.0116
4,4'-DDT	50-29-3	0.437		0.0581	0.0116
Aldrin	309-00-2	0.339		0.0581	0.0116
alpha Chlordane	5103-71-9	0.390		0.0581	0.0116
alpha-BHC	319-84-6	0.371		0.0581	0.0116
beta-BHC	319-85-7	0.493		0.0581	0.0116
delta-BHC	319-86-8	0.464		0.0581	0.0116
Dieldrin	60-57-1	0.449		0.0581	0.0116
Endosulfan I	959-98-8	0.466		0.0581	0.0116
Endosulfan II	33213-65-9	0.467		0.0581	0.0116
Endosulfan sulfate	1031-07-8	0.465		0.0581	0.0116
Endrin	72-20-8	0.495		0.0581	0.0116
Endrin aldehyde	7421-93-4	0.303		0.0581	0.0116
Endrin ketone	53494-70-5	0.427		0.0581	0.0116
gamma Chlordane	5103-74-2	0.417		0.0581	0.0116
gamma-BHC (Lindane)	58-89-9	0.399		0.0581	0.0116
Heptachlor	76-44-8	0.405		0.0581	0.0116
Heptachlor epoxide	1024-57-3	0.481		0.0581	0.0116
Methoxychlor	72-43-5	0.576		0.0581	0.0116
Toxaphene	8001-35-2		U	1.16	0.349

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2,4,5,6-Tetrachloro-m-xylene	56.0	20	180	
Decachlorobiphenyl	52.4	25	140	

U	Not detected at or above adjusted sample detection limit

Certificate of Analysis

Sample #:	L14121207-03	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO2
Client ID:	HMW-305	**Prep Method:**	3015	**Prep Date:**	12/22/2014 07:40
Matrix:	Water	**Analytical Method:**	6010B	**Cal Date:**	12/23/2014 10:10
Workgroup #:	WG505878	**Analyst:**	QX	**Run Date:**	12/23/2014 12:11
Collect Date:	12/18/2014 11:45	**Dilution:**	1	**File ID:**	T2.122314.121140
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	6.87		0.200	0.100
Arsenic, Total	7440-38-2	0.259		0.0100	0.00500
Barium, Total	7440-39-3	0.750		0.0100	0.00500
Beryllium, Total	7440-41-7	0.0306		0.0100	0.00500
Cadmium, Total	7440-43-9	0.0308		0.0100	0.00500
Calcium, Total	7440-70-2	100		0.500	0.250
Chromium, Total	7440-47-3	0.315		0.0200	0.0100
Cobalt, Total	7440-48-4	0.123		0.0200	0.0100
Copper, Total	7440-50-8	0.306		0.0200	0.0100
Iron, Total	7439-89-6	5.83		0.100	0.0500
Lead, Total	7439-92-1	0.305		0.0100	0.00500
Magnesium, Total	7439-95-4	42.1		0.500	0.250
Manganese, Total	7439-96-5	0.397		0.0100	0.00500
Nickel, Total	7440-02-0	0.312		0.0400	0.0200
Potassium, Total	7440-09-7	32.4		1.00	0.500
Silver, Total	7440-22-4	0.248		0.0100	0.00500
Sodium, Total	7440-23-5	45.5		0.500	0.250
Vanadium, Total	7440-62-2	0.625		0.0100	0.00500
Zinc, Total	7440-66-6	0.615		0.0200	0.0100

Sample #:	L14121207-03	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	HMW-305	**Prep Method:**	3015	**Prep Date:**	12/22/2014 08:35
Matrix:	Water	**Analytical Method:**	6020	**Cal Date:**	12/23/2014 16:04
Workgroup #:	WG505894	**Analyst:**	JYH	**Run Date:**	12/23/2014 19:21
Collect Date:	12/18/2014 11:45	**Dilution:**	1	**File ID:**	NI.122314.192114
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.140		0.00100	0.000500
Selenium, Total	7782-49-2	0.139		0.00100	0.000500
Thallium, Total	7440-28-0	0.127		0.000200	0.000100

Certificate of Analysis

Sample #: L14121207-03 | **PrePrep Method:** N/A | **Instrument:** CVAA1
Client ID: HMW-305 | **Prep Method:** 7470A | **Prep Date:** 12/30/2014 10:17
Matrix: Water | **Analytical Method:** 7470A | **Cal Date:** 12/30/2014 11:28
Workgroup #: WG506487 | **Analyst:** BKT | **Run Date:** 12/30/2014 11:50
Collect Date: 12/18/2014 11:45 | **Dilution:** 1 | **File ID:** M7.123014.115059
Sample Tag: 01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.00408		0.000222	0.000111

Sample #: L14121207-04 | **PrePrep Method:** N/A | **Instrument:** ICP-THERMO2
Client ID: HMW-305F | **Prep Method:** 3015 | **Prep Date:** 12/22/2014 07:40
Matrix: Water | **Analytical Method:** 6010B | **Cal Date:** 12/23/2014 10:10
Workgroup #: WG505878 | **Analyst:** QX | **Run Date:** 12/23/2014 13:24
Collect Date: 12/18/2014 11:45 | **Dilution:** 1 | **File ID:** T2.122314.132404
Sample Tag: 01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Arsenic, Dissolved	7440-38-2	0.0141		0.0100	0.00500
Barium, Dissolved	7440-39-3	0.126		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.0100	0.00500
Cadmium, Dissolved	7440-43-9		U	0.0100	0.00500
Calcium, Dissolved	7440-70-2	88.9		0.500	0.250
Chromium, Dissolved	7440-47-3		U	0.0200	0.0100
Cobalt, Dissolved	7440-48-4		U	0.0200	0.0100
Copper, Dissolved	7440-50-8		U	0.0200	0.0100
Iron, Dissolved	7439-89-6	2.15		0.100	0.0500
Lead, Dissolved	7439-92-1		U	0.0100	0.00500
Magnesium, Dissolved	7439-95-4	33.9		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0744		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	1.12		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Sodium, Dissolved	7440-23-5	13.6		0.500	0.250
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100

U	Not detected at or above adjusted sample detection limit

Certificate of Analysis

Sample #: L14121207-04 **PrePrep Method:** N/A **Instrument:** ICP-MS2
Client ID: HMW-305F **Prep Method:** 3015 **Prep Date:** 12/22/2014 08:35
Matrix: Water **Analytical Method:** 6020 **Cal Date:** 12/23/2014 16:04
Workgroup #: WG505894 **Analyst:** JYH **Run Date:** 12/23/2014 19:30
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** NI.122314.193042
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00261		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-04 **PrePrep Method:** N/A **Instrument:** CVAA1
Client ID: HMW-305F **Prep Method:** 7470A **Prep Date:** 12/30/2014 10:17
Matrix: Water **Analytical Method:** 7470A **Cal Date:** 12/30/2014 11:28
Workgroup #: WG506487 **Analyst:** BKT **Run Date:** 12/30/2014 11:53
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** M7.123014.115332
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-05 **PrePrep Method:** N/A **Instrument:** ICP-THERMO2
Client ID: HMW-305F **Prep Method:** 3015 **Prep Date:** 12/22/2014 07:40
Matrix: Water **Analytical Method:** 6010B **Cal Date:** 12/23/2014 10:10
Workgroup #: WG505878 **Analyst:** QX **Run Date:** 12/23/2014 13:27
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** T2.122314.132735
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5	6.01		0.200	0.100
Arsenic, Dissolved	7440-38-2	0.251		0.0100	0.00500
Barium, Dissolved	7440-39-3	0.733		0.0100	0.00500
Beryllium, Dissolved	7440-41-7	0.0300		0.0100	0.00500
Cadmium, Dissolved	7440-43-9	0.0303		0.0100	0.00500
Calcium, Dissolved	7440-70-2	93.3		0.500	0.250
Chromium, Dissolved	7440-47-3	0.307		0.0200	0.0100
Cobalt, Dissolved	7440-48-4	0.120		0.0200	0.0100
Copper, Dissolved	7440-50-8	0.301		0.0200	0.0100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Iron, Dissolved	7439-89-6	4.63		0.100	0.0500
Lead, Dissolved	7439-92-1	0.303		0.0100	0.00500
Magnesium, Dissolved	7439-95-4	39.3		0.500	0.250
Manganese, Dissolved	7439-96-5	0.369		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.308		0.0400	0.0200
Potassium, Dissolved	7440-09-7	31.6		1.00	0.500
Silver, Dissolved	7440-22-4	0.244		0.0100	0.00500
Sodium, Dissolved	7440-23-5	43.8		0.500	0.250
Vanadium, Dissolved	7440-62-2	0.614		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.605		0.0200	0.0100

Sample #: L14121207-05 **PrePrep Method:** N/A **Instrument:** ICP-MS2
Client ID: HMW-305F **Prep Method:** 3015 **Prep Date:** 12/22/2014 08:35
Matrix: Water **Analytical Method:** 6020 **Cal Date:** 12/23/2014 16:04
Workgroup #: WG505894 **Analyst:** JYH **Run Date:** 12/23/2014 19:33
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** NI.122314.193350
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.145		0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.141		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.130		0.000200	0.000100

Sample #: L14121207-05 **PrePrep Method:** N/A **Instrument:** CVAA1
Client ID: HMW-305F **Prep Method:** 7470A **Prep Date:** 12/30/2014 10:17
Matrix: Water **Analytical Method:** 7470A **Cal Date:** 12/30/2014 11:28
Workgroup #: WG506487 **Analyst:** BKT **Run Date:** 12/30/2014 11:56
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** M7.123014.115604
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.00411		0.000222	0.000111

Sample #: L14121207-06 **PrePrep Method:** N/A **Instrument:** ICP-THERMO2
Client ID: HMW-305F **Prep Method:** 3015 **Prep Date:** 12/22/2014 07:40
Matrix: Water **Analytical Method:** 6010B **Cal Date:** 12/23/2014 10:10
Workgroup #: WG505878 **Analyst:** QX **Run Date:** 12/23/2014 13:30
Collect Date: 12/18/2014 11:45 **Dilution:** 1 **File ID:** T2.122314.133052
Sample Tag: 01 **Units:** mg/L

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5	5.99		0.200	0.100
Arsenic, Dissolved	7440-38-2	0.248		0.0100	0.00500
Barium, Dissolved	7440-39-3	0.733		0.0100	0.00500
Beryllium, Dissolved	7440-41-7	0.0301		0.0100	0.00500
Cadmium, Dissolved	7440-43-9	0.0303		0.0100	0.00500
Calcium, Dissolved	7440-70-2	92.2		0.500	0.250
Chromium, Dissolved	7440-47-3	0.309		0.0200	0.0100
Cobalt, Dissolved	7440-48-4	0.121		0.0200	0.0100
Copper, Dissolved	7440-50-8	0.299		0.0200	0.0100
Iron, Dissolved	7439-89-6	4.55		0.100	0.0500
Lead, Dissolved	7439-92-1	0.302		0.0100	0.00500
Magnesium, Dissolved	7439-95-4	38.8		0.500	0.250
Manganese, Dissolved	7439-96-5	0.367		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.307		0.0400	0.0200
Potassium, Dissolved	7440-09-7	31.5		1.00	0.500
Silver, Dissolved	7440-22-4	0.243		0.0100	0.00500
Sodium, Dissolved	7440-23-5	43.7		0.500	0.250
Vanadium, Dissolved	7440-62-2	0.619		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.609		0.0200	0.0100

Sample #: L14121207-06 | **PrePrep Method:** N/A | **Instrument:** ICP-MS2
Client ID: HMW-305F | **Prep Method:** 3015 | **Prep Date:** 12/22/2014 08:35
Matrix: Water | **Analytical Method:** 6020 | **Cal Date:** 12/23/2014 16:04
Workgroup #: WG505894 | **Analyst:** JYH | **Run Date:** 12/23/2014 19:36
Collect Date: 12/18/2014 11:45 | **Dilution:** 1 | **File ID:** NI.122314.193658
Sample Tag: 01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.147		0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.141		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.131		0.000200	0.000100

Sample #: L14121207-06 | **PrePrep Method:** N/A | **Instrument:** CVAA1
Client ID: HMW-305F | **Prep Method:** 7470A | **Prep Date:** 12/30/2014 10:17
Matrix: Water | **Analytical Method:** 7470A | **Cal Date:** 12/30/2014 11:28
Workgroup #: WG506487 | **Analyst:** BKT | **Run Date:** 12/30/2014 11:58
Collect Date: 12/18/2014 11:45 | **Dilution:** 1 | **File ID:** M7.123014.115837
Sample Tag: 01 | **Units:** mg/L

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.00397		0.000222	0.000111

Sample #: L14121207-07
Client ID: HBF-20D
Matrix: Water
Workgroup #: WG506183
Collect Date: 12/18/2014 11:40
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 5030B/5030C/5035A
Analytical Method: 8260B
Analyst: FJB
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: N/A
Cal Date: 11/03/2014 22:04
Run Date: 12/24/2014 18:12
File ID: 6M130434

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	1.00	0.500
Methyl Cyclohexane	108-87-2		U	5.00	1.00
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500

Certificate of Analysis

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	86	118	
1,2-Dichloroethane-d4	109	80	120	
Toluene-d8	91.6	88	110	
4-Bromofluorobenzene	94.9	86	115	

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-08
Client ID: HBF-20DVOC
Matrix: Water
Workgroup #: WG506183
Collect Date: 12/18/2014 11:40
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 5030B/5030C/5035A
Analytical Method: 8260B
Analyst: FJB
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: N/A
Cal Date: 11/03/2014 22:04
Run Date: 12/24/2014 18:44
File ID: 6M130435

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	1.00	0.500
Methyl Cyclohexane	108-87-2		U	5.00	1.00
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	86	118	
1,2-Dichloroethane-d4	107	80	120	
Toluene-d8	91.7	88	110	
4-Bromofluorobenzene	96.6	86	115	

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-09
Client ID: HMW-401
Matrix: Water
Workgroup #: WG506183
Collect Date: 12/18/2014 16:00
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 5030B/5030C/5035A
Analytical Method: 8260B
Analyst: FJB
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: N/A
Cal Date: 11/03/2014 22:04
Run Date: 12/24/2014 19:16
File ID: 6M130436

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	1.00	0.500
Methyl Cyclohexane	108-87-2		U	5.00	1.00
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	106	86	118	
1,2-Dichloroethane-d4	109	80	120	
Toluene-d8	92.0	88	110	
4-Bromofluorobenzene	95.2	86	115	

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-10
Client ID: HMW-401VOC
Matrix: Water
Workgroup #: WG506363
Collect Date: 12/18/2014 16:00
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 5030B/5030C/5035A
Analytical Method: 8260B
Analyst: TMB
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: N/A
Cal Date: 11/03/2014 22:04
Run Date: 12/29/2014 18:19
File ID: 6M130457

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7		U	5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	1.00	0.500
Methyl Cyclohexane	108-87-2		U	5.00	1.00
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	103	86	118	
1,2-Dichloroethane-d4	103	80	120	
Toluene-d8	88.7	88	110	
4-Bromofluorobenzene	95.6	86	115	

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-11
Client ID: HOW-2B
Matrix: Water
Workgroup #: WG506363
Collect Date: 12/18/2014 13:25
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 5030B/5030C/5035A
Analytical Method: 8260B
Analyst: TMB
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: N/A
Cal Date: 11/03/2014 22:04
Run Date: 12/29/2014 18:50
File ID: 6M130458

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	1.00	0.500
Methyl Cyclohexane	108-87-2		U	5.00	1.00
Naphthalene	91-20-3		U	1.00	0.200

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	103	86	118	
1,2-Dichloroethane-d4	102	80	120	
Toluene-d8	89.7	88	110	
4-Bromofluorobenzene	94.4	86	115	

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-12
Client ID: BF-21DD
Matrix: Water
Workgroup #: WG506363
Collect Date: 12/18/2014 09:50
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 5030B/5030C/5035A
Analytical Method: 8260B
Analyst: TMB
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: N/A
Cal Date: 11/03/2014 22:04
Run Date: 12/29/2014 19:21
File ID: 6M130459

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	1.00	0.500
Methyl Cyclohexane	108-87-2		U	5.00	1.00
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	101	86	118	
1,2-Dichloroethane-d4	100	80	120	
Toluene-d8	90.4	88	110	
4-Bromofluorobenzene	95.0	86	115	

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-12
Client ID: BF-21DD
Matrix: Water
Workgroup #: WG505878
Collect Date: 12/18/2014 09:50
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3015
Analytical Method: 6010B
Analyst: QX
Dilution: 1
Units: mg/L

Instrument: ICP-THERMO2
Prep Date: 12/22/2014 07:40
Cal Date: 12/23/2014 10:10
Run Date: 12/23/2014 13:34
File ID: T2.122314.133408

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.00768	J	0.0100	0.00500
Barium, Total	7440-39-3	0.322		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.0100	0.00500
Cadmium, Total	7440-43-9		U	0.0100	0.00500
Calcium, Total	7440-70-2	84.3		0.500	0.250
Chromium, Total	7440-47-3		U	0.0200	0.0100
Cobalt, Total	7440-48-4		U	0.0200	0.0100
Copper, Total	7440-50-8		U	0.0200	0.0100
Iron, Total	7439-89-6	0.890		0.100	0.0500
Lead, Total	7439-92-1		U	0.0100	0.00500
Magnesium, Total	7439-95-4	36.2		0.500	0.250
Manganese, Total	7439-96-5	0.0719		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	1.36		1.00	0.500
Silver, Total	7440-22-4		U	0.0100	0.00500
Sodium, Total	7440-23-5	14.0		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

J	The analyte was positively identified, but the quantitation was below the RL
U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-12
Client ID: BF-21DD
Matrix: Water
Workgroup #: WG505894
Collect Date: 12/18/2014 09:50
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 3015
Analytical Method: 6020
Analyst: JYH
Dilution: 1
Units: mg/L

Instrument: ICP-MS2
Prep Date: 12/22/2014 08:35
Cal Date: 12/23/2014 16:04
Run Date: 12/23/2014 19:40
File ID: NI.122314.194006

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Selenium, Total	7782-49-2		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit

Certificate of Analysis

Sample #: L14121207-12 | **PrePrep Method:** N/A | **Instrument:** CVAA1
Client ID: BF-21DD | **Prep Method:** 7470A | **Prep Date:** 12/30/2014 10:17
Matrix: Water | **Analytical Method:** 7470A | **Cal Date:** 12/30/2014 11:28
Workgroup #: WG506487 | **Analyst:** BKT | **Run Date:** 12/30/2014 12:02
Collect Date: 12/18/2014 09:50 | **Dilution:** 1 | **File ID:** M7.123014.120208
Sample Tag: 01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-13 | **PrePrep Method:** N/A | **Instrument:** HPMS6
Client ID: FB-1 | **Prep Method:** 5030B/5030C/5035A | **Prep Date:** N/A
Matrix: Water | **Analytical Method:** 8260B | **Cal Date:** 11/03/2014 22:04
Workgroup #: WG506363 | **Analyst:** TMB | **Run Date:** 12/29/2014 17:16
Collect Date: 12/18/2014 17:40 | **Dilution:** 1 | **File ID:** 6M130455
Sample Tag: 01 | **Units:** ug/L

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	0.467	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	1.00	0.500
Methyl Cyclohexane	108-87-2		U	5.00	1.00
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	103	86	118	
1,2-Dichloroethane-d4	103	80	120	
Toluene-d8	89.0	88	110	
4-Bromofluorobenzene	93.8	86	115	

J	The analyte was positively identified, but the quantitation was below the RL
U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-14
Client ID: FB-2
Matrix: Water
Workgroup #: WG506363
Collect Date: 12/18/2014 17:30
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 5030B/5030C/5035A
Analytical Method: 8260B
Analyst: TMB
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: N/A
Cal Date: 11/03/2014 22:04
Run Date: 12/29/2014 17:48
File ID: 6M130456

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7		U	5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3	0.432	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	1.00	0.500
Methyl Cyclohexane	108-87-2		U	5.00	1.00
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	105	86	118	
1,2-Dichloroethane-d4	104	80	120	
Toluene-d8	90.9	88	110	
4-Bromofluorobenzene	93.4	86	115	

J	The analyte was positively identified, but the quantitation was below the RL
U	Not detected at or above adjusted sample detection limit

Sample #: L14121207-15
Client ID: TB-2
Matrix: Water
Workgroup #: WG506363
Collect Date: 12/18/2014 00:01
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 5030B/5030C/5035A
Analytical Method: 8260B
Analyst: TMB
Dilution: 1
Units: ug/L

Instrument: HPMS6
Prep Date: N/A
Cal Date: 11/03/2014 22:04
Run Date: 12/29/2014 15:11
File ID: 6M130451

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125
Bromobenzene	108-86-1		U	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200
Bromodichloromethane	75-27-4		U	1.00	0.250
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
n-Butylbenzene	104-51-8		U	1.00	0.250
sec-Butylbenzene	135-98-8		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
tert-Butylbenzene	98-06-6		U	1.00	0.250
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chlorodibromomethane	124-48-1		U	1.00	0.250
Chloroethane	75-00-3		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
2-Chloroethyl vinyl ether	110-75-8		U	10.0	2.00
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
2-Chlorotoluene	95-49-8		U	1.00	0.125
4-Chlorotoluene	106-43-4		U	1.00	0.250
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
Dibromomethane	74-95-3		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
1,1-Dichloroethene	75-35-4		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichloropropane	142-28-9		U	1.00	0.200
2,2-Dichloropropane	594-20-7		U	1.00	0.250
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
1,1-Dichloropropene	563-58-6		U	1.00	0.250
Ethylbenzene	100-41-4		U	1.00	0.250
2-Hexanone	591-78-6		U	10.0	2.50
Hexachlorobutadiene	87-68-3		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
p-Isopropyltoluene	99-87-6		U	1.00	0.250
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Methylene chloride	75-09-2		U	5.00	0.250
Methyl tert butyl ether	1634-04-4		U	1.00	0.500
Methyl Cyclohexane	108-87-2		U	5.00	1.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Naphthalene	91-20-3		U	1.00	0.200
n-Propylbenzene	103-65-1		U	1.00	0.125
Styrene	100-42-5		U	1.00	0.125
1,1,1,2-Tetrachloroethane	630-20-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.150
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
1,2,3-Trichloropropane	96-18-4		U	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6		U	1.00	0.250
1,3,5-Trimethylbenzene	108-67-8		U	1.00	0.250
Vinyl acetate	108-05-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	1.00	0.250
o-Xylene	95-47-6		U	1.00	0.250
m-,p-Xylene	179601-23-1		U	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	104	86	118	
1,2-Dichloroethane-d4	103	80	120	
Toluene-d8	89.2	88	110	
4-Bromofluorobenzene	94.2	86	115	

U	Not detected at or above adjusted sample detection limit

Certificate of Analysis

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
January 12, 2015

001 - BIO-CHEM TESTING WVDEP 220	002 - REIC Consultants, Inc. WVDEP 060
003 - Sturm Environmental	004 - MICROBAC PITTSBURGH
005 - ES LABORATORIES	006 - ALCOSAN LABORATORIES
007 - ALS LABORATORIES	008 - BENCHMARK LABORATORIES
010 - MICROBAC CHICAGOLAND	ADC - ANTHONY D. CANTER
ADG - APRIL D. GREENE	AED - ALLEN E. DAVIS
ALS - ADRIANE L. STEED	AWE - ANDREW W. ESSIG
AZH - AFTER HOURS	BJO - BRIAN J. OGDEN
BKT - BRENDAN TORRENCE	BLG - BRENDA L. GREENWALT
BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES
CJR - COURTNEY J. REXROAD	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS
CPD - CHAD P. DAVIS	CSH - CHRIS S. HILL
DAK - DEAN A. KETELSEN	DCM - DAVID C. MERCKLE
DEV - DAVID E. VANDENBERG	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE
DSM - DAVID S. MOSSOR	ECL - ERIC C. LAWSON
ENY - EMILY N. YOAK	EPT - ETHAN P. TIDD
ERP - ERIN R. PORTER	FJB - FRANCES J. BOLDEN
JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON
JDS - JARED D. SMITH	JJS - JOHN J. STE MARIE
JKP - JACQUELINE K. PARSONS	JLL - JOHN L. LENT
JMW - JEANA M. WHITE	JTP - JOSHUA T. PEMBERTON
JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES
JYH - JI Y. HU	KAJ - KELLIE A. JOHNSON
KAT - KATHY A. TUCKER	KDW - KATHRYN D. WELCH
KEB - KATIE E. BARNES	KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON	KRB - KAELY R. BECKER
KRP - KATHY R. PARSONS	LEC - LAURA E. CARPENTER
LKN - LINDA K. NEDEFF	LLS - LARRY L. STEPHENS
LSB - LESLIE S. BUCINA	MBK - MORGAN B. KNOWLTON
MDA - MIKE D. ALBERTSON	MDC - MIKE D. COCHRAN
MES - MARY E. SCHILLING	MLB - MEGAN L. BACHE
MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON	PDM - PIERCE D. MORRIS
PIT - MICROBAC WARRENDALE	PRL - PAIGE R. LAMB
PSW - PEGGY S. WEBB	QX - QIN XU
RAH - ROY A. HALSTEAD	REK - BOB E. KYER
RLB - BOB BUCHANAN	RM - RAYMOND MALEKE
RNP - RICK N. PETTY	SAV - SARAH A. VANDENBERG
SDC - SHALYN D. CONLEY	SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF	TB - TODD BOYLE
TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS
VC - VICKI COLLIER	WJB - WILL J. BEASLEY
WRR - WESLEY R. RICHARDS	WTD - WADE T. DELONG
XXX - UNAVAILABLE OR SUBCONTRACT	

Microbac Laboratories Inc.
List of Valid Qualifiers
January 12, 2015

Qualkey: STD_ND=U

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,H1	The analyte was positively identified, but the quantitation was below the RL. Sample analysis performed past holding time
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,L	Not detected; sample reporting limit (RL) elevated due to interference
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Not detected at or above adjusted sample detection limit
U,H1	Not detected; sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

COC No. A 44437

158 Starlite Drive
Marietta, OH 45750

MICROBAC®

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Toll Free: 800-373-4071

Company Name: OhioEPA - DERR

Project Contact: V. Sigler | Contact Phone #: 614 836 8757

Turn Around Requirements: Standard | Location: Groveport, OH

Project ID: Tremont BFOU

Sampler (print): V. Sigler | Signature: V Sigler

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	VOC 8260B	TAL Metals	8270C SIVOC	8081 Pest	Filtered Metals	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
HMW-305		X	12/18/14	1145	GW	21		X	X	X	X			* MS/MSD
HMW-305F		X	12/18/14	1145	GW	3						X		* MS/MSD/Filtered
HBF-20D		X	12/18/14	1140	GW	2		X						
HBF-20DVOC		X	12/18/14	1140	GW	2		X						
HMW-401		X	12/18/14	1600	GW	2		X						
HMW-401 VOC		X	12/18/14	1600	GW	2		X						
HMW-2B		X	12/18/14	1325	GW	2		X						
BF-2DD		X	12/18/14	0950	GW	3		X	X					
FB-1		X	12/18/14	1740	GW	2		X						
FB-2		X	12/18/14	1730	GW	2		X						
TB-2		X	12/18/14 W		TB	2		X						

Microbac OVD
Received: 12/19/2014 14:38
By: BRENDA GREGORY 221000063575
Brenda Gregory

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
V Sigler	12/18/14	1800			12/19/14	0640	Edward
Edward	12/19/2014	0900	Received for Laboratory by: (Signature) Ted A Reed Rec. 12-19-2014 / 11:25				Remarks:

Relinquished by: Ted A Reed 12-19-2014 / 14:15

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

+2 coolers

Page 1 of 1

Internal Chain of Custody Report

Login: L14121207
Account: 2755
Project: 2755.030
Samples: 15
Due Date: 02-JAN-2015

Samplenum	Container ID	Products
L14121207-01	494895	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:12	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:12	CLS	AWE	

Samplenum	Container ID	Products
L14121207-01	494896	827-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		
2	PREP	W1	EXT	22-DEC-2014 09:22	RAH	BRG	
3	ANALYZ*	EXT	SEMI	22-DEC-2014 16:51	ADC	RAH	
4	DISP	EXT	DISP	23-DEC-2014 07:17	BJO	BJO	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		
2	STORE	W1	A1	22-DEC-2014 08:24	BRG	BRG	

***Sample extract/digestate/leachate**

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L14121207
Account: 2755
Project: 2755.030
Samples: 15
Due Date: 02-JAN-2015

Samplenum	Container ID	Products
L14121207-01	494897	8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		
2	PREP	W1	EXT	20-DEC-2014 10:25	CSH	AZH	
3	DISP	EXT	DISP	22-DEC-2014 09:08	JTP	JTP	
4	ANALYZ*	EXT	SEMI	30-DEC-2014 11:41	ECL	CSH	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		
2	STORE	W1	A1	22-DEC-2014 08:24	BRG	BRG	

***Sample extract/digestate/leachate**

Samplenum	Container ID	Products
L14121207-01	494898	AG AL AS-AX BA BE CA CD CO CR CU FE HG K MG MN

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		

Samplenum	Container ID	Products
L14121207-02	494899	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		19-DEC-2014 16:37	BRG		

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:12	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L14121207
Account: 2755
Project: 2755.030
Samples: 15
Due Date: 02-JAN-2015

Samplenum	Container ID	Products
L14121207-02	494900	827-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		19-DEC-2014 16:37	BRG		

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		
2	STORE	W1	A1	22-DEC-2014 08:24	BRG	BRG	

Samplenum	Container ID	Products
L14121207-02	494901	8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		
2	STORE	W1	A1	22-DEC-2014 08:23	BRG	BRG	

Samplenum	Container ID	Products
L14121207-02	494902	K MG MN NA NI PB-AX SB-MS SE-MS TL-MS V ZN AG

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		

Samplenum	Container ID	Products
L14121207-03	494903	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		19-DEC-2014 16:37	BRG		

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:12	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L14121207
Account: 2755
Project: 2755.030
Samples: 15
Due Date: 02-JAN-2015

Samplenum	Container ID	Products
L14121207-03	494904	827-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		19-DEC-2014 16:37	BRG		

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		
2	STORE	W1	A1	22-DEC-2014 08:24	BRG	BRG	

Samplenum	Container ID	Products
L14121207-03	494905	8081

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		
2	STORE	W1	A1	22-DEC-2014 08:23	BRG	BRG	

Samplenum	Container ID	Products
L14121207-03	494906	AG AL AS-AX BA BE CA CD CO CR CU FE HG K MG MN

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		

Samplenum	Container ID	Products
L14121207-04	494907	AG-D AL-D AS-AXD BA-D BE-D CA-D CD-D CO-D CR-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		

Samplenum	Container ID	Products
L14121207-05	494908	AG-D AL-D AS-AXD BA-D BE-D CA-D CD-D CO-D CR-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L14121207
Account: 2755
Project: 2755.030
Samples: 15
Due Date: 02-JAN-2015

Samplenum	Container ID	Products
L14121207-06	494909	AG-D AL-D AS-AXD BA-D BE-D CA-D CD-D CO-D CR-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		

Samplenum	Container ID	Products
L14121207-07	494910	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:12	CLS	AWE	

Samplenum	Container ID	Products
L14121207-08	494911	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:12	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:12	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L14121207
Account: 2755
Project: 2755.030
Samples: 15
Due Date: 02-JAN-2015

Samplenum	Container ID	Products
L14121207-09	494912	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:12	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:12	CLS	AWE	

Samplenum	Container ID	Products
L14121207-10	494913	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	19-DEC-2014 16:37	BRG		
2	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

Samplenum	Container ID	Products
L14121207-11	494914	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L14121207
Account: 2755
Project: 2755.030
Samples: 15
Due Date: 02-JAN-2015

Samplenum	Container ID	Products
L14121207-12	494915	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

Samplenum	Container ID	Products
L14121207-12	494916	AG AL AS-AX BA BE CA CD CO CR CU FE HG K MG MN

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	19-DEC-2014 16:37	BRG		
2	PREP	W1	DIG	22-DEC-2014 07:11	ERP	BRG	
3	ANALYZ*	DIG	METALS	22-DEC-2014 12:33	JYH	ERP	
4	STORE	DIG	A2	24-DEC-2014 11:16	BRG	ERP	
5	STORE	DIG	A2	30-DEC-2014 14:24	CLS	VC	

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L14121207-13	494917	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L14121207
Account: 2755
Project: 2755.030
Samples: 15
Due Date: 02-JAN-2015

Samplenum	Container ID	Products
L14121207-14	494918	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

Samplenum	Container ID	Products
L14121207-15	494919	826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	19-DEC-2014 16:37	BRG		
2	ANALYZ	V1	ORG4	22-DEC-2014 08:30	AWE	CLS	
3	STORE	ORG4	A2	05-JAN-2015 08:11	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login