



Laboratory Report Number: L12110784

Shane Lowe
CH2MHILL, Inc
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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:
Kathy Albertson – Team Chemist/Data Specialist
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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 December 20 2012

David Vandenberg – Managing Director

State of Origin: NY
Accrediting Authority: Department of Health ID:10861
QAPP: WATERLOO



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
PH was > 2 on the following samples for both metals and dissolved metals. Sample id's are as follows: mw-03-gw-11272012 bldg64-pit-ssp-gw-11272012 dup-gw-11272012-01, mw-32-gw-11272012 mw-02-gw-11282012. RS Added 5ml HNO3 to the above sample ID's. Lot#: RGT 17948 11/29/12 @ 1640. CLS MW-03-GW-11272012 and MW-32-GW-11272012 the PH did not adjust on the Total or the Dissolved metals due to the matrix of the sample CLS	Adjust PH per email from KRA. CLS

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #
0016691	G	4.0		1002239564210004575000872087765179
0012494	G	0.0		1002239564210004575000872087765180

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?	Yes
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)	No
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
EB-GW-11272012	L12110784-01	11/27/2012 08:00	11/29/2012 16:11
PZ-04-GW-11272012	L12110784-02	11/27/2012 09:35	11/29/2012 16:11
PZ-04-GW-11272012	L12110784-03	11/27/2012 09:35	11/29/2012 16:11
MW-03-GW-11272012	L12110784-04	11/27/2012 10:00	11/29/2012 16:11
MW-03-GW-11272012	L12110784-05	11/27/2012 10:00	11/29/2012 16:11
PZ-06-GW-11272012	L12110784-06	11/27/2012 10:00	11/29/2012 16:11
PZ-06-GW-11272012	L12110784-07	11/27/2012 10:00	11/29/2012 16:11
PZ-01-GW-11272012	L12110784-08	11/27/2012 10:55	11/29/2012 16:11
PZ-01-GW-11272012	L12110784-09	11/27/2012 10:55	11/29/2012 16:11
MW-33-GW-11272012	L12110784-10	11/27/2012 11:10	11/29/2012 16:11
MW-33-GW-11272012	L12110784-11	11/27/2012 11:10	11/29/2012 16:11
MW-33-GW-11272012-MS	L12110784-12	11/27/2012 11:10	11/29/2012 16:11
MW-33-GW-11272012-MS	L12110784-13	11/27/2012 11:10	11/29/2012 16:11
MW-33-GW-11272012-MSD	L12110784-14	11/27/2012 11:10	11/29/2012 16:11
MW-33-GW-11272012-MSD	L12110784-15	11/27/2012 11:10	11/29/2012 16:11
BLDG4-PIT-SSP-GW-11272012	L12110784-16	11/27/2012 11:40	11/29/2012 16:11
BLDG4-PIT-SSP-GW-11272012	L12110784-17	11/27/2012 11:40	11/29/2012 16:11
MW-34-GW-11272012	L12110784-18	11/27/2012 12:40	11/29/2012 16:11
MW-34-GW-11272012	L12110784-19	11/27/2012 12:40	11/29/2012 16:11
MW-22-GW-11272012	L12110784-20	11/27/2012 15:10	11/29/2012 16:11
MW-22-GW-11272012	L12110784-21	11/27/2012 15:10	11/29/2012 16:11
DUP-GW-11272012-01	L12110784-22	11/27/2012 11:50	11/29/2012 16:11
DUP-GW-11272012-01	L12110784-23	11/27/2012 11:50	11/29/2012 16:11
MW-32-GW-11272012	L12110784-24	11/27/2012 15:15	11/29/2012 16:11
MW-32-GW-11272012	L12110784-25	11/27/2012 15:15	11/29/2012 16:11
MW-02-GW-11282012	L12110784-26	11/28/2012 10:30	11/29/2012 16:11
MW-02-GW-11282012	L12110784-27	11/28/2012 10:30	11/29/2012 16:11
MW-23-GW-11282012	L12110784-28	11/28/2012 09:15	11/29/2012 16:11
MW-23-GW-11282012	L12110784-29	11/28/2012 09:15	11/29/2012 16:11
TB-11282012	L12110784-30	11/27/2012 15:21	11/29/2012 16:11



Login Number: L12110784
Department: Volatiles
Analyst: Anthony Canter

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: All acceptance criteria were met.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: chloromethane, dichlorodifluoromethane, 2-butanone, 2-hexanone, 4-methyl-2-pentanone, dichlorodifluoromethane, acetone, bromomethane, MTBE. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Chloromethane. 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: Methylene chloride. 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: Samples 04, 10, 16, 22, 26, were run at a dilution.

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: 57231

Approved By: Michael Albertson





Login Number: L12110784
Department: Metals
Analyst: Kim Rhodes

METHOD

Preparation: SW-846 3005

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: WG415696 - The continuing calibration verification analyzed on 04-DEC-2012 at 21:10 yielded a cadmium result that was slightly below the lower acceptance limit. However, since the CCV bracketed compliant interference check samples, and did not bracket any client samples or batch QA/QC, no further action was taken with the permission of the project chemist.

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: WG415619 - All acceptance criteria were met.

WG415696 - All acceptance criteria were met.

WG415817 - All acceptance criteria were met.

Matrix Spikes: WG415619 - Sample 10 was chosen by the client for MS/MSD analysis. Samples 12(MS) and 14(MSD) yielded noncompliant recoveries for four analytes.

WG415696 - Sample 11 was chosen by the client for MS/MSD analysis. Samples 13(MS) and 15(MSD) yielded noncompliant recoveries for five analytes.

SAMPLES

Samples: WG415619 - Client samples 02, 03, 06, 07, 10, 12MS, 14MSD, 20, and 21 required dilution analyses in order to obtain results for sodium within the linear range. Samples 16, 17, and 22 required dilution analyses in order to obtain results for calcium, potassium, and sodium within the linear range. Due to a result that was noncompliant on the negative side upon initial analysis, cadmium for client sample 17 was reported from a dilution analysis.

WG415696 - Client samples 04 and 05 required dilution analyses in order to obtain results for calcium, potassium, and sodium within the linear range. Client sample 11 as well as the post digestion spike and serial dilution, 13MS, and 15MSD required dilution analyses in order to obtain results for sodium within the linear range. Due to results that were noncompliant on the negative side upon initial analysis, cadmium for client samples 05 and 11 were reported from dilution

analyses. In order to maintain consistency with sample 11(REF), cadmium for the batch post spike, 13MS and 15MSD was also reported from a dilution analysis.

WG415817 - Client sample 23 required a dilution analysis for calcium, potassium, and sodium and samples 24 through 29 for sodium in order to obtain results within the linear range.

Narrative ID: 56779

Approved By: Maren Beery

Maren Beery



Login Number: L12110784
Department: Metals
Analyst: Ji Hu

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: WG415951 - Due to continuing calibration verification failure for lead on 06-Dec-2012 at 16:30, client samples 21 through 29 were reanalyzed on a later calibration for lead.

Continuing Calibration Blank: WG415951 - Due to continuing calibration blank failure for selenium on 06-Dec-2012 at 16:34, client samples 21 through 29 were reanalyzed on a later calibration for selenium.

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: WG415785 - All acceptance criteria were met.

WG415951 - All acceptance criteria were met.

Matrix Spikes: WG415785 - Sample 10 was chosen by the client for MS/MSD analysis. Samples 12(MS) and 14(MSD) met all acceptance criteria.

WG415951 - Sample 11 was chosen by the client for MS/MSD analysis. Samples 13(MS) and 15(MSD) met all acceptance criteria.

SAMPLES

Samples: WG415785 - Client sample 04 and 05 required dilution analyses in order to obtain results for arsenic within the linear range.

WG415951 - Due to a result that was noncompliant on the negative side upon initial analysis, selenium for client sample 24 was reported from a dilution analysis.

Narrative ID: 56848

Approved By: Sheri Pfalzgraf



Login Number: L12110784
Department: Metals - AA
Analyst: Pierce Morris
Analyst #2: Kim Rhodes

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: WG415763 - The laboratory control sample was in the wrong position in the autosampler and therefore was reanalyzed at 17:04. The laboratory control sample analyzed on 06-DEC-2012 at 17:04 was spiked at half the customary concentration, however, the acceptance criteria were met.
Serial Dilution/Post Digestion Spikes: WG415703 - All acceptance criteria were met.

WG415763 - All acceptance criteria were met.

WG415984 - All acceptance criteria were met.

Matrix Spikes: WG415703 - Sample 10 was chosen by the client for MS/MSD analysis. Samples 12(MS) and 14(MSD) met all acceptance criteria.

WG415763 - Sample 11 was chosen by the client for MS/MSD analysis. Samples 13(MS) and 15(MSD) yielded noncompliant recoveries for mercury.

SAMPLES

Samples: WG415703 - Due to a result that was noncompliant on the negative side upon initial analysis, mercury for client sample 08 was reported from a later reanalysis.

Narrative ID: 56827
Approved By: Maren Beery
Maren Beery

Certificate of Analysis

Sample #: L12110784-01	PrePrep Method: N/A	Instrument: HPMS8
Client ID: EB-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 19:23
Collect Date: 11/27/2012 08:00	Dilution: 1	File ID: 8M383855
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		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
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
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.647	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	86.4	80	120	
Dibromofluoromethane	95.3	86	118	
p-Bromofluorobenzene	91.8	86	115	
Toluene-d8	95.0	88	110	

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

Sample #: L12110784-01	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: EB-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 13:47
Collect Date: 11/27/2012 08:00	Dilution: 1	File ID: P2.120312.134725
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.100	0.0500
Barium, Total	7440-39-3		U	0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2		U	0.200	0.100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Chromium, Total	7440-47-3		U	0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Manganese, Total	7439-96-5		U	0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7		U	1.00	0.500
Silica, Calculated as SiO2			U	2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Sodium, Total	7440-23-5	0.370	J	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 #: L12110784-01	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: EB-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 10:36
Collect Date: 11/27/2012 08:00	Dilution: 1	File ID: NI.120512.103609
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Lead, Total	7439-92-1		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.				

Sample #: L12110784-01	PrePrep Method: N/A	Instrument: HYDRA
Client ID: EB-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 12:57
Collect Date: 11/27/2012 08:00	Dilution: 1	File ID: HY.120412.125747
Sample Tag: 01	Units: mg/L	

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

Certificate of Analysis

U	Not detected at or above adjusted sample detection limit.
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Sample #: L12110784-02	PrePrep Method: N/A	Instrument: HPMS8
Client ID: PZ-04-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 21:24
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: 8M383859
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	43.9		10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2	0.174	J	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
Carbon disulfide	75-15-0	18.2		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	20.9		1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2	8.13		5.00	0.250
m,p-Xylene	179601-23-1	1.54		1.00	0.500
o-Xylene	95-47-6	0.440	J	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	1.77		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	87.2	80	120		
Dibromofluoromethane	98.7	86	118		
p-Bromofluorobenzene	91.1	86	115		
Toluene-d8	92.7	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-02	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-04-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 13:41
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: P2.120312.134128
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.294		0.100	0.0500
Barium, Total	7440-39-3	0.133		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Total	7440-43-9	0.000308	J	0.000500	0.000250
Calcium, Total	7440-70-2	159		0.200	0.100
Chromium, Total	7440-47-3	0.00786		0.00500	0.00250
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	0.622		0.100	0.0500
Magnesium, Total	7439-95-4	32.1		0.500	0.250
Manganese, Total	7439-96-5	0.0432		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	20.9		1.00	0.500
Silica, Calculated as SiO2		74.1		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0160		0.0100	0.00500
Zinc, Total	7440-66-6	0.0281		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 #: L12110784-02	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-04-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 16:15
Collect Date: 11/27/2012 09:35	Dilution: 100	File ID: P2.120312.161522
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	1430		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-02	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-04-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:09
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: NI.120512.110957
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00509		0.00100	0.000500
Lead, Total	7439-92-1	0.00240		0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Selenium, Total	7782-49-2	0.00526		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-02	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-04-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:03
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: HY.120412.130320
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 #: L12110784-03	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-04-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:18
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: P2.120312.141839
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.136		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	155		0.200	0.100
Chromium, Dissolved	7440-47-3	0.00486	J	0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	31.5		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0308		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	21.4		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.00606	J	0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
J	The analyte was positively identified, but the quantitation was below the RL.				

Certificate of Analysis

U	Not detected at or above adjusted sample detection limit.
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Sample #: L12110784-03	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-04-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 15:43
Collect Date: 11/27/2012 09:35	Dilution: 100	File ID: P2.120412.154347
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	1400		50.0	25.0

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

Sample #: L12110784-03	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-04-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:13
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: NI.120512.111319
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.00442		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00458		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100

U	Not detected at or above adjusted sample detection limit.
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Sample #: L12110784-03	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-04-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:04
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: HY.120412.130458
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.000148	J	0.000200	0.000100

J	The analyte was positively identified, but the quantitation was below the RL.
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Certificate of Analysis

Sample #: L12110784-04	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-03-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 21:54
Collect Date: 11/27/2012 10:00	Dilution: 100	File ID: 8M383860
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	100	25.0
1,1,2,2-Tetrachloroethane	79-34-5		U	100	20.0
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	500	200
1,1,2-Trichloroethane	79-00-5		U	100	25.0
1,1-Dichloroethane	75-34-3		U	100	12.5
1,1-Dichloroethene	75-35-4		U	100	50.0
1,2,3-Trichlorobenzene	87-61-6		U	100	50.0
1,2,4-Trichlorobenzene	120-82-1		U	100	20.0
1,2-Dibromo-3-chloropropane	96-12-8		U	500	100
1,2-Dibromoethane	106-93-4		U	100	25.0
1,2-Dichlorobenzene	95-50-1		U	100	12.5
1,2-Dichloroethane	107-06-2		U	100	25.0
cis-1,2-Dichloroethene	156-59-2		U	100	25.0
trans-1,2-Dichloroethene	156-60-5		U	100	25.0
1,2-Dichloropropane	78-87-5		U	100	20.0
1,3-Dichlorobenzene	541-73-1		U	100	25.0
1,4-Dichlorobenzene	106-46-7		U	100	12.5
2-Butanone	78-93-3		U	1000	250
2-Hexanone	591-78-6		U	1000	250
4-Methyl-2-pentanone	108-10-1	26600		1000	250
Acetone	67-64-1	1980		1000	250
Benzene	71-43-2		U	100	12.5
Bromochloromethane	74-97-5		U	100	20.0
Bromodichloromethane	75-27-4		U	100	25.0
Bromoform	75-25-2		U	100	50.0
Bromomethane	74-83-9		U	100	50.0
Carbon disulfide	75-15-0	121		100	50.0
Carbon tetrachloride	56-23-5		U	100	25.0
Chlorobenzene	108-90-7		U	100	12.5
Chloroethane	75-00-3		U	100	50.0
Chloroform	67-66-3	13.3	J	100	12.5
Chloromethane	74-87-3		U	100	50.0
cis-1,3-Dichloropropene	10061-01-5		U	100	25.0

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7		U	500	100
Dibromochloromethane	124-48-1		U	100	25.0
Dichlorodifluoromethane	75-71-8		U	100	25.0
Ethyl benzene	100-41-4		U	100	25.0
Isopropylbenzene	98-82-8		U	100	25.0
Methyl acetate	79-20-9		U	500	100
Methyl tert-butyl ether	1634-04-4		U	100	50.0
Methylcyclohexane	108-87-2		U	500	100
Methylene chloride	75-09-2	43.8	J	500	25.0
m,p-Xylene	179601-23-1		U	100	50.0
o-Xylene	95-47-6		U	100	25.0
Styrene	100-42-5		U	100	12.5
Tetrachloroethene	127-18-4		U	100	25.0
Toluene	108-88-3	73.8	J	100	25.0
trans-1,3-Dichloropropene	10061-02-6		U	100	50.0
Trichloroethene	79-01-6		U	100	25.0
Trichlorofluoromethane	75-69-4		U	100	25.0
Vinyl chloride	75-01-4		U	100	25.0
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	83.5	80	120	
Dibromofluoromethane	95.9	86	118	
p-Bromofluorobenzene	91.3	86	115	
Toluene-d8	94.0	88	110	

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

Sample #: L12110784-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 12:05
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: P2.120412.120539
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.571		0.100	0.0500
Barium, Total	7440-39-3	0.761		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9	0.0114		0.000500	0.000250
Chromium, Total	7440-47-3	7.97		0.00500	0.00250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cobalt, Total	7440-48-4	0.0158	J	0.0200	0.0100
Copper, Total	7440-50-8		U	0.0200	0.0100
Iron, Total	7439-89-6	1.54		0.100	0.0500
Magnesium, Total	7439-95-4	355		0.500	0.250
Manganese, Total	7439-96-5	3.76		0.0100	0.00500
Nickel, Total	7440-02-0	0.0856		0.0400	0.0200
Silica, Calculated as SiO2		35.2		2.14	1.07
Silver, Total	7440-22-4	0.0193		0.0100	0.00500
Vanadium, Total	7440-62-2	0.389		0.0100	0.00500
Zinc, Total	7440-66-6	0.825		0.0200	0.0100
E	Semiquantitative result (out of calibration 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 #: L12110784-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/06/2012 16:52
Collect Date: 11/27/2012 10:00	Dilution: 10	File ID: P2.120612.165245
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Total	7440-09-7	110		10.0	5.00
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 14:38
Collect Date: 11/27/2012 10:00	Dilution: 100	File ID: P2.120412.143816
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Total	7440-70-2	1680		20.0	10.0
Sodium, Total	7440-23-5	430		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-03-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:47
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: NI.120512.114756
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.0119		0.00100	0.000500
Lead, Total	7439-92-1	0.0231		0.00100	0.000500
Selenium, Total	7782-49-2	0.0211		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
E	Semiquantitative result (out of calibration range)				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-03-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:28
Collect Date: 11/27/2012 10:00	Dilution: 50	File ID: NI.120512.122834
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.302		0.0500	0.0250
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-04	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-03-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:06
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: HY.120412.130649
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.				

Certificate of Analysis

Sample #: L12110784-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 12:11
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: P2.120412.121139
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.836		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Chromium, Dissolved	7440-47-3	8.76		0.00500	0.00250
Cobalt, Dissolved	7440-48-4	0.0167	J	0.0200	0.0100
Copper, Dissolved	7440-50-8		U	0.0200	0.0100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	406		0.500	0.250
Manganese, Dissolved	7439-96-5	4.28		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.0901		0.0400	0.0200
Silver, Dissolved	7440-22-4	0.0192		0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.433		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.0117	J	0.0200	0.0100
E	Semiquantitative result (out of calibration 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 #: L12110784-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/06/2012 17:00
Collect Date: 11/27/2012 10:00	Dilution: 10	File ID: P2.120612.170026
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Dissolved	7440-43-9		U	0.00500	0.00250
Potassium, Dissolved	7440-09-7	115		10.0	5.00
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 14:52
Collect Date: 11/27/2012 10:00	Dilution: 100	File ID: P2.120412.145210
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Dissolved	7440-70-2	1910		20.0	10.0
Sodium, Dissolved	7440-23-5	491		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-05	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-03-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:51
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: NI.120512.115117
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00427		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.0208		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
E	Semiquantitative result (out of calibration range)				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-05	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-03-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:31
Collect Date: 11/27/2012 10:00	Dilution: 50	File ID: NI.120512.123156
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.325		0.0500	0.0250
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-05	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-03-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:08
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: HY.120412.130827
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 #: L12110784-06	PrePrep Method: N/A	Instrument: HPMS8
Client ID: PZ-06-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 22:24
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: 8M383861
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1	0.276	J	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	26.6		10.0	2.50
Acetone	67-64-1	3.07	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
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
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
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.368	J	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	86.7	80	120	
Dibromofluoromethane	95.3	86	118	
p-Bromofluorobenzene	90.8	86	115	
Toluene-d8	94.1	88	110	

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

Certificate of Analysis

Sample #: L12110784-06	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-06-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:25
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: P2.120312.142538
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	2.78		0.100	0.0500
Barium, Total	7440-39-3	0.0819		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9	0.00107		0.000500	0.000250
Calcium, Total	7440-70-2	31.2		0.200	0.100
Chromium, Total	7440-47-3	0.0313		0.00500	0.00250
Cobalt, Total	7440-48-4		U	0.0200	0.0100
Copper, Total	7440-50-8	0.0145	J	0.0200	0.0100
Iron, Total	7439-89-6	4.04		0.100	0.0500
Magnesium, Total	7439-95-4	10.4		0.500	0.250
Manganese, Total	7439-96-5	0.101		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	6.80		1.00	0.500
Silica, Calculated as SiO2		25.6		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0406		0.0100	0.00500
Zinc, Total	7440-66-6	0.159		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 #: L12110784-06	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-06-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 15:50
Collect Date: 11/27/2012 10:00	Dilution: 100	File ID: P2.120412.155043
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	1050		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-06	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-06-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:54
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: NI.120512.115440
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00726		0.00100	0.000500
Arsenic, Total	7440-38-2	0.00969		0.00100	0.000500
Lead, Total	7439-92-1	0.0188		0.00100	0.000500
Selenium, Total	7782-49-2	0.00786		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-06	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-06-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:10
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: HY.120412.131004
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.000212		0.000200	0.000100

Sample #: L12110784-07	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-06-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:31
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: P2.120312.143136
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.0532		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	8.98		0.200	0.100
Chromium, Dissolved	7440-47-3	0.00288	J	0.00500	0.00250
Cobalt, Dissolved	7440-48-4		U	0.0200	0.0100
Copper, Dissolved	7440-50-8		U	0.0200	0.0100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Iron, Dissolved	7439-89-6	0.0902	J	0.100	0.0500
Magnesium, Dissolved	7439-95-4	3.89		0.500	0.250
Manganese, Dissolved	7439-96-5		U	0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	6.74		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0298		0.0100	0.00500
Zinc, Dissolved	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 #: L12110784-07	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-06-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 15:57
Collect Date: 11/27/2012 10:00	Dilution: 100	File ID: P2.120412.155738
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	1070		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-07	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-06-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:58
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: NI.120512.115802
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00697		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.00870		0.00100	0.000500
Lead, Dissolved	7439-92-1	0.00106		0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00841		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-07	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-06-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:12
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: HY.120412.131221
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.000129	J	0.000200	0.000100
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-08	PrePrep Method: N/A	Instrument: HPMS8
Client ID: PZ-01-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 22:55
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: 8M383862
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3	0.321	J	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	11.5		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	0.470	J	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	8.09	J	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
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
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
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4	2.25		1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	86.9	80	120	
Dibromofluoromethane	97.7	86	118	
p-Bromofluorobenzene	89.3	86	115	
Toluene-d8	94.6	88	110	

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

Certificate of Analysis

Sample #: L12110784-08	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-01-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:38
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: P2.120312.143831
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	2.68		0.100	0.0500
Barium, Total	7440-39-3	0.609		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	149		0.200	0.100
Chromium, Total	7440-47-3	0.00278	J	0.00500	0.00250
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	6.43		0.100	0.0500
Magnesium, Total	7439-95-4	106		0.500	0.250
Manganese, Total	7439-96-5	0.251		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	4.24		1.00	0.500
Silica, Calculated as SiO2		34.9		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Sodium, Total	7440-23-5	83.9		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6	0.0213		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 #: L12110784-08	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-01-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:01
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: NI.120512.120125
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.0130		0.00100	0.000500
Lead, Total	7439-92-1	0.00241		0.00100	0.000500
Selenium, Total	7782-49-2	0.00326		0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-08	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-01-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/17/2012 12:40
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/17/2012 13:02
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: HY.121712.130254
Sample Tag: 02	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 #: L12110784-09	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-01-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:44
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: P2.120312.144430
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.596		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	110		0.200	0.100
Chromium, Dissolved	7440-47-3		U	0.00500	0.00250
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	2.29		0.100	0.0500
Magnesium, Dissolved	7439-95-4	90.2		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0314		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	3.57		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Sodium, Dissolved	7440-23-5	83.2		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 #: L12110784-09	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-01-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:04
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: NI.120512.120447
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0116		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00234		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 #: L12110784-09	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-01-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:16
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: HY.120412.131608
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 #: L12110784-10	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-33-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 20:23
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: 8M383857
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3	1.50		1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	3.02		1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5	0.372	J	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3	11.2		10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	3390	E	10.0	2.50
Acetone	67-64-1	630	E	10.0	2.50
Benzene	71-43-2	1.93		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
Carbon disulfide	75-15-0	3.11		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7	0.716	J	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	770	E	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4	0.434	J	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2	141		5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	10.7		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	86.5	80	120		
Dibromofluoromethane	98.5	86	118		
p-Bromofluorobenzene	91.8	86	115		
Toluene-d8	94.1	88	110		
E	Semiquantitative result (out of calibration 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 #: L12110784-10	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-33-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415719	Analyst: ADC	Run Date: 12/04/2012 19:22
Collect Date: 11/27/2012 11:10	Dilution: 20	File ID: 8M383887
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	20.0	5.00
1,1,1,2-Tetrachloroethane	79-34-5		U	20.0	4.00
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	100	40.0
1,1,2-Trichloroethane	79-00-5		U	20.0	5.00
1,1-Dichloroethane	75-34-3		U	20.0	2.50
1,1-Dichloroethene	75-35-4		U	20.0	10.0
1,2,3-Trichlorobenzene	87-61-6		U	20.0	10.0
1,2,4-Trichlorobenzene	120-82-1		U	20.0	4.00
1,2-Dibromo-3-chloropropane	96-12-8		U	100	20.0
1,2-Dibromoethane	106-93-4		U	20.0	5.00
1,2-Dichlorobenzene	95-50-1		U	20.0	2.50
1,2-Dichloroethane	107-06-2		U	20.0	5.00
cis-1,2-Dichloroethene	156-59-2		U	20.0	5.00
trans-1,2-Dichloroethene	156-60-5		U	20.0	5.00
1,2-Dichloropropane	78-87-5		U	20.0	4.00
1,3-Dichlorobenzene	541-73-1		U	20.0	5.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,4-Dichlorobenzene	106-46-7		U	20.0	2.50
2-Butanone	78-93-3		U	200	50.0
2-Hexanone	591-78-6		U	200	50.0
4-Methyl-2-pentanone	108-10-1	3520		200	50.0
Acetone	67-64-1	656		200	50.0
Benzene	71-43-2		U	20.0	2.50
Bromochloromethane	74-97-5		U	20.0	4.00
Bromodichloromethane	75-27-4		U	20.0	5.00
Bromoform	75-25-2		U	20.0	10.0
Bromomethane	74-83-9		U	20.0	10.0
Carbon disulfide	75-15-0		U	20.0	10.0
Carbon tetrachloride	56-23-5		U	20.0	5.00
Chlorobenzene	108-90-7		U	20.0	2.50
Chloroethane	75-00-3		U	20.0	10.0
Chloroform	67-66-3	819		20.0	2.50
Chloromethane	74-87-3		U	20.0	10.0
cis-1,3-Dichloropropene	10061-01-5		U	20.0	5.00
Cyclohexane	110-82-7		U	100	20.0
Dibromochloromethane	124-48-1		U	20.0	5.00
Dichlorodifluoromethane	75-71-8		U	20.0	5.00
Ethyl benzene	100-41-4		U	20.0	5.00
Isopropylbenzene	98-82-8		U	20.0	5.00
Methyl acetate	79-20-9		U	100	20.0
Methyl tert-butyl ether	1634-04-4		U	20.0	10.0
Methylcyclohexane	108-87-2		U	100	20.0
Methylene chloride	75-09-2	139		100	5.00
m,p-Xylene	179601-23-1		U	20.0	10.0
o-Xylene	95-47-6		U	20.0	5.00
Styrene	100-42-5		U	20.0	2.50
Tetrachloroethene	127-18-4		U	20.0	5.00
Toluene	108-88-3	9.92	J	20.0	5.00
trans-1,3-Dichloropropene	10061-02-6		U	20.0	10.0
Trichloroethene	79-01-6		U	20.0	5.00
Trichlorofluoromethane	75-69-4		U	20.0	5.00
Vinyl chloride	75-01-4		U	20.0	5.00
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	87.4	80	120		
Dibromofluoromethane	96.7	86	118		

Certificate of Analysis

p-Bromofluorobenzene	92.3	86	115	
Toluene-d8	92.8	88	110	

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

Sample #: L12110784-10	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:50
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120312.145029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.316		0.100	0.0500
Barium, Total	7440-39-3	0.611		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	352		0.200	0.100
Chromium, Total	7440-47-3	8.34		0.00500	0.00250
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	1.02		0.100	0.0500
Magnesium, Total	7439-95-4	77.1		0.500	0.250
Manganese, Total	7439-96-5	0.527		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	12.3		1.00	0.500
Silica, Calculated as SiO2		29.1		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0386		0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
E	Semiquantitative result (out of calibration range)				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-10	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:04
Collect Date: 11/27/2012 11:10	Dilution: 100	File ID: P2.120412.160435
Sample Tag: DL01	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	290		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-10	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 10:26
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120512.102602
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00342		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0329		0.00100	0.000500
Lead, Total	7439-92-1	0.00762		0.00100	0.000500
Selenium, Total	7782-49-2	0.00260		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-10	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 12:49
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120412.124907
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 #: L12110784-11	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 12:18
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120412.121838
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.561		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Dissolved	7440-70-2	317		0.200	0.100
Chromium, Dissolved	7440-47-3	8.11		0.00500	0.00250
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	0.116		0.100	0.0500
Magnesium, Dissolved	7439-95-4	73.1		0.500	0.250
Manganese, Dissolved	7439-96-5	0.497		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	12.1		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0341		0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
E	Semiquantitative result (out of calibration range)				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-11	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 15:11
Collect Date: 11/27/2012 11:10	Dilution: 5	File ID: P2.120412.151157
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Dissolved	7440-43-9		U	0.00250	0.00125
Sodium, Dissolved	7440-23-5	286		2.50	1.25
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-11	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:23
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120612.152317
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00336		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0345		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00245		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100

Certificate of Analysis

U	Not detected at or above adjusted sample detection limit.
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Sample #: L12110784-11	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:45
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120612.174526
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 #: L12110784-12	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-33-GW-11272012-MS	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 17:21
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: 8M383851
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6	20.5		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	22.1		1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	23.4		5.00	2.00
1,1,2-Trichloroethane	79-00-5	23.5		1.00	0.250
1,1-Dichloroethane	75-34-3	21.9		1.00	0.125
1,1-Dichloroethene	75-35-4	20.0		1.00	0.500
1,2,3-Trichlorobenzene	87-61-6	22.0		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	21.3		1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8	20.1		5.00	1.00
1,2-Dibromoethane	106-93-4	20.4		1.00	0.250
1,2-Dichlorobenzene	95-50-1	19.2		1.00	0.125
1,2-Dichloroethane	107-06-2	20.4		1.00	0.250
cis-1,2-Dichloroethene	156-59-2	24.6		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	21.2		1.00	0.250
1,2-Dichloropropane	78-87-5	22.0		1.00	0.200
1,3-Dichlorobenzene	541-73-1	18.8		1.00	0.250
1,4-Dichlorobenzene	106-46-7	20.3		1.00	0.125
2-Butanone	78-93-3	29.2		10.0	2.50
2-Hexanone	591-78-6	20.0		10.0	2.50
4-Methyl-2-pentanone	108-10-1	3200	E	10.0	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1	677	E	10.0	2.50
Benzene	71-43-2	22.4		1.00	0.125
Bromochloromethane	74-97-5	23.7		1.00	0.200
Bromodichloromethane	75-27-4	20.5		1.00	0.250
Bromoform	75-25-2	21.0		1.00	0.500
Bromomethane	74-83-9	22.6		1.00	0.500
Carbon disulfide	75-15-0	27.1		1.00	0.500
Carbon tetrachloride	56-23-5	20.0		1.00	0.250
Chlorobenzene	108-90-7	19.6		1.00	0.125
Chloroethane	75-00-3	21.2		1.00	0.500
Chloroform	67-66-3	739	E	1.00	0.125
Chloromethane	74-87-3	17.3		1.00	0.500
cis-1,3-Dichloropropene	10061-01-5	22.6		1.00	0.250
Cyclohexane	110-82-7	19.3		5.00	1.00
Dibromochloromethane	124-48-1	20.4		1.00	0.250
Dichlorodifluoromethane	75-71-8	21.6		1.00	0.250
Ethyl benzene	100-41-4	20.9		1.00	0.250
Isopropylbenzene	98-82-8	19.6		1.00	0.250
Methyl acetate	79-20-9	17.9		5.00	1.00
Methyl tert-butyl ether	1634-04-4	21.0		1.00	0.500
Methylcyclohexane	108-87-2	21.9		5.00	1.00
Methylene chloride	75-09-2	149		5.00	0.250
m,p-Xylene	179601-23-1	41.7		1.00	0.500
o-Xylene	95-47-6	19.7		1.00	0.250
Styrene	100-42-5	21.8		1.00	0.125
Tetrachloroethene	127-18-4	21.7		1.00	0.250
Toluene	108-88-3	29.8		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	20.0		1.00	0.500
Trichloroethene	79-01-6	22.8		1.00	0.250
Trichlorofluoromethane	75-69-4	20.7		1.00	0.250
Vinyl chloride	75-01-4	18.2		1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	88.4	80	120		
Dibromofluoromethane	99.0	86	118		
p-Bromofluorobenzene	92.9	86	115		
Toluene-d8	93.3	88	110		
E	Semiquantitative result (out of calibration range)				

Certificate of Analysis

Sample #: L12110784-12	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:56
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120312.145634
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	5.48		0.100	0.0500
Barium, Total	7440-39-3	1.08		0.0100	0.00500
Beryllium, Total	7440-41-7	0.0236		0.00200	0.00100
Cadmium, Total	7440-43-9	0.0219		0.000500	0.000250
Calcium, Total	7440-70-2	350		0.200	0.100
Chromium, Total	7440-47-3	8.39		0.00500	0.00250
Cobalt, Total	7440-48-4	0.0994		0.0200	0.0100
Copper, Total	7440-50-8	0.239		0.0200	0.0100
Iron, Total	7439-89-6	2.87		0.100	0.0500
Magnesium, Total	7439-95-4	79.0		0.500	0.250
Manganese, Total	7439-96-5	0.757		0.0100	0.00500
Nickel, Total	7440-02-0	0.263		0.0400	0.0200
Potassium, Total	7440-09-7	36.6		1.00	0.500
Silica, Calculated as SiO2		34.0		2.14	1.07
Silver, Total	7440-22-4	0.200		0.0100	0.00500
Vanadium, Total	7440-62-2	0.551		0.0100	0.00500
Zinc, Total	7440-66-6	0.463		0.0200	0.0100
E	Semiquantitative result (out of calibration range)				

Sample #: L12110784-12	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:11
Collect Date: 11/27/2012 11:10	Dilution: 100	File ID: P2.120412.161131
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	302		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-12	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 10:29
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120512.102923
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.0679		0.00100	0.000500
Arsenic, Total	7440-38-2	0.102		0.00100	0.000500
Lead, Total	7439-92-1	0.0774		0.00100	0.000500
Selenium, Total	7782-49-2	0.0694		0.00100	0.000500
Thallium, Total	7440-28-0	0.0674		0.000200	0.000100

Sample #: L12110784-12	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012-MS	Prep Method: 7470A	Prep Date: 12/04/2012 06:50
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 12:50
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120412.125043
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.00456		0.000222	0.000111

Sample #: L12110784-13	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 12:53
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120412.125326
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5	4.87		0.100	0.0500
Barium, Dissolved	7440-39-3	1.03		0.0100	0.00500
Beryllium, Dissolved	7440-41-7	0.0227		0.00200	0.00100
Calcium, Dissolved	7440-70-2	341		0.200	0.100
Chromium, Dissolved	7440-47-3	8.69		0.00500	0.00250
Cobalt, Dissolved	7440-48-4	0.0957		0.0200	0.0100
Copper, Dissolved	7440-50-8	0.228		0.0200	0.0100
Iron, Dissolved	7439-89-6	2.01		0.100	0.0500
Magnesium, Dissolved	7439-95-4	77.9		0.500	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Manganese, Dissolved	7439-96-5	0.732		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.243		0.0400	0.0200
Potassium, Dissolved	7440-09-7	37.0		1.00	0.500
Silver, Dissolved	7440-22-4	0.191		0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.524		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.446		0.0200	0.0100
E	Semiquantitative result (out of calibration range)				

Sample #: L12110784-13	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 15:31
Collect Date: 11/27/2012 11:10	Dilution: 5	File ID: P2.120412.153150
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Dissolved	7440-43-9	0.0208		0.00250	0.00125
Sodium, Dissolved	7440-23-5	326		2.50	1.25
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-13	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:26
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120612.152639
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.0697		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.103		0.00100	0.000500
Lead, Dissolved	7439-92-1	0.0699		0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.0706		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.0674		0.000200	0.000100

Certificate of Analysis

Sample #: L12110784-13	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012-MS	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:47
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120612.174704
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.00370		0.000222	0.000111

Sample #: L12110784-14	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-33-GW-11272012-MSD	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 17:52
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: 8M383852
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6	20.4		1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5	20.3		1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	23.4		5.00	2.00
1,1,2-Trichloroethane	79-00-5	23.3		1.00	0.250
1,1-Dichloroethane	75-34-3	22.4		1.00	0.125
1,1-Dichloroethene	75-35-4	19.6		1.00	0.500
1,2,3-Trichlorobenzene	87-61-6	21.2		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	20.9		1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8	19.5		5.00	1.00
1,2-Dibromoethane	106-93-4	20.7		1.00	0.250
1,2-Dichlorobenzene	95-50-1	18.8		1.00	0.125
1,2-Dichloroethane	107-06-2	20.2		1.00	0.250
cis-1,2-Dichloroethene	156-59-2	24.2		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	21.1		1.00	0.250
1,2-Dichloropropane	78-87-5	21.6		1.00	0.200
1,3-Dichlorobenzene	541-73-1	18.4		1.00	0.250
1,4-Dichlorobenzene	106-46-7	19.7		1.00	0.125
2-Butanone	78-93-3	28.7		10.0	2.50
2-Hexanone	591-78-6	20.0		10.0	2.50
4-Methyl-2-pentanone	108-10-1	3110	E	10.0	2.50
Acetone	67-64-1	661	E	10.0	2.50
Benzene	71-43-2	22.5		1.00	0.125
Bromochloromethane	74-97-5	23.2		1.00	0.200

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Bromodichloromethane	75-27-4	20.3		1.00	0.250
Bromoform	75-25-2	21.1		1.00	0.500
Bromomethane	74-83-9	18.2		1.00	0.500
Carbon disulfide	75-15-0	27.6		1.00	0.500
Carbon tetrachloride	56-23-5	19.7		1.00	0.250
Chlorobenzene	108-90-7	19.8		1.00	0.125
Chloroethane	75-00-3	20.7		1.00	0.500
Chloroform	67-66-3	733	E	1.00	0.125
Chloromethane	74-87-3	16.9		1.00	0.500
cis-1,3-Dichloropropene	10061-01-5	21.2		1.00	0.250
Cyclohexane	110-82-7	18.8		5.00	1.00
Dibromochloromethane	124-48-1	20.4		1.00	0.250
Dichlorodifluoromethane	75-71-8	21.3		1.00	0.250
Ethyl benzene	100-41-4	20.8		1.00	0.250
Isopropylbenzene	98-82-8	19.3		1.00	0.250
Methyl acetate	79-20-9	19.4		5.00	1.00
Methyl tert-butyl ether	1634-04-4	20.6		1.00	0.500
Methylcyclohexane	108-87-2	21.5		5.00	1.00
Methylene chloride	75-09-2	150		5.00	0.250
m,p-Xylene	179601-23-1	40.8		1.00	0.500
o-Xylene	95-47-6	19.8		1.00	0.250
Styrene	100-42-5	21.6		1.00	0.125
Tetrachloroethene	127-18-4	20.6		1.00	0.250
Toluene	108-88-3	29.3		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	17.7		1.00	0.500
Trichloroethene	79-01-6	22.4		1.00	0.250
Trichlorofluoromethane	75-69-4	20.4		1.00	0.250
Vinyl chloride	75-01-4	17.3		1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	86.1	80	120		
Dibromofluoromethane	99.0	86	118		
p-Bromofluorobenzene	90.9	86	115		
Toluene-d8	93.9	88	110		
E	Semiquantitative result (out of calibration range)				

Certificate of Analysis

Sample #: L12110784-14	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:02
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120312.150237
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	5.43		0.100	0.0500
Barium, Total	7440-39-3	1.09		0.0100	0.00500
Beryllium, Total	7440-41-7	0.0235		0.00200	0.00100
Cadmium, Total	7440-43-9	0.0219		0.000500	0.000250
Calcium, Total	7440-70-2	356		0.200	0.100
Chromium, Total	7440-47-3	8.60		0.00500	0.00250
Cobalt, Total	7440-48-4	0.0990		0.0200	0.0100
Copper, Total	7440-50-8	0.235		0.0200	0.0100
Iron, Total	7439-89-6	2.91		0.100	0.0500
Magnesium, Total	7439-95-4	81.2		0.500	0.250
Manganese, Total	7439-96-5	0.766		0.0100	0.00500
Nickel, Total	7440-02-0	0.261		0.0400	0.0200
Potassium, Total	7440-09-7	36.8		1.00	0.500
Silica, Calculated as SiO2		34.7		2.14	1.07
Silver, Total	7440-22-4	0.198		0.0100	0.00500
Vanadium, Total	7440-62-2	0.548		0.0100	0.00500
Zinc, Total	7440-66-6	0.465		0.0200	0.0100
E	Semiquantitative result (out of calibration range)				

Sample #: L12110784-14	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:31
Collect Date: 11/27/2012 11:10	Dilution: 100	File ID: P2.120412.163119
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	313		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-14	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 10:32
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120512.103246
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.0661		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0983		0.00100	0.000500
Lead, Total	7439-92-1	0.0764		0.00100	0.000500
Selenium, Total	7782-49-2	0.0680		0.00100	0.000500
Thallium, Total	7440-28-0	0.0657		0.000200	0.000100

Sample #: L12110784-14	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012-MSD	Prep Method: 7470A	Prep Date: 12/04/2012 06:50
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 12:52
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120412.125223
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.00431		0.000222	0.000111

Sample #: L12110784-15	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 12:59
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120412.125927
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5	4.87		0.100	0.0500
Barium, Dissolved	7440-39-3	1.05		0.0100	0.00500
Beryllium, Dissolved	7440-41-7	0.0229		0.00200	0.00100
Calcium, Dissolved	7440-70-2	352		0.200	0.100
Chromium, Dissolved	7440-47-3	8.47		0.00500	0.00250
Cobalt, Dissolved	7440-48-4	0.0952		0.0200	0.0100
Copper, Dissolved	7440-50-8	0.230		0.0200	0.0100
Iron, Dissolved	7439-89-6	2.00		0.100	0.0500
Magnesium, Dissolved	7439-95-4	79.2		0.500	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Manganese, Dissolved	7439-96-5	0.725		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.244		0.0400	0.0200
Potassium, Dissolved	7440-09-7	37.0		1.00	0.500
Silver, Dissolved	7440-22-4	0.194		0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.525		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.442		0.0200	0.0100
E	Semiquantitative result (out of calibration range)				

Sample #: L12110784-15	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 15:37
Collect Date: 11/27/2012 11:10	Dilution: 5	File ID: P2.120412.153748
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Dissolved	7440-43-9	0.0203		0.00250	0.00125
Sodium, Dissolved	7440-23-5	331		2.50	1.25
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-15	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:30
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120612.153002
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.0685		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0989		0.00100	0.000500
Lead, Dissolved	7439-92-1	0.0683		0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.0673		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.0662		0.000200	0.000100

Certificate of Analysis

Sample #: L12110784-15	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012-MSD	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:49
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120612.174902
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.00361		0.000222	0.000111

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: HPMS8
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 23:25
Collect Date: 11/27/2012 11:40	Dilution: 10	File ID: 8M383863
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	10.0	2.50
1,1,1,2-Tetrachloroethane	79-34-5		U	10.0	2.00
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	50.0	20.0
1,1,2-Trichloroethane	79-00-5		U	10.0	2.50
1,1-Dichloroethane	75-34-3		U	10.0	1.25
1,1-Dichloroethene	75-35-4		U	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6		U	10.0	5.00
1,2,4-Trichlorobenzene	120-82-1		U	10.0	2.00
1,2-Dibromo-3-chloropropane	96-12-8		U	50.0	10.0
1,2-Dibromoethane	106-93-4		U	10.0	2.50
1,2-Dichlorobenzene	95-50-1		U	10.0	1.25
1,2-Dichloroethane	107-06-2		U	10.0	2.50
cis-1,2-Dichloroethene	156-59-2	3.01	J	10.0	2.50
trans-1,2-Dichloroethene	156-60-5		U	10.0	2.50
1,2-Dichloropropane	78-87-5		U	10.0	2.00
1,3-Dichlorobenzene	541-73-1		U	10.0	2.50
1,4-Dichlorobenzene	106-46-7		U	10.0	1.25
2-Butanone	78-93-3		U	100	25.0
2-Hexanone	591-78-6		U	100	25.0
4-Methyl-2-pentanone	108-10-1	3090	E	100	25.0
Acetone	67-64-1	776		100	25.0
Benzene	71-43-2		U	10.0	1.25

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Bromochloromethane	74-97-5		U	10.0	2.00
Bromodichloromethane	75-27-4		U	10.0	2.50
Bromoform	75-25-2		U	10.0	5.00
Bromomethane	74-83-9		U	10.0	5.00
Carbon disulfide	75-15-0	87.5		10.0	5.00
Carbon tetrachloride	56-23-5		U	10.0	2.50
Chlorobenzene	108-90-7	15.5		10.0	1.25
Chloroethane	75-00-3		U	10.0	5.00
Chloroform	67-66-3	93.1		10.0	1.25
Chloromethane	74-87-3		U	10.0	5.00
cis-1,3-Dichloropropene	10061-01-5		U	10.0	2.50
Cyclohexane	110-82-7		U	50.0	10.0
Dibromochloromethane	124-48-1		U	10.0	2.50
Dichlorodifluoromethane	75-71-8		U	10.0	2.50
Ethyl benzene	100-41-4		U	10.0	2.50
Isopropylbenzene	98-82-8		U	10.0	2.50
Methyl acetate	79-20-9		U	50.0	10.0
Methyl tert-butyl ether	1634-04-4		U	10.0	5.00
Methylcyclohexane	108-87-2		U	50.0	10.0
Methylene chloride	75-09-2	15.1	J	50.0	2.50
m,p-Xylene	179601-23-1	6.18	J	10.0	5.00
o-Xylene	95-47-6		U	10.0	2.50
Styrene	100-42-5		U	10.0	1.25
Tetrachloroethene	127-18-4		U	10.0	2.50
Toluene	108-88-3	51.1		10.0	2.50
trans-1,3-Dichloropropene	10061-02-6		U	10.0	5.00
Trichloroethene	79-01-6		U	10.0	2.50
Trichlorofluoromethane	75-69-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	10.0	2.50
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	87.4	80	120	
Dibromofluoromethane	96.7	86	118	
p-Bromofluorobenzene	90.5	86	115	
Toluene-d8	94.9	88	110	

E	Semiquantitative result (out of calibration range)
J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: HPMS8
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415719	Analyst: ADC	Run Date: 12/04/2012 19:53
Collect Date: 11/27/2012 11:40	Dilution: 20	File ID: 8M383888
Sample Tag: DL02	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	20.0	5.00
1,1,1,2-Tetrachloroethane	79-34-5		U	20.0	4.00
1,1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	100	40.0
1,1,1,2-Trichloroethane	79-00-5		U	20.0	5.00
1,1-Dichloroethane	75-34-3		U	20.0	2.50
1,1-Dichloroethene	75-35-4		U	20.0	10.0
1,2,3-Trichlorobenzene	87-61-6		U	20.0	10.0
1,2,4-Trichlorobenzene	120-82-1		U	20.0	4.00
1,2-Dibromo-3-chloropropane	96-12-8		U	100	20.0
1,2-Dibromoethane	106-93-4		U	20.0	5.00
1,2-Dichlorobenzene	95-50-1		U	20.0	2.50
1,2-Dichloroethane	107-06-2		U	20.0	5.00
cis-1,2-Dichloroethene	156-59-2		U	20.0	5.00
trans-1,2-Dichloroethene	156-60-5		U	20.0	5.00
1,2-Dichloropropane	78-87-5		U	20.0	4.00
1,3-Dichlorobenzene	541-73-1		U	20.0	5.00
1,4-Dichlorobenzene	106-46-7		U	20.0	2.50
2-Butanone	78-93-3		U	200	50.0
2-Hexanone	591-78-6		U	200	50.0
4-Methyl-2-pentanone	108-10-1	3130		200	50.0
Acetone	67-64-1	801		200	50.0
Benzene	71-43-2		U	20.0	2.50
Bromochloromethane	74-97-5		U	20.0	4.00
Bromodichloromethane	75-27-4		U	20.0	5.00
Bromoform	75-25-2		U	20.0	10.0
Bromomethane	74-83-9		U	20.0	10.0
Carbon disulfide	75-15-0	92.3		20.0	10.0
Carbon tetrachloride	56-23-5		U	20.0	5.00
Chlorobenzene	108-90-7	13.7	J	20.0	2.50
Chloroethane	75-00-3		U	20.0	10.0
Chloroform	67-66-3	94.4		20.0	2.50
Chloromethane	74-87-3		U	20.0	10.0

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
cis-1,3-Dichloropropene	10061-01-5		U	20.0	5.00
Cyclohexane	110-82-7		U	100	20.0
Dibromochloromethane	124-48-1		U	20.0	5.00
Dichlorodifluoromethane	75-71-8		U	20.0	5.00
Ethyl benzene	100-41-4		U	20.0	5.00
Isopropylbenzene	98-82-8		U	20.0	5.00
Methyl acetate	79-20-9		U	100	20.0
Methyl tert-butyl ether	1634-04-4		U	20.0	10.0
Methylcyclohexane	108-87-2		U	100	20.0
Methylene chloride	75-09-2	12.3	J	100	5.00
m,p-Xylene	179601-23-1		U	20.0	10.0
o-Xylene	95-47-6		U	20.0	5.00
Styrene	100-42-5		U	20.0	2.50
Tetrachloroethene	127-18-4		U	20.0	5.00
Toluene	108-88-3	46.3		20.0	5.00
trans-1,3-Dichloropropene	10061-02-6		U	20.0	10.0
Trichloroethene	79-01-6		U	20.0	5.00
Trichlorofluoromethane	75-69-4		U	20.0	5.00
Vinyl chloride	75-01-4		U	20.0	5.00
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	86.5	80	120	
Dibromofluoromethane	99.6	86	118	
p-Bromofluorobenzene	94.3	86	115	
Toluene-d8	92.8	88	110	

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

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:08
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: P2.120312.150839
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.100	0.0500
Barium, Total	7440-39-3	0.414		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Chromium, Total	7440-47-3	1.43		0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Total	7439-95-4	182		0.500	0.250
Manganese, Total	7439-96-5	0.116		0.0100	0.00500
Nickel, Total	7440-02-0	0.0739		0.0400	0.0200
Silica, Calculated as SiO2		34.7		2.14	1.07
Silver, Total	7440-22-4	0.00791	J	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0241		0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
E	Semiquantitative result (out of calibration 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 #: L12110784-16	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/06/2012 17:35
Collect Date: 11/27/2012 11:40	Dilution: 10	File ID: P2.120612.173502
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Total	7440-09-7	113		10.0	5.00
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:38
Collect Date: 11/27/2012 11:40	Dilution: 100	File ID: P2.120412.163814
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Total	7440-70-2	557		20.0	10.0
Sodium, Total	7440-23-5	342		50.0	25.0

Certificate of Analysis

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

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:08
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: NI.120512.120810
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00626		0.00100	0.000500
Arsenic, Total	7440-38-2	0.152		0.00100	0.000500
Lead, Total	7439-92-1		U	0.00100	0.000500
Selenium, Total	7782-49-2	0.00857		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: HYDRA
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:17
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: HY.120412.131758
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 #: L12110784-17	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:28
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: P2.120312.152831
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.426		0.0100	0.00500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Chromium, Dissolved	7440-47-3	1.48		0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	186		0.500	0.250
Manganese, Dissolved	7439-96-5	0.119		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.0736		0.0400	0.0200
Silver, Dissolved	7440-22-4	0.00774	J	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0255		0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
E	Semiquantitative result (out of calibration 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 #: L12110784-17	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/06/2012 17:42
Collect Date: 11/27/2012 11:40	Dilution: 10	File ID: P2.120612.174201
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Dissolved	7440-43-9		U	0.00500	0.00250
Potassium, Dissolved	7440-09-7	116		10.0	5.00
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-17	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:52
Collect Date: 11/27/2012 11:40	Dilution: 100	File ID: P2.120412.165208
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Dissolved	7440-70-2	575		20.0	10.0
Sodium, Dissolved	7440-23-5	355		50.0	25.0

Certificate of Analysis

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

Sample #: L12110784-17	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:11
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: NI.120512.121131
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00644		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.149		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00886		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 #: L12110784-17	PrePrep Method: N/A	Instrument: HYDRA
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:19
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: HY.120412.131937
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 #: L12110784-18	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-34-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 23:55
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: 8M383864
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	0.288	J	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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	38.2		10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		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
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
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.319	J	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	87.8	80	120		
Dibromofluoromethane	97.8	86	118		
p-Bromofluorobenzene	92.6	86	115		
Toluene-d8	95.8	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-18	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-34-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:35
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: P2.120312.153530
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.317		0.100	0.0500
Barium, Total	7440-39-3	0.131		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	78.4		0.200	0.100
Chromium, Total	7440-47-3		U	0.00500	0.00250
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	1.66		0.100	0.0500
Magnesium, Total	7439-95-4	70.6		0.500	0.250
Manganese, Total	7439-96-5	0.0399		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	3.54		1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Silica, Calculated as SiO2		26.9		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Sodium, Total	7440-23-5	102		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-18	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-34-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:14
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: NI.120512.121454
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.0183		0.00100	0.000500
Lead, Total	7439-92-1		U	0.00100	0.000500
Selenium, Total	7782-49-2	0.00306		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-18	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-34-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:10
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: HY.120412.141043
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 #: L12110784-19	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-34-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:41
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: P2.120312.154126
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.132		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	79.7		0.200	0.100
Chromium, Dissolved	7440-47-3		U	0.00500	0.00250
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	1.42		0.100	0.0500
Magnesium, Dissolved	7439-95-4	73.0		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0352		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	3.63		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Sodium, Dissolved	7440-23-5	109		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.				

Sample #: L12110784-19	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-34-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:33
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: NI.120612.153324
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0187		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00217		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-19	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-34-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:12
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: HY.120412.141241
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 #: L12110784-20	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-22-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/04/2012 00:25
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: 8M383865
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
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
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
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	87.3	80	120		
Dibromofluoromethane	96.8	86	118		
p-Bromofluorobenzene	90.7	86	115		
Toluene-d8	94.6	88	110		
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-20	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-22-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:47
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: P2.120312.154724
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.106		0.100	0.0500
Barium, Total	7440-39-3	0.118		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9	0.0226		0.000500	0.000250
Calcium, Total	7440-70-2	200		0.200	0.100
Chromium, Total	7440-47-3	0.0133		0.00500	0.00250
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	0.0804	J	0.100	0.0500
Magnesium, Total	7439-95-4	69.3		0.500	0.250
Manganese, Total	7439-96-5	0.0429		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	15.9		1.00	0.500
Silica, Calculated as SiO2		13.4		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6	0.779		0.0200	0.0100
E	Semiquantitative result (out of calibration 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 #: L12110784-20	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-22-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:59
Collect Date: 11/27/2012 15:10	Dilution: 100	File ID: P2.120412.165902
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	371		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-20	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-22-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:36
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: NI.120612.153647
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00116		0.00100	0.000500
Arsenic, Total	7440-38-2	0.00221		0.00100	0.000500
Lead, Total	7439-92-1	0.000551	J	0.00100	0.000500
Selenium, Total	7782-49-2	0.00946		0.00100	0.000500
Thallium, Total	7440-28-0	0.000559		0.000200	0.000100
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-20	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-22-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:14
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: HY.120412.141448
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 #: L12110784-21	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-22-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:54
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: P2.120312.155424
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.126		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9	0.0228		0.000500	0.000250
Calcium, Dissolved	7440-70-2	210		0.200	0.100
Chromium, Dissolved	7440-47-3	0.0130		0.00500	0.00250
Cobalt, Dissolved	7440-48-4		U	0.0200	0.0100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Copper, Dissolved	7440-50-8		U	0.0200	0.0100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	72.7		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0462		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	16.2		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.825		0.0200	0.0100
E	Semiquantitative result (out of calibration range)				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-21	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-22-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 17:06
Collect Date: 11/27/2012 15:10	Dilution: 100	File ID: P2.120412.170602
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	377		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-21	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-22-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 16:52
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: NI.121012.165226
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00854		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-21	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-22-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:57
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: NI.120612.155706
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00118		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.00163		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.000554		0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-21	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-22-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:17
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: HY.120412.141709
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.000133	J	0.000200	0.000100
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: HPMS8
Client ID: DUP-GW-11272012-01	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/04/2012 00:56
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: 8M383866
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3	0.878	J	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	2.84		1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5	0.559	J	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3	16.6		10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	3150	E	10.0	2.50
Acetone	67-64-1	749	E	10.0	2.50
Benzene	71-43-2	0.855	J	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
Carbon disulfide	75-15-0	91.1		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7	16.6		1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	99.0		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4	1.86		1.00	0.250
Isopropylbenzene	98-82-8	2.16		1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2	14.2		5.00	0.250
m,p-Xylene	179601-23-1	6.18		1.00	0.500
o-Xylene	95-47-6	1.95		1.00	0.250
Styrene	100-42-5	0.204	J	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	50.7		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Trichloroethene	79-01-6	0.259	J	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	87.9	80	120		
Dibromofluoromethane	100	86	118		
p-Bromofluorobenzene	94.3	86	115		
Toluene-d8	92.7	88	110		
E	Semiquantitative result (out of calibration 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 #: L12110784-22	PrePrep Method: N/A	Instrument: HPMS8
Client ID: DUP-GW-11272012-01	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415719	Analyst: ADC	Run Date: 12/04/2012 20:23
Collect Date: 11/27/2012 11:50	Dilution: 20	File ID: 8M383889
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	20.0	5.00
1,1,1,2-Tetrachloroethane	79-34-5		U	20.0	4.00
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	100	40.0
1,1,2-Trichloroethane	79-00-5		U	20.0	5.00
1,1-Dichloroethane	75-34-3		U	20.0	2.50
1,1-Dichloroethene	75-35-4		U	20.0	10.0
1,2,3-Trichlorobenzene	87-61-6		U	20.0	10.0
1,2,4-Trichlorobenzene	120-82-1		U	20.0	4.00
1,2-Dibromo-3-chloropropane	96-12-8		U	100	20.0
1,2-Dibromoethane	106-93-4		U	20.0	5.00
1,2-Dichlorobenzene	95-50-1		U	20.0	2.50
1,2-Dichloroethane	107-06-2		U	20.0	5.00
cis-1,2-Dichloroethene	156-59-2		U	20.0	5.00
trans-1,2-Dichloroethene	156-60-5		U	20.0	5.00
1,2-Dichloropropane	78-87-5		U	20.0	4.00
1,3-Dichlorobenzene	541-73-1		U	20.0	5.00
1,4-Dichlorobenzene	106-46-7		U	20.0	2.50
2-Butanone	78-93-3		U	200	50.0
2-Hexanone	591-78-6		U	200	50.0

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
4-Methyl-2-pentanone	108-10-1	2890		200	50.0
Acetone	67-64-1	794		200	50.0
Benzene	71-43-2		U	20.0	2.50
Bromochloromethane	74-97-5		U	20.0	4.00
Bromodichloromethane	75-27-4		U	20.0	5.00
Bromoform	75-25-2		U	20.0	10.0
Bromomethane	74-83-9		U	20.0	10.0
Carbon disulfide	75-15-0	104		20.0	10.0
Carbon tetrachloride	56-23-5		U	20.0	5.00
Chlorobenzene	108-90-7	13.1	J	20.0	2.50
Chloroethane	75-00-3		U	20.0	10.0
Chloroform	67-66-3	94.9		20.0	2.50
Chloromethane	74-87-3		U	20.0	10.0
cis-1,3-Dichloropropene	10061-01-5		U	20.0	5.00
Cyclohexane	110-82-7		U	100	20.0
Dibromochloromethane	124-48-1		U	20.0	5.00
Dichlorodifluoromethane	75-71-8		U	20.0	5.00
Ethyl benzene	100-41-4		U	20.0	5.00
Isopropylbenzene	98-82-8		U	20.0	5.00
Methyl acetate	79-20-9		U	100	20.0
Methyl tert-butyl ether	1634-04-4		U	20.0	10.0
Methylcyclohexane	108-87-2		U	100	20.0
Methylene chloride	75-09-2	15.0	J	100	5.00
m,p-Xylene	179601-23-1		U	20.0	10.0
o-Xylene	95-47-6		U	20.0	5.00
Styrene	100-42-5		U	20.0	2.50
Tetrachloroethene	127-18-4		U	20.0	5.00
Toluene	108-88-3	46.8		20.0	5.00
trans-1,3-Dichloropropene	10061-02-6		U	20.0	10.0
Trichloroethene	79-01-6		U	20.0	5.00
Trichlorofluoromethane	75-69-4		U	20.0	5.00
Vinyl chloride	75-01-4		U	20.0	5.00
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	83.3	80	120		
Dibromofluoromethane	94.6	86	118		
p-Bromofluorobenzene	93.7	86	115		
Toluene-d8	92.9	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				

Certificate of Analysis

U	Not detected at or above adjusted sample detection limit.
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Sample #: L12110784-22	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: DUP-GW-11272012-01	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 16:01
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: P2.120312.160127
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.100	0.0500
Barium, Total	7440-39-3	0.395		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Chromium, Total	7440-47-3	1.37		0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Total	7439-95-4	175		0.500	0.250
Manganese, Total	7439-96-5	0.110		0.0100	0.00500
Nickel, Total	7440-02-0	0.0714		0.0400	0.0200
Silica, Calculated as SiO2		33.5		2.14	1.07
Silver, Total	7440-22-4	0.00689	J	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0212		0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
E	Semiquantitative result (out of calibration 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 #: L12110784-22	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: DUP-GW-11272012-01	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/06/2012 17:49
Collect Date: 11/27/2012 11:50	Dilution: 10	File ID: P2.120612.174900
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Total	7440-09-7	106		10.0	5.00
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: DUP-GW-11272012-01	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 17:12
Collect Date: 11/27/2012 11:50	Dilution: 100	File ID: P2.120412.171257
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Total	7440-70-2	551		20.0	10.0
Sodium, Total	7440-23-5	339		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-11272012-01	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:00
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: NI.120612.160029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00642		0.00100	0.000500
Arsenic, Total	7440-38-2	0.154		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-11272012-01	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 16:55
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: NI.121012.165548
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Total	7439-92-1		U	0.00100	0.000500
Selenium, Total	7782-49-2	0.00922		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: HYDRA
Client ID: DUP-GW-11272012-01	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:19
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: HY.120412.141906
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 #: L12110784-23	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: DUP-GW-11272012-01	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 13:04
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: P2.120512.130425
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.398		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Chromium, Dissolved	7440-47-3	1.37		0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	176		0.500	0.250
Manganese, Dissolved	7439-96-5	0.112		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.0734		0.0400	0.0200
Silver, Dissolved	7440-22-4	0.00978	J	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0327		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.0141	J	0.0200	0.0100
E	Semiquantitative result (out of calibration range)				
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-23	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: DUP-GW-11272012-01	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 17:55
Collect Date: 11/27/2012 11:50	Dilution: 50	File ID: P2.120612.175559
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Dissolved	7440-70-2	568		10.0	5.00
Potassium, Dissolved	7440-09-7	104		50.0	25.0
Sodium, Dissolved	7440-23-5	368		25.0	12.5
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-23	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-11272012-01	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:03
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: NI.120612.160351
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00682		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.155		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 #: L12110784-23	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-11272012-01	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 16:59
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: NI.121012.165911
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.0102		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-23	PrePrep Method: N/A	Instrument: HYDRA
Client ID: DUP-GW-11272012-01	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:21
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: HY.120412.142107
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 #: L12110784-24	PrePrep Method: N/A	Instrument: HPMS11
Client ID: MW-32-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/08/2012 14:43
Workgroup #: WG416293	Analyst: FJB	Run Date: 12/11/2012 16:30
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: 11M88561
Sample Tag: 02	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
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
Carbon disulfide	75-15-0	5.03		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	80.8	80	120		
Dibromofluoromethane	89.0	86	118		
p-Bromofluorobenzene	95.8	86	115		
Toluene-d8	101	88	110		
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-24	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-32-GW-11272012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 13:11
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: P2.120512.131125
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	1.18		0.100	0.0500
Barium, Total	7440-39-3	0.0920		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9	0.000276	J	0.000500	0.000250
Calcium, Total	7440-70-2	7.87		0.200	0.100
Chromium, Total	7440-47-3	0.156		0.00500	0.00250
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	0.828		0.100	0.0500
Magnesium, Total	7439-95-4	19.1		0.500	0.250
Manganese, Total	7439-96-5	0.0173		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	15.1		1.00	0.500
Silica, Calculated as SiO2		16.8		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.159		0.0100	0.00500
Zinc, Total	7440-66-6	0.0750		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 #: L12110784-24	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-32-GW-11272012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:15
Collect Date: 11/27/2012 15:15	Dilution: 100	File ID: P2.120612.181549
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	1620		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-24	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-32-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:02
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: NI.121012.170234
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Total	7439-92-1	0.00305		0.00100	0.000500
Selenium, Total	7782-49-2	0.00694		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-24	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-32-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:07
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: NI.120612.160714
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00107		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0109		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-24	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-32-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:50
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: HY.120612.175040
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.				

Certificate of Analysis

Sample #: L12110784-25	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-32-GW-11272012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 13:17
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: P2.120512.131728
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5	0.868		0.100	0.0500
Barium, Dissolved	7440-39-3	0.0853		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9	0.000384	J	0.000500	0.000250
Calcium, Dissolved	7440-70-2	7.28		0.200	0.100
Chromium, Dissolved	7440-47-3	0.145		0.00500	0.00250
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	0.615		0.100	0.0500
Magnesium, Dissolved	7439-95-4	18.2		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0152		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	14.5		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.141		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.0440		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 #: L12110784-25	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-32-GW-11272012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:22
Collect Date: 11/27/2012 15:15	Dilution: 100	File ID: P2.120612.182246
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	1560		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-25	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-32-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:10
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: NI.120612.161035
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.000959	J	0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0113		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	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 #: L12110784-25	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-32-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:05
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: NI.121012.170556
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Dissolved	7439-92-1	0.00188		0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00953		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-25	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-32-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:53
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: HY.120612.175357
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.				

Certificate of Analysis

Sample #: L12110784-26	PrePrep Method: N/A	Instrument: HPMS11
Client ID: MW-02-GW-11282012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/08/2012 14:43
Workgroup #: WG415844	Analyst: FJB	Run Date: 12/06/2012 02:08
Collect Date: 11/28/2012 10:30	Dilution: 5	File ID: 11M88394
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	5.00	1.25
1,1,2,2-Tetrachloroethane	79-34-5		U	5.00	1.00
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	25.0	10.0
1,1,2-Trichloroethane	79-00-5		U	5.00	1.25
1,1-Dichloroethane	75-34-3		U	5.00	0.625
1,1-Dichloroethene	75-35-4		U	5.00	2.50
1,2,3-Trichlorobenzene	87-61-6		U	5.00	2.50
1,2,4-Trichlorobenzene	120-82-1		U	5.00	1.00
1,2-Dibromo-3-chloropropane	96-12-8		U	25.0	5.00
1,2-Dibromoethane	106-93-4		U	5.00	1.25
1,2-Dichlorobenzene	95-50-1		U	5.00	0.625
1,2-Dichloroethane	107-06-2		U	5.00	1.25
cis-1,2-Dichloroethene	156-59-2		U	5.00	1.25
trans-1,2-Dichloroethene	156-60-5		U	5.00	1.25
1,2-Dichloropropane	78-87-5		U	5.00	1.00
1,3-Dichlorobenzene	541-73-1		U	5.00	1.25
1,4-Dichlorobenzene	106-46-7		U	5.00	0.625
2-Butanone	78-93-3		U	50.0	12.5
2-Hexanone	591-78-6		U	50.0	12.5
4-Methyl-2-pentanone	108-10-1	639		50.0	12.5
Acetone	67-64-1		U	50.0	12.5
Benzene	71-43-2	0.638	J	5.00	0.625
Bromochloromethane	74-97-5		U	5.00	1.00
Bromodichloromethane	75-27-4		U	5.00	1.25
Bromoform	75-25-2		U	5.00	2.50
Bromomethane	74-83-9		U	5.00	2.50
Carbon disulfide	75-15-0	305		5.00	2.50
Carbon tetrachloride	56-23-5		U	5.00	1.25
Chlorobenzene	108-90-7		U	5.00	0.625
Chloroethane	75-00-3		U	5.00	2.50
Chloroform	67-66-3	46.6		5.00	0.625
Chloromethane	74-87-3		U	5.00	2.50
cis-1,3-Dichloropropene	10061-01-5		U	5.00	1.25

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7		U	25.0	5.00
Dibromochloromethane	124-48-1		U	5.00	1.25
Dichlorodifluoromethane	75-71-8		U	5.00	1.25
Ethyl benzene	100-41-4		U	5.00	1.25
Isopropylbenzene	98-82-8		U	5.00	1.25
Methyl acetate	79-20-9		U	25.0	5.00
Methyl tert-butyl ether	1634-04-4		U	5.00	2.50
Methylcyclohexane	108-87-2		U	25.0	5.00
Methylene chloride	75-09-2	6.85	J	25.0	1.25
m,p-Xylene	179601-23-1	4.32	J	5.00	2.50
o-Xylene	95-47-6	1.30	J	5.00	1.25
Styrene	100-42-5		U	5.00	0.625
Tetrachloroethene	127-18-4		U	5.00	1.25
Toluene	108-88-3	16.7		5.00	1.25
trans-1,3-Dichloropropene	10061-02-6		U	5.00	2.50
Trichloroethene	79-01-6		U	5.00	1.25
Trichlorofluoromethane	75-69-4		U	5.00	1.25
Vinyl chloride	75-01-4		U	5.00	1.25
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	80.2	80	120	
Dibromofluoromethane	96.8	86	118	
p-Bromofluorobenzene	97.3	86	115	
Toluene-d8	101	88	110	

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

Sample #: L12110784-26	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-02-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 13:23
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: P2.120512.132331
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.0712	J	0.100	0.0500
Barium, Total	7440-39-3	0.0665		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	423		0.200	0.100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Chromium, Total	7440-47-3	0.0213		0.00500	0.00250
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	0.248		0.100	0.0500
Magnesium, Total	7439-95-4	44.1		0.500	0.250
Manganese, Total	7439-96-5	0.0439		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	19.2		1.00	0.500
Silica, Calculated as SiO2		72.4		2.14	1.07
Silver, Total	7440-22-4	0.00717	J	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0257		0.0100	0.00500
Zinc, Total	7440-66-6	0.0176	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 #: L12110784-26	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-02-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:29
Collect Date: 11/28/2012 10:30	Dilution: 100	File ID: P2.120612.182942
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	1630		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-26	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-02-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:13
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: NI.120612.161358
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00175		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0161		0.00100	0.000500
Thallium, Total	7440-28-0		U	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.				

Certificate of Analysis

Sample #: L12110784-26	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-02-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:33
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: NI.121012.173300
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Total	7439-92-1	0.000778	J	0.00100	0.000500
Selenium, Total	7782-49-2	0.00801		0.00100	0.000500
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-26	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-02-GW-11282012	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:55
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: HY.120612.175536
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.000143	J	0.000200	0.000100
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-27	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-02-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 13:30
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: P2.120512.133031
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.0682		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	437		0.200	0.100
Chromium, Dissolved	7440-47-3	0.0208		0.00500	0.00250
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		U	0.100	0.0500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Magnesium, Dissolved	7439-95-4	44.7		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0420		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	19.6		1.00	0.500
Silver, Dissolved	7440-22-4	0.00721	J	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0273		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.0114	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 #: L12110784-27	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-02-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:36
Collect Date: 11/28/2012 10:30	Dilution: 100	File ID: P2.120612.183636
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	1620		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-27	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-02-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:17
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: NI.120612.161719
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00150		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0160		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-27	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-02-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:36
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: NI.121012.173623
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00828		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-27	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-02-GW-11282012	Prep Method: 7470A	Prep Date: 12/05/2012 07:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/14/2012 10:45
Workgroup #: WG415984	Analyst: PDM	Run Date: 12/14/2012 11:21
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: HY.121412.112130
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 #: L12110784-28	PrePrep Method: N/A	Instrument: HPMS11
Client ID: MW-23-GW-11282012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/08/2012 14:43
Workgroup #: WG415844	Analyst: FJB	Run Date: 12/06/2012 03:09
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: 11M88396
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2	0.171	J	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
Carbon disulfide	75-15-0	6.81		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1	0.844	J	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
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
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	80.0	80	120		
Dibromofluoromethane	95.7	86	118		
p-Bromofluorobenzene	95.8	86	115		
Toluene-d8	97.5	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-28	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-23-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 14:07
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: P2.120512.140749
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.223		0.100	0.0500
Barium, Total	7440-39-3	0.0948		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	159		0.200	0.100
Chromium, Total	7440-47-3	0.0501		0.00500	0.00250
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	0.241		0.100	0.0500
Magnesium, Total	7439-95-4	13.6		0.500	0.250
Manganese, Total	7439-96-5	0.0353		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	13.2		1.00	0.500
Silica, Calculated as SiO2		44.9		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0708		0.0100	0.00500
Zinc, Total	7440-66-6	0.0332		0.0200	0.0100
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-28	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-23-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:43
Collect Date: 11/28/2012 09:15	Dilution: 100	File ID: P2.120612.184331
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	1800		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-28	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-23-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:20
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: NI.120612.162042
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.0776		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-28	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-23-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:39
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: NI.121012.173945
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Total	7439-92-1	0.00171		0.00100	0.000500
Selenium, Total	7782-49-2	0.0114		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-28	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-23-GW-11282012	Prep Method: 7470A	Prep Date: 12/05/2012 07:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/14/2012 10:45
Workgroup #: WG415984	Analyst: PDM	Run Date: 12/14/2012 11:23
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: HY.121412.112318
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 #: L12110784-29	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-23-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 14:14
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: P2.120512.141444
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.0913		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	158		0.200	0.100
Chromium, Dissolved	7440-47-3	0.0362		0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	12.7		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0324		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	12.8		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0561		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 #: L12110784-29	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-23-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:50
Collect Date: 11/28/2012 09:15	Dilution: 100	File ID: P2.120612.185026
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	1810		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-29	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-23-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:43
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: NI.121012.174308
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00924		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-29	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-23-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:24
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: NI.120612.162404
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0756		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-29	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-23-GW-11282012	Prep Method: 7470A	Prep Date: 12/05/2012 07:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/14/2012 10:45
Workgroup #: WG415984	Analyst: PDM	Run Date: 12/14/2012 11:25
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: HY.121412.112506
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 #: L12110784-30	PrePrep Method: N/A	Instrument: HPMS11
Client ID: TB-11282012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/08/2012 14:43
Workgroup #: WG415844	Analyst: FJB	Run Date: 12/05/2012 19:29
Collect Date: 11/27/2012 15:21	Dilution: 1	File ID: 11M88381
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
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
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
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	86.0	80	120		
Dibromofluoromethane	95.4	86	118		
p-Bromofluorobenzene	94.5	86	115		
Toluene-d8	97.1	88	110		
U	Not detected at or above adjusted sample detection limit.				

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data



Login Number: L12110784
Department: Volatiles
Analyst: Anthony Canter

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: All acceptance criteria were met.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analytes: chloromethane, dichlorodifluoromethane, 2-butanone, 2-hexanone, 4-methyl-2-pentanone, dichlorodifluoromethane, acetone, bromomethane, MTBE. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Chloromethane. 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: Methylene chloride. 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: Samples 04, 10, 16, 22, 26, were run at a dilution.

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: 57231

Approved By: Michael Albertson



Certificate of Analysis

Sample #: L12110784-01	PrePrep Method: N/A	Instrument: HPMS8
Client ID: EB-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 19:23
Collect Date: 11/27/2012 08:00	Dilution: 1	File ID: 8M383855
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		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
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
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	0.647	J	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	86.4	80	120	
Dibromofluoromethane	95.3	86	118	
p-Bromofluorobenzene	91.8	86	115	
Toluene-d8	95.0	88	110	

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

Sample #: L12110784-02	PrePrep Method: N/A	Instrument: HPMS8
Client ID: PZ-04-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 21:24
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: 8M383859
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		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
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	43.9		10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2	0.174	J	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
Carbon disulfide	75-15-0	18.2		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	20.9		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2	8.13		5.00	0.250
m,p-Xylene	179601-23-1	1.54		1.00	0.500
o-Xylene	95-47-6	0.440	J	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	1.77		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	87.2	80	120		
Dibromofluoromethane	98.7	86	118		
p-Bromofluorobenzene	91.1	86	115		
Toluene-d8	92.7	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-04	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-03-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 21:54
Collect Date: 11/27/2012 10:00	Dilution: 100	File ID: 8M383860
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	100	25.0
1,1,1,2-Tetrachloroethane	79-34-5		U	100	20.0
1,1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	500	200
1,1,1,2-Trichloroethane	79-00-5		U	100	25.0
1,1-Dichloroethane	75-34-3		U	100	12.5
1,1-Dichloroethene	75-35-4		U	100	50.0
1,2,3-Trichlorobenzene	87-61-6		U	100	50.0
1,2,4-Trichlorobenzene	120-82-1		U	100	20.0
1,2-Dibromo-3-chloropropane	96-12-8		U	500	100
1,2-Dibromoethane	106-93-4		U	100	25.0
1,2-Dichlorobenzene	95-50-1		U	100	12.5
1,2-Dichloroethane	107-06-2		U	100	25.0
cis-1,2-Dichloroethene	156-59-2		U	100	25.0
trans-1,2-Dichloroethene	156-60-5		U	100	25.0
1,2-Dichloropropane	78-87-5		U	100	20.0
1,3-Dichlorobenzene	541-73-1		U	100	25.0

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,4-Dichlorobenzene	106-46-7		U	100	12.5
2-Butanone	78-93-3		U	1000	250
2-Hexanone	591-78-6		U	1000	250
4-Methyl-2-pentanone	108-10-1	26600		1000	250
Acetone	67-64-1	1980		1000	250
Benzene	71-43-2		U	100	12.5
Bromochloromethane	74-97-5		U	100	20.0
Bromodichloromethane	75-27-4		U	100	25.0
Bromoform	75-25-2		U	100	50.0
Bromomethane	74-83-9		U	100	50.0
Carbon disulfide	75-15-0	121		100	50.0
Carbon tetrachloride	56-23-5		U	100	25.0
Chlorobenzene	108-90-7		U	100	12.5
Chloroethane	75-00-3		U	100	50.0
Chloroform	67-66-3	13.3	J	100	12.5
Chloromethane	74-87-3		U	100	50.0
cis-1,3-Dichloropropene	10061-01-5		U	100	25.0
Cyclohexane	110-82-7		U	500	100
Dibromochloromethane	124-48-1		U	100	25.0
Dichlorodifluoromethane	75-71-8		U	100	25.0
Ethyl benzene	100-41-4		U	100	25.0
Isopropylbenzene	98-82-8		U	100	25.0
Methyl acetate	79-20-9		U	500	100
Methyl tert-butyl ether	1634-04-4		U	100	50.0
Methylcyclohexane	108-87-2		U	500	100
Methylene chloride	75-09-2	43.8	J	500	25.0
m,p-Xylene	179601-23-1		U	100	50.0
o-Xylene	95-47-6		U	100	25.0
Styrene	100-42-5		U	100	12.5
Tetrachloroethene	127-18-4		U	100	25.0
Toluene	108-88-3	73.8	J	100	25.0
trans-1,3-Dichloropropene	10061-02-6		U	100	50.0
Trichloroethene	79-01-6		U	100	25.0
Trichlorofluoromethane	75-69-4		U	100	25.0
Vinyl chloride	75-01-4		U	100	25.0
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	83.5	80	120		
Dibromofluoromethane	95.9	86	118		

Certificate of Analysis

p-Bromofluorobenzene	91.3	86	115	
Toluene-d8	94.0	88	110	

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

Sample #: L12110784-06	PrePrep Method: N/A	Instrument: HPMS8
Client ID: PZ-06-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 22:24
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: 8M383861
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1	0.276	J	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	26.6		10.0	2.50
Acetone	67-64-1	3.07	J	10.0	2.50
Benzene	71-43-2		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
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.368	J	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	86.7	80	120		
Dibromofluoromethane	95.3	86	118		
p-Bromofluorobenzene	90.8	86	115		
Toluene-d8	94.1	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-08	PrePrep Method: N/A	Instrument: HPMS8
Client ID: PZ-01-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 22:55
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: 8M383862
Sample Tag: 01	Units: ug/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3	0.321	J	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	11.5		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	0.470	J	1.00	0.250
1,2-Dichloropropane	78-87-5		U	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	8.09	J	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		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
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
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4	2.25		1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	86.9	80	120		
Dibromofluoromethane	97.7	86	118		
p-Bromofluorobenzene	89.3	86	115		
Toluene-d8	94.6	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-10	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-33-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 20:23
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: 8M383857
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3	1.50		1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		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
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	3.02		1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5	0.372	J	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3	11.2		10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	3390	E	10.0	2.50
Acetone	67-64-1	630	E	10.0	2.50
Benzene	71-43-2	1.93		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
Carbon disulfide	75-15-0	3.11		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7	0.716	J	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	770	E	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4	0.434	J	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2	141		5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	10.7		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	86.5	80	120		
Dibromofluoromethane	98.5	86	118		
p-Bromofluorobenzene	91.8	86	115		
Toluene-d8	94.1	88	110		
E	Semiquantitative result (out of calibration 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 #: L12110784-10	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-33-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415719	Analyst: ADC	Run Date: 12/04/2012 19:22
Collect Date: 11/27/2012 11:10	Dilution: 20	File ID: 8M383887
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	20.0	5.00
1,1,2,2-Tetrachloroethane	79-34-5		U	20.0	4.00
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	100	40.0
1,1,2-Trichloroethane	79-00-5		U	20.0	5.00
1,1-Dichloroethane	75-34-3		U	20.0	2.50
1,1-Dichloroethene	75-35-4		U	20.0	10.0
1,2,3-Trichlorobenzene	87-61-6		U	20.0	10.0
1,2,4-Trichlorobenzene	120-82-1		U	20.0	4.00
1,2-Dibromo-3-chloropropane	96-12-8		U	100	20.0
1,2-Dibromoethane	106-93-4		U	20.0	5.00
1,2-Dichlorobenzene	95-50-1		U	20.0	2.50
1,2-Dichloroethane	107-06-2		U	20.0	5.00
cis-1,2-Dichloroethene	156-59-2		U	20.0	5.00
trans-1,2-Dichloroethene	156-60-5		U	20.0	5.00
1,2-Dichloropropane	78-87-5		U	20.0	4.00
1,3-Dichlorobenzene	541-73-1		U	20.0	5.00
1,4-Dichlorobenzene	106-46-7		U	20.0	2.50
2-Butanone	78-93-3		U	200	50.0
2-Hexanone	591-78-6		U	200	50.0
4-Methyl-2-pentanone	108-10-1	3520		200	50.0
Acetone	67-64-1	656		200	50.0

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Benzene	71-43-2		U	20.0	2.50
Bromochloromethane	74-97-5		U	20.0	4.00
Bromodichloromethane	75-27-4		U	20.0	5.00
Bromoform	75-25-2		U	20.0	10.0
Bromomethane	74-83-9		U	20.0	10.0
Carbon disulfide	75-15-0		U	20.0	10.0
Carbon tetrachloride	56-23-5		U	20.0	5.00
Chlorobenzene	108-90-7		U	20.0	2.50
Chloroethane	75-00-3		U	20.0	10.0
Chloroform	67-66-3	819		20.0	2.50
Chloromethane	74-87-3		U	20.0	10.0
cis-1,3-Dichloropropene	10061-01-5		U	20.0	5.00
Cyclohexane	110-82-7		U	100	20.0
Dibromochloromethane	124-48-1		U	20.0	5.00
Dichlorodifluoromethane	75-71-8		U	20.0	5.00
Ethyl benzene	100-41-4		U	20.0	5.00
Isopropylbenzene	98-82-8		U	20.0	5.00
Methyl acetate	79-20-9		U	100	20.0
Methyl tert-butyl ether	1634-04-4		U	20.0	10.0
Methylcyclohexane	108-87-2		U	100	20.0
Methylene chloride	75-09-2	139		100	5.00
m,p-Xylene	179601-23-1		U	20.0	10.0
o-Xylene	95-47-6		U	20.0	5.00
Styrene	100-42-5		U	20.0	2.50
Tetrachloroethene	127-18-4		U	20.0	5.00
Toluene	108-88-3	9.92	J	20.0	5.00
trans-1,3-Dichloropropene	10061-02-6		U	20.0	10.0
Trichloroethene	79-01-6		U	20.0	5.00
Trichlorofluoromethane	75-69-4		U	20.0	5.00
Vinyl chloride	75-01-4		U	20.0	5.00
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	87.4	80	120	
Dibromofluoromethane	96.7	86	118	
p-Bromofluorobenzene	92.3	86	115	
Toluene-d8	92.8	88	110	

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

Certificate of Analysis

Sample #: L12110784-12	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-33-GW-11272012-MS	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 17:21
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: 8M383851
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6	20.5		1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5	22.1		1.00	0.200
1,1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	23.4		5.00	2.00
1,1,2-Trichloroethane	79-00-5	23.5		1.00	0.250
1,1-Dichloroethane	75-34-3	21.9		1.00	0.125
1,1-Dichloroethene	75-35-4	20.0		1.00	0.500
1,2,3-Trichlorobenzene	87-61-6	22.0		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	21.3		1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8	20.1		5.00	1.00
1,2-Dibromoethane	106-93-4	20.4		1.00	0.250
1,2-Dichlorobenzene	95-50-1	19.2		1.00	0.125
1,2-Dichloroethane	107-06-2	20.4		1.00	0.250
cis-1,2-Dichloroethene	156-59-2	24.6		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	21.2		1.00	0.250
1,2-Dichloropropane	78-87-5	22.0		1.00	0.200
1,3-Dichlorobenzene	541-73-1	18.8		1.00	0.250
1,4-Dichlorobenzene	106-46-7	20.3		1.00	0.125
2-Butanone	78-93-3	29.2		10.0	2.50
2-Hexanone	591-78-6	20.0		10.0	2.50
4-Methyl-2-pentanone	108-10-1	3200	E	10.0	2.50
Acetone	67-64-1	677	E	10.0	2.50
Benzene	71-43-2	22.4		1.00	0.125
Bromochloromethane	74-97-5	23.7		1.00	0.200
Bromodichloromethane	75-27-4	20.5		1.00	0.250
Bromoform	75-25-2	21.0		1.00	0.500
Bromomethane	74-83-9	22.6		1.00	0.500
Carbon disulfide	75-15-0	27.1		1.00	0.500
Carbon tetrachloride	56-23-5	20.0		1.00	0.250
Chlorobenzene	108-90-7	19.6		1.00	0.125
Chloroethane	75-00-3	21.2		1.00	0.500
Chloroform	67-66-3	739	E	1.00	0.125
Chloromethane	74-87-3	17.3		1.00	0.500
cis-1,3-Dichloropropene	10061-01-5	22.6		1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7	19.3		5.00	1.00
Dibromochloromethane	124-48-1	20.4		1.00	0.250
Dichlorodifluoromethane	75-71-8	21.6		1.00	0.250
Ethyl benzene	100-41-4	20.9		1.00	0.250
Isopropylbenzene	98-82-8	19.6		1.00	0.250
Methyl acetate	79-20-9	17.9		5.00	1.00
Methyl tert-butyl ether	1634-04-4	21.0		1.00	0.500
Methylcyclohexane	108-87-2	21.9		5.00	1.00
Methylene chloride	75-09-2	149		5.00	0.250
m,p-Xylene	179601-23-1	41.7		1.00	0.500
o-Xylene	95-47-6	19.7		1.00	0.250
Styrene	100-42-5	21.8		1.00	0.125
Tetrachloroethene	127-18-4	21.7		1.00	0.250
Toluene	108-88-3	29.8		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	20.0		1.00	0.500
Trichloroethene	79-01-6	22.8		1.00	0.250
Trichlorofluoromethane	75-69-4	20.7		1.00	0.250
Vinyl chloride	75-01-4	18.2		1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	88.4	80	120		
Dibromofluoromethane	99.0	86	118		
p-Bromofluorobenzene	92.9	86	115		
Toluene-d8	93.3	88	110		
E	Semiquantitative result (out of calibration range)				

Sample #: L12110784-14	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-33-GW-11272012-MSD	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 17:52
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: 8M383852
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6	20.4		1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5	20.3		1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	23.4		5.00	2.00
1,1,2-Trichloroethane	79-00-5	23.3		1.00	0.250
1,1-Dichloroethane	75-34-3	22.4		1.00	0.125
1,1-Dichloroethene	75-35-4	19.6		1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,2,3-Trichlorobenzene	87-61-6	21.2		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	20.9		1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8	19.5		5.00	1.00
1,2-Dibromoethane	106-93-4	20.7		1.00	0.250
1,2-Dichlorobenzene	95-50-1	18.8		1.00	0.125
1,2-Dichloroethane	107-06-2	20.2		1.00	0.250
cis-1,2-Dichloroethene	156-59-2	24.2		1.00	0.250
trans-1,2-Dichloroethene	156-60-5	21.1		1.00	0.250
1,2-Dichloropropane	78-87-5	21.6		1.00	0.200
1,3-Dichlorobenzene	541-73-1	18.4		1.00	0.250
1,4-Dichlorobenzene	106-46-7	19.7		1.00	0.125
2-Butanone	78-93-3	28.7		10.0	2.50
2-Hexanone	591-78-6	20.0		10.0	2.50
4-Methyl-2-pentanone	108-10-1	3110	E	10.0	2.50
Acetone	67-64-1	661	E	10.0	2.50
Benzene	71-43-2	22.5		1.00	0.125
Bromochloromethane	74-97-5	23.2		1.00	0.200
Bromodichloromethane	75-27-4	20.3		1.00	0.250
Bromoform	75-25-2	21.1		1.00	0.500
Bromomethane	74-83-9	18.2		1.00	0.500
Carbon disulfide	75-15-0	27.6		1.00	0.500
Carbon tetrachloride	56-23-5	19.7		1.00	0.250
Chlorobenzene	108-90-7	19.8		1.00	0.125
Chloroethane	75-00-3	20.7		1.00	0.500
Chloroform	67-66-3	733	E	1.00	0.125
Chloromethane	74-87-3	16.9		1.00	0.500
cis-1,3-Dichloropropene	10061-01-5	21.2		1.00	0.250
Cyclohexane	110-82-7	18.8		5.00	1.00
Dibromochloromethane	124-48-1	20.4		1.00	0.250
Dichlorodifluoromethane	75-71-8	21.3		1.00	0.250
Ethyl benzene	100-41-4	20.8		1.00	0.250
Isopropylbenzene	98-82-8	19.3		1.00	0.250
Methyl acetate	79-20-9	19.4		5.00	1.00
Methyl tert-butyl ether	1634-04-4	20.6		1.00	0.500
Methylcyclohexane	108-87-2	21.5		5.00	1.00
Methylene chloride	75-09-2	150		5.00	0.250
m,p-Xylene	179601-23-1	40.8		1.00	0.500
o-Xylene	95-47-6	19.8		1.00	0.250
Styrene	100-42-5	21.6		1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Tetrachloroethene	127-18-4	20.6		1.00	0.250
Toluene	108-88-3	29.3		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6	17.7		1.00	0.500
Trichloroethene	79-01-6	22.4		1.00	0.250
Trichlorofluoromethane	75-69-4	20.4		1.00	0.250
Vinyl chloride	75-01-4	17.3		1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	86.1	80	120		
Dibromofluoromethane	99.0	86	118		
p-Bromofluorobenzene	90.9	86	115		
Toluene-d8	93.9	88	110		
E	Semiquantitative result (out of calibration range)				

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: HPMS8
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 23:25
Collect Date: 11/27/2012 11:40	Dilution: 10	File ID: 8M383863
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	10.0	2.50
1,1,1,2-Tetrachloroethane	79-34-5		U	10.0	2.00
1,1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	50.0	20.0
1,1,1,2-Trichloroethane	79-00-5		U	10.0	2.50
1,1-Dichloroethane	75-34-3		U	10.0	1.25
1,1-Dichloroethene	75-35-4		U	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6		U	10.0	5.00
1,2,4-Trichlorobenzene	120-82-1		U	10.0	2.00
1,2-Dibromo-3-chloropropane	96-12-8		U	50.0	10.0
1,2-Dibromoethane	106-93-4		U	10.0	2.50
1,2-Dichlorobenzene	95-50-1		U	10.0	1.25
1,2-Dichloroethane	107-06-2		U	10.0	2.50
cis-1,2-Dichloroethene	156-59-2	3.01	J	10.0	2.50
trans-1,2-Dichloroethene	156-60-5		U	10.0	2.50
1,2-Dichloropropane	78-87-5		U	10.0	2.00
1,3-Dichlorobenzene	541-73-1		U	10.0	2.50
1,4-Dichlorobenzene	106-46-7		U	10.0	1.25

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
2-Butanone	78-93-3		U	100	25.0
2-Hexanone	591-78-6		U	100	25.0
4-Methyl-2-pentanone	108-10-1	3090	E	100	25.0
Acetone	67-64-1	776		100	25.0
Benzene	71-43-2		U	10.0	1.25
Bromochloromethane	74-97-5		U	10.0	2.00
Bromodichloromethane	75-27-4		U	10.0	2.50
Bromoform	75-25-2		U	10.0	5.00
Bromomethane	74-83-9		U	10.0	5.00
Carbon disulfide	75-15-0	87.5		10.0	5.00
Carbon tetrachloride	56-23-5		U	10.0	2.50
Chlorobenzene	108-90-7	15.5		10.0	1.25
Chloroethane	75-00-3		U	10.0	5.00
Chloroform	67-66-3	93.1		10.0	1.25
Chloromethane	74-87-3		U	10.0	5.00
cis-1,3-Dichloropropene	10061-01-5		U	10.0	2.50
Cyclohexane	110-82-7		U	50.0	10.0
Dibromochloromethane	124-48-1		U	10.0	2.50
Dichlorodifluoromethane	75-71-8		U	10.0	2.50
Ethyl benzene	100-41-4		U	10.0	2.50
Isopropylbenzene	98-82-8		U	10.0	2.50
Methyl acetate	79-20-9		U	50.0	10.0
Methyl tert-butyl ether	1634-04-4		U	10.0	5.00
Methylcyclohexane	108-87-2		U	50.0	10.0
Methylene chloride	75-09-2	15.1	J	50.0	2.50
m,p-Xylene	179601-23-1	6.18	J	10.0	5.00
o-Xylene	95-47-6		U	10.0	2.50
Styrene	100-42-5		U	10.0	1.25
Tetrachloroethene	127-18-4		U	10.0	2.50
Toluene	108-88-3	51.1		10.0	2.50
trans-1,3-Dichloropropene	10061-02-6		U	10.0	5.00
Trichloroethene	79-01-6		U	10.0	2.50
Trichlorofluoromethane	75-69-4		U	10.0	2.50
Vinyl chloride	75-01-4		U	10.0	2.50
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	87.4	80	120		
Dibromofluoromethane	96.7	86	118		
p-Bromofluorobenzene	90.5	86	115		

Certificate of Analysis

Toluene-d8	94.9	88	110	
E	Semiquantitative result (out of calibration 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 #: L12110784-16	PrePrep Method: N/A	Instrument: HPMS8
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415719	Analyst: ADC	Run Date: 12/04/2012 19:53
Collect Date: 11/27/2012 11:40	Dilution: 20	File ID: 8M383888
Sample Tag: DL02	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	20.0	5.00
1,1,2,2-Tetrachloroethane	79-34-5		U	20.0	4.00
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	100	40.0
1,1,2-Trichloroethane	79-00-5		U	20.0	5.00
1,1-Dichloroethane	75-34-3		U	20.0	2.50
1,1-Dichloroethene	75-35-4		U	20.0	10.0
1,2,3-Trichlorobenzene	87-61-6		U	20.0	10.0
1,2,4-Trichlorobenzene	120-82-1		U	20.0	4.00
1,2-Dibromo-3-chloropropane	96-12-8		U	100	20.0
1,2-Dibromoethane	106-93-4		U	20.0	5.00
1,2-Dichlorobenzene	95-50-1		U	20.0	2.50
1,2-Dichloroethane	107-06-2		U	20.0	5.00
cis-1,2-Dichloroethene	156-59-2		U	20.0	5.00
trans-1,2-Dichloroethene	156-60-5		U	20.0	5.00
1,2-Dichloropropane	78-87-5		U	20.0	4.00
1,3-Dichlorobenzene	541-73-1		U	20.0	5.00
1,4-Dichlorobenzene	106-46-7		U	20.0	2.50
2-Butanone	78-93-3		U	200	50.0
2-Hexanone	591-78-6		U	200	50.0
4-Methyl-2-pentanone	108-10-1	3130		200	50.0
Acetone	67-64-1	801		200	50.0
Benzene	71-43-2		U	20.0	2.50
Bromochloromethane	74-97-5		U	20.0	4.00
Bromodichloromethane	75-27-4		U	20.0	5.00
Bromoform	75-25-2		U	20.0	10.0
Bromomethane	74-83-9		U	20.0	10.0
Carbon disulfide	75-15-0	92.3		20.0	10.0

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Carbon tetrachloride	56-23-5		U	20.0	5.00
Chlorobenzene	108-90-7	13.7	J	20.0	2.50
Chloroethane	75-00-3		U	20.0	10.0
Chloroform	67-66-3	94.4		20.0	2.50
Chloromethane	74-87-3		U	20.0	10.0
cis-1,3-Dichloropropene	10061-01-5		U	20.0	5.00
Cyclohexane	110-82-7		U	100	20.0
Dibromochloromethane	124-48-1		U	20.0	5.00
Dichlorodifluoromethane	75-71-8		U	20.0	5.00
Ethyl benzene	100-41-4		U	20.0	5.00
Isopropylbenzene	98-82-8		U	20.0	5.00
Methyl acetate	79-20-9		U	100	20.0
Methyl tert-butyl ether	1634-04-4		U	20.0	10.0
Methylcyclohexane	108-87-2		U	100	20.0
Methylene chloride	75-09-2	12.3	J	100	5.00
m,p-Xylene	179601-23-1		U	20.0	10.0
o-Xylene	95-47-6		U	20.0	5.00
Styrene	100-42-5		U	20.0	2.50
Tetrachloroethene	127-18-4		U	20.0	5.00
Toluene	108-88-3	46.3		20.0	5.00
trans-1,3-Dichloropropene	10061-02-6		U	20.0	10.0
Trichloroethene	79-01-6		U	20.0	5.00
Trichlorofluoromethane	75-69-4		U	20.0	5.00
Vinyl chloride	75-01-4		U	20.0	5.00
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	86.5	80	120		
Dibromofluoromethane	99.6	86	118		
p-Bromofluorobenzene	94.3	86	115		
Toluene-d8	92.8	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-18	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-34-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/03/2012 23:55
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: 8M383864
Sample Tag: 01	Units: ug/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	0.288	J	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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	38.2		10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		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
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
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	0.319	J	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	87.8	80	120		
Dibromofluoromethane	97.8	86	118		
p-Bromofluorobenzene	92.6	86	115		
Toluene-d8	95.8	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-20	PrePrep Method: N/A	Instrument: HPMS8
Client ID: MW-22-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/04/2012 00:25
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: 8M383865
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		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
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		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
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
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	87.3	80	120		
Dibromofluoromethane	96.8	86	118		
p-Bromofluorobenzene	90.7	86	115		
Toluene-d8	94.6	88	110		
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: HPMS8
Client ID: DUP-GW-11272012-01	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415592	Analyst: ADC	Run Date: 12/04/2012 00:56
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: 8M383866
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3	0.878	J	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
cis-1,2-Dichloroethene	156-59-2	2.84		1.00	0.250
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.250
1,2-Dichloropropane	78-87-5	0.559	J	1.00	0.200
1,3-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3	16.6		10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1	3150	E	10.0	2.50
Acetone	67-64-1	749	E	10.0	2.50
Benzene	71-43-2	0.855	J	1.00	0.125
Bromochloromethane	74-97-5		U	1.00	0.200

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
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
Carbon disulfide	75-15-0	91.1		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7	16.6		1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	99.0		1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4	1.86		1.00	0.250
Isopropylbenzene	98-82-8	2.16		1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2	14.2		5.00	0.250
m,p-Xylene	179601-23-1	6.18		1.00	0.500
o-Xylene	95-47-6	1.95		1.00	0.250
Styrene	100-42-5	0.204	J	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3	50.7		1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6	0.259	J	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	87.9	80	120	
Dibromofluoromethane	100	86	118	
p-Bromofluorobenzene	94.3	86	115	
Toluene-d8	92.7	88	110	

E	Semiquantitative result (out of calibration range)
J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: HPMS8
Client ID: DUP-GW-11272012-01	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/06/2012 13:19
Workgroup #: WG415719	Analyst: ADC	Run Date: 12/04/2012 20:23
Collect Date: 11/27/2012 11:50	Dilution: 20	File ID: 8M383889
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	20.0	5.00
1,1,1,2-Tetrachloroethane	79-34-5		U	20.0	4.00
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	100	40.0
1,1,2-Trichloroethane	79-00-5		U	20.0	5.00
1,1-Dichloroethane	75-34-3		U	20.0	2.50
1,1-Dichloroethene	75-35-4		U	20.0	10.0
1,2,3-Trichlorobenzene	87-61-6		U	20.0	10.0
1,2,4-Trichlorobenzene	120-82-1		U	20.0	4.00
1,2-Dibromo-3-chloropropane	96-12-8		U	100	20.0
1,2-Dibromoethane	106-93-4		U	20.0	5.00
1,2-Dichlorobenzene	95-50-1		U	20.0	2.50
1,2-Dichloroethane	107-06-2		U	20.0	5.00
cis-1,2-Dichloroethene	156-59-2		U	20.0	5.00
trans-1,2-Dichloroethene	156-60-5		U	20.0	5.00
1,2-Dichloropropane	78-87-5		U	20.0	4.00
1,3-Dichlorobenzene	541-73-1		U	20.0	5.00
1,4-Dichlorobenzene	106-46-7		U	20.0	2.50
2-Butanone	78-93-3		U	200	50.0
2-Hexanone	591-78-6		U	200	50.0
4-Methyl-2-pentanone	108-10-1	2890		200	50.0
Acetone	67-64-1	794		200	50.0
Benzene	71-43-2		U	20.0	2.50
Bromochloromethane	74-97-5		U	20.0	4.00
Bromodichloromethane	75-27-4		U	20.0	5.00
Bromoform	75-25-2		U	20.0	10.0
Bromomethane	74-83-9		U	20.0	10.0
Carbon disulfide	75-15-0	104		20.0	10.0
Carbon tetrachloride	56-23-5		U	20.0	5.00
Chlorobenzene	108-90-7	13.1	J	20.0	2.50
Chloroethane	75-00-3		U	20.0	10.0
Chloroform	67-66-3	94.9		20.0	2.50
Chloromethane	74-87-3		U	20.0	10.0
cis-1,3-Dichloropropene	10061-01-5		U	20.0	5.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7		U	100	20.0
Dibromochloromethane	124-48-1		U	20.0	5.00
Dichlorodifluoromethane	75-71-8		U	20.0	5.00
Ethyl benzene	100-41-4		U	20.0	5.00
Isopropylbenzene	98-82-8		U	20.0	5.00
Methyl acetate	79-20-9		U	100	20.0
Methyl tert-butyl ether	1634-04-4		U	20.0	10.0
Methylcyclohexane	108-87-2		U	100	20.0
Methylene chloride	75-09-2	15.0	J	100	5.00
m,p-Xylene	179601-23-1		U	20.0	10.0
o-Xylene	95-47-6		U	20.0	5.00
Styrene	100-42-5		U	20.0	2.50
Tetrachloroethene	127-18-4		U	20.0	5.00
Toluene	108-88-3	46.8		20.0	5.00
trans-1,3-Dichloropropene	10061-02-6		U	20.0	10.0
Trichloroethene	79-01-6		U	20.0	5.00
Trichlorofluoromethane	75-69-4		U	20.0	5.00
Vinyl chloride	75-01-4		U	20.0	5.00
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	83.3	80	120	
Dibromofluoromethane	94.6	86	118	
p-Bromofluorobenzene	93.7	86	115	
Toluene-d8	92.9	88	110	

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

Sample #: L12110784-24	PrePrep Method: N/A	Instrument: HPMS11
Client ID: MW-32-GW-11272012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/08/2012 14:43
Workgroup #: WG416293	Analyst: FJB	Run Date: 12/11/2012 16:30
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: 11M88561
Sample Tag: 02	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		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
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		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
Carbon disulfide	75-15-0	5.03		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	80.8	80	120		
Dibromofluoromethane	89.0	86	118		
p-Bromofluorobenzene	95.8	86	115		
Toluene-d8	101	88	110		
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-26	PrePrep Method: N/A	Instrument: HPMS11
Client ID: MW-02-GW-11282012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/08/2012 14:43
Workgroup #: WG415844	Analyst: FJB	Run Date: 12/06/2012 02:08
Collect Date: 11/28/2012 10:30	Dilution: 5	File ID: 11M88394
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	5.00	1.25
1,1,1,2-Tetrachloroethane	79-34-5		U	5.00	1.00
1,1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	25.0	10.0
1,1,1,2-Trichloroethane	79-00-5		U	5.00	1.25
1,1-Dichloroethane	75-34-3		U	5.00	0.625
1,1-Dichloroethene	75-35-4		U	5.00	2.50
1,2,3-Trichlorobenzene	87-61-6		U	5.00	2.50
1,2,4-Trichlorobenzene	120-82-1		U	5.00	1.00
1,2-Dibromo-3-chloropropane	96-12-8		U	25.0	5.00
1,2-Dibromoethane	106-93-4		U	5.00	1.25
1,2-Dichlorobenzene	95-50-1		U	5.00	0.625
1,2-Dichloroethane	107-06-2		U	5.00	1.25
cis-1,2-Dichloroethene	156-59-2		U	5.00	1.25
trans-1,2-Dichloroethene	156-60-5		U	5.00	1.25
1,2-Dichloropropane	78-87-5		U	5.00	1.00
1,3-Dichlorobenzene	541-73-1		U	5.00	1.25
1,4-Dichlorobenzene	106-46-7		U	5.00	0.625

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
2-Butanone	78-93-3		U	50.0	12.5
2-Hexanone	591-78-6		U	50.0	12.5
4-Methyl-2-pentanone	108-10-1	639		50.0	12.5
Acetone	67-64-1		U	50.0	12.5
Benzene	71-43-2	0.638	J	5.00	0.625
Bromochloromethane	74-97-5		U	5.00	1.00
Bromodichloromethane	75-27-4		U	5.00	1.25
Bromoform	75-25-2		U	5.00	2.50
Bromomethane	74-83-9		U	5.00	2.50
Carbon disulfide	75-15-0	305		5.00	2.50
Carbon tetrachloride	56-23-5		U	5.00	1.25
Chlorobenzene	108-90-7		U	5.00	0.625
Chloroethane	75-00-3		U	5.00	2.50
Chloroform	67-66-3	46.6		5.00	0.625
Chloromethane	74-87-3		U	5.00	2.50
cis-1,3-Dichloropropene	10061-01-5		U	5.00	1.25
Cyclohexane	110-82-7		U	25.0	5.00
Dibromochloromethane	124-48-1		U	5.00	1.25
Dichlorodifluoromethane	75-71-8		U	5.00	1.25
Ethyl benzene	100-41-4		U	5.00	1.25
Isopropylbenzene	98-82-8		U	5.00	1.25
Methyl acetate	79-20-9		U	25.0	5.00
Methyl tert-butyl ether	1634-04-4		U	5.00	2.50
Methylcyclohexane	108-87-2		U	25.0	5.00
Methylene chloride	75-09-2	6.85	J	25.0	1.25
m,p-Xylene	179601-23-1	4.32	J	5.00	2.50
o-Xylene	95-47-6	1.30	J	5.00	1.25
Styrene	100-42-5		U	5.00	0.625
Tetrachloroethene	127-18-4		U	5.00	1.25
Toluene	108-88-3	16.7		5.00	1.25
trans-1,3-Dichloropropene	10061-02-6		U	5.00	2.50
Trichloroethene	79-01-6		U	5.00	1.25
Trichlorofluoromethane	75-69-4		U	5.00	1.25
Vinyl chloride	75-01-4		U	5.00	1.25
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	80.2	80	120		
Dibromofluoromethane	96.8	86	118		
p-Bromofluorobenzene	97.3	86	115		

Certificate of Analysis

Toluene-d8	101	88	110	
J	The analyte was positively identified, but the quantitation was below the RL.			
U	Not detected at or above adjusted sample detection limit.			

Sample #: L12110784-28	PrePrep Method: N/A	Instrument: HPMS11
Client ID: MW-23-GW-11282012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/08/2012 14:43
Workgroup #: WG415844	Analyst: FJB	Run Date: 12/06/2012 03:09
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: 11M88396
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2	0.171	J	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
Carbon disulfide	75-15-0	6.81		1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.250
Chlorobenzene	108-90-7		U	1.00	0.125

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1	0.844	J	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000

Surrogate	Recovery	Lower Limit	Upper Limit	Q
1,2-Dichloroethane-d4	80.0	80	120	
Dibromofluoromethane	95.7	86	118	
p-Bromofluorobenzene	95.8	86	115	
Toluene-d8	97.5	88	110	

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

Sample #: L12110784-30	PrePrep Method: N/A	Instrument: HPMS11
Client ID: TB-11282012	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 11/08/2012 14:43
Workgroup #: WG415844	Analyst: FJB	Run Date: 12/05/2012 19:29
Collect Date: 11/27/2012 15:21	Dilution: 1	File ID: 11M88381
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.200
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.250
1,1-Dichloroethane	75-34-3		U	1.00	0.125
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.200
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.250
1,2-Dichlorobenzene	95-50-1		U	1.00	0.125
1,2-Dichloroethane	107-06-2		U	1.00	0.250
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-Dichlorobenzene	541-73-1		U	1.00	0.250
1,4-Dichlorobenzene	106-46-7		U	1.00	0.125
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		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
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
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.125
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.250
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.250
Dichlorodifluoromethane	75-71-8		U	1.00	0.250
Ethyl benzene	100-41-4		U	1.00	0.250
Isopropylbenzene	98-82-8		U	1.00	0.250
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.250
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.250
Styrene	100-42-5		U	1.00	0.125
Tetrachloroethene	127-18-4		U	1.00	0.250
Toluene	108-88-3		U	1.00	0.250
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.250
Trichlorofluoromethane	75-69-4		U	1.00	0.250
Vinyl chloride	75-01-4		U	1.00	0.250
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	86.0	80	120		
Dibromofluoromethane	95.4	86	118		
p-Bromofluorobenzene	94.5	86	115		
Toluene-d8	97.1	88	110		
U	Not detected at or above adjusted sample detection limit.				

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

$$RF = [(Ax) (Cis)] / [(Ais) (Cx)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100
 RF = Calculated Response Factor	 1.0039

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

$$Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured	3122498
Cis = Concentration of the specific internal standard (ug/L)	25
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	611048
RF = Average RF from the ICAL	1.004
Vs = Purge volume of sample (mL)	10
Vn = Nominal purge volume of sample (mL) (10.0 mL)	10
Cx = Concentration of the compound in the sample being measured (ug/L)	127.2428

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

$$Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured	3122498
Cis = Concentration of the specific internal standard (ug/L)	25
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	611048
RF = Average RF from the ICAL	1.004
Ws = Weight of sample purged (g)	5
Wn = Nominal purge weight (g) (5.0 g)	5
Cx = Concentration of the compound in the sample being measured (ug/L)	127.2428

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	254.4856

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, $y = mx + b$

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

$$y = 86550/593147 = 0.1459$$

Step 3: Solve for x

$$x = (y - b)/m = [(0.1459 - (-0.00642))/0.213] = 0.7152$$

Step 4: Solve for analyte concentration Cx

$$Cx = Cis (x) = (25.0)(0.7152) = 17.88$$

Example Spreadsheet Calculation:

Slope from curve, m:	0.213
Intercept from curve, b:	-0.00642
Area of analyte, Ax:	86550
Area of Internal Standard , Ais:	593147
Concentration of IS, Cis	25.00
Response Ratio:	0.145917
Amount Ratio:	0.715195
Concentration:	17.87988
Units of Internal Standard:	ug/L

5.0 Concentration from Quadratic Regression

Step 1 - Retrieve Curve Data from Plot, $y = Ax^2 + Bx + C$

Where:

$$Ax^2 + Bx + (C - y) = 0$$

A, B, C = constants from the ICAL quadratic regression

y = Response ratio = Area of analyte/Area of internal standard (IS)

x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

$$Ax^2 + Bx + C - y = 0$$

$$x = \frac{b \pm \sqrt{(b^2 - 4a(c - y))}}{2a} \quad \text{(Two possible solutions)}$$

Step 4: Solve for analyte concentration Cx

$$Cx = (Cis)(\text{Amount ratio})$$

Example Spreadsheet Calculation:

Value of A from plot:	-0.00629
Value of B from plot:	0.511
Value of C from plot:	-0.0276
Area of unknown from quantitation report:	293821
Area of IS from quantitation report:	784848
Response ratio, y:	0.374367
C - y:	-0.40197
Root 1 - Computed amount ratio , X1:	80.44567
Root 2 - Computed amount ratio , X2:	0.794396 use this solution
Concentration of IS, Cis:	25.00
Concentration of analyte, Cx:	19.86 ug/L

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 012512
 Analyst1: ADC Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 14
 Method: 624 SOP: MSV10 Rev: 8
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13
 Maintenance Log ID: 40490

Internal Standard: STD49574 Surrogate Standard: STD49574
 CCV: STD49665 LCS: STD49523 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG387881(ICAL), WG387845

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M376554	WG387844-01 50ng BFB STD 8260	NA	1	1	STD49582	01/25/12 10:52
8M376555	WG387844-02 50ug/L CCV STD 8260	NA	1	1	STD49665	01/25/12 11:14
8M376556	WG387XXX-01 100ug/L A9 CCV STD 8260	NA	1	1	STD49484	01/25/12 11:43
8M376557	WG387845-01 VBLK0125 BLANK STD 826	NA	1	1		01/25/12 12:13
8M376558	WG387881-01 5ug/L A9FOO STD	NA	1	1	STD49721	01/25/12 12:43
8M376559	WG387881-02 20ug/L A9FOO STD	NA	1	1	STD49721	01/25/12 13:28
8M376560	WG387881-03 50ug/L A9FOO STD	NA	1	1	STD49721	01/25/12 13:58
8M376561	WG387881-04 100ug/L A9FOO STD	NA	1	1	STD49721	01/25/12 14:29
8M376562	WG387881-05 200ug/L A9FOO STD	NA	1	1	STD49721	01/25/12 14:59
8M376563	WG387881-06 300ug/L A9FOO STD	NA	1	1	STD49721	01/25/12 15:29
8M376564	WG387881-07 400ug/L A9FOO STD	NA	1	1	STD49721	01/25/12 15:59
8M376565	WG387881-08 100ug/L A9FOO ALT	NA	1	1	STD49721	01/25/12 16:29
8M376566	WG387845-02 100ug/L A9FOO LCS	NA	1	1	STD49721	01/25/12 16:59
8M376567	WG387845-03 100ug/L A9FOO LCSDUP	NA	1	1	STD49721	01/25/12 17:29
8M376568	WG387845-04 100ug/L A9FOO P\&A	NA	1	1	STD49721	01/25/12 17:59
8M376569	WG387845-05 100ug/L A9FOO P\&A	NA	1	1	STD49721	01/25/12 18:29

Approved: February 02, 2012

Page: 1

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 110612
 Analyst1: ADC Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13

Maintenance Log ID: 43902

Internal Standard: STD54450 Surrogate Standard: STD54450
 CCV: STD54419 LCS: STD54557 MS/MSD: STD54557

Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG413483, WG413484

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M383305	WG413483-01 BFB 50ng 8260	NA	1	1	STD54518	11/06/12 07:53
8M383306	RINSE	NA	1	1	STD54657	11/06/12 08:18
8M383307	WG413483-02 0.3ug/L STD 8260	NA	1	1	STD54657	11/06/12 08:48
8M383308	WG413483-03 0.4ug/L STD 8260	NA	1	1	STD54657	11/06/12 09:18
8M383309	WG413483-04 1.0ug/L STD 8260	NA	1	1	STD54657	11/06/12 09:47
8M383310	WG413483-05 2.0ug/L STD 8260	NA	1	1	STD54657	11/06/12 10:17
8M383311	WG413483-06 5.0ug/L STD 8260	NA	1	1	STD54657	11/06/12 10:47
8M383312	WG413483-07 20.0ug/L STD 8260	NA	1	1	STD54657	11/06/12 11:17
8M383313	WG413483-08 50.0ug/L STD 8260	NA	1	1	STD54657	11/06/12 11:47
8M383314	WG413483-09 100.0ug/L STD 8260	NA	1	1	STD54657	11/06/12 12:17
8M383315	WG413483-10 200.0ug/L STD 8260	NA	1	1	STD54657	11/06/12 12:48
8M383316	WG413483-11 300.0ug/L STD 8260	NA	1	1	STD54657	11/06/12 13:19
8M383317	RINSE	NA	1	1	STD54657	11/06/12 13:51
8M383318	WG413483-12 50.0ug/L ALTSRC 8260	NA	1	1	STD54557	11/06/12 14:23
8M383319	RINSE	NA	1	1	STD54557	11/06/12 15:06
8M383320	WG413606-01 50ng/L BFB STD 8260	NA	1	1	STD54557	11/06/12 15:36
8M383321	WG413606-02 50ug/L CCV STD 8260	NA	1	1	STD54557	11/06/12 16:03
8M383322	WG413XXX-01 100ug/L A9FOO CCV	NA	1	1	STD54557	11/06/12 16:35
8M383323	WG413484-01 VBLK 1106 8260	NA	1	1		11/06/12 17:07
8M383324	WG413483-12 50ug/L ALTSRC STD	NA	1	1	STD54557	11/06/12 17:39
8M383325	WG413484-02 20ug/L LCS STD	NA	1	1	STD54557	11/06/12 18:10
8M383326	WG413484-03 20ug/L LCSDUP STD	NA	1	1	STD54557	11/06/12 18:41
8M383327	L12101000-11 B 250X 826-SPE	<2	1	250		11/06/12 19:12
8M383328	L12101000-12 B 1000X 826-SPE	<2	1	1000		11/06/12 19:43
8M383329	L12100941-07 B 826-SPE	<2	1	1		11/06/12 20:13
8M383330	L12110031-01 10X 826-TC	NA	17	10		11/06/12 20:44
8M383331	L12101013-12 A 826-SPE	<2	1	1		11/06/12 21:14
8M383332	L12101013-01 A 826-SPE	<2	1	1		11/06/12 21:44
8M383333	L12101013-02 A 826-SPE	<2	1	1		11/06/12 22:14
8M383334	L12101013-03 A 826-SPE	<2	1	1		11/06/12 22:44
8M383335	L12101013-04 A 826-SPE	<2	1	1		11/06/12 23:14
8M383336	L12101013-05 A 826-SPE	<2	1	1		11/06/12 23:44
8M383337	L12101013-06 A 826-SPE	<2	1	1		11/07/12 00:14
8M383338	L12101013-07 A 826-SPE	<2	1	1		11/07/12 00:44

Approved: November 07, 2012

Page: 1




Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 110612
 Analyst1: ADC Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13

Maintenance Log ID: 43902

Internal Standard: STD54450 Surrogate Standard: STD54450
 CCV: STD54419 LCS: STD54557 MS/MSD: STD54557
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG413483, WG413484

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M383339	L12101013-08 A 826-SPE	<2	1	1		11/07/12 01:14
8M383340	L12101013-09 A 826-SPE	<2	1	1		11/07/12 01:44
8M383341	L12101013-10 A 826-SPE	<2	1	1		11/07/12 02:14
8M383342	L12101013-11 A 826-SPE	<2	1	1		11/07/12 02:44
8M383343	RINSE	NA	1	1		11/07/12 03:14
8M383344	WG413484-04 624-BLK	NA	1	1		11/07/12 03:44
8M383345	WG413532-01 TC-BLK	NA	17	10		11/07/12 08:25
8M383346	L12110117-02 A 624-SPE	<2	2	1		11/07/12 08:55
8M383347	L12110117-03 A 624-SPE	<2	2	1		11/07/12 09:25
8M383348	L12110133-01 A 624-SPE	<2	2	1		11/07/12 09:55
8M383349	L12110134-01 A 624-SPE	<2	2	1		11/07/12 10:26
8M383350	RINSE	NA	2	1		11/07/12 10:56

Comments

Seq.	Rerun	Dil.	Reason	Analytes
14	X			
File ID: 8M383318				
dnr rr no surrogates				

Approved: November 07, 2012

Page: 2




Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 110812
 Analyst1: FJB Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13

Maintenance Log ID: 43935

Internal Standard: STD54265 Surrogate Standard: STD54341
 CCV: STD54685 LCS: STD54851 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG413655

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M87807	WG413655-01 BFB 50ng 8260	NA	1	1	STD54518	11/08/12 08:56
11M87808	WG413655-02 0.3ug/L STD 8260	NA	1	1	STD54685	11/08/12 09:31
11M87809	WG413655-03 0.4ug/L STD 8260	NA	1	1	STD54685	11/08/12 10:01
11M87810	WG413655-02 0.3ug/L STD 8260	NA	1	1	STD54685	11/08/12 10:35
11M87811	WG413655-04 1ug/L STD 8260	NA	1	1	STD54685	11/08/12 11:06
11M87812	WG413655-05 2ug/L STD 8260	NA	1	1	STD54685	11/08/12 11:37
11M87813	WG413655-06 5ug/L STD 8260	NA	1	1	STD54685	11/08/12 12:07
11M87814	WG413655-07 20ug/L STD 8260	NA	1	1	STD54685	11/08/12 12:38
11M87815	WG413655-08 50ug/L STD 8260	NA	1	1	STD54685	11/08/12 13:10
11M87816	WG413655-09 100ug/L STD 8260	NA	1	1	STD54685	11/08/12 13:41
11M87817	WG413655-10 200ug/L STD 8260	NA	1	1	STD54685	11/08/12 14:12
11M87818	WG413655-11 300ug/L STD 8260	NA	1	1	STD54685	11/08/12 14:43
11M87819	RINSE	NA	1	1		11/08/12 15:18
11M87820	WG413655-12 50ug/L ALT SRC 8260	NA	1	1	STD54655	11/08/12 15:49
11M87821	RINSE	NA	1	1		11/08/12 16:34
11M87822	RINSE	NA	1	1		11/08/12 17:05
11M87823	RINSE	NA	1	1		11/08/12 17:36
11M87824	RINSE	NA	1	1		11/08/12 18:07

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
File ID: 11M87808				
DNR - response too high, rerun after 0.4				
14	X			
File ID: 11M87820				
SS concentration too high. Rerun.				

Approved: November 13, 2012

Page: 1




Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 110912
 Analyst1: FJB Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13
 Method: 624 SOP: MSV10 Rev: 8
 Maintenance Log ID: 43956

Internal Standard: STD54849 Surrogate Standard: STD54858
 CCV: STD54685 LCS: STD54851 MS/MSD: STD54851
 Column 1 ID: RTX1 Column 2 ID: NA
 Workgroups: WG413890, WG413951

Comments: Has Alt Src

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M87825	WG413889-01 BFB 50ng 8260	NA	1	1	STD54518	11/09/12 11:29
11M87826	WG413889-02 50ug/L CCV 8260	NA	1	1	STD54685	11/09/12 11:54
11M87827	WG413889-02 50ug/L CCV 8260	NA	1	1	STD54685	11/09/12 12:26
11M87828	RINSE CHECK SS CONC.	NA	1	1		11/09/12 13:19
11M87829	WG413889-01 BFB 50ng 8260	NA	1	1	STD54518	11/09/12 13:54
11M87830	WG413889-01 BFB 50ng 8260	NA	1	1	STD54518	11/09/12 14:11
11M87831	WG413889-01 BFB 50ng 8260	NA	1	1	STD54518	11/09/12 14:36
11M87832	WG413889-02 50ug/L CCV 8260	NA	1	1	STD54518	11/09/12 15:07
11M87833	WG413XXX-01 100ug/L CCV A9	NA	1	1	STDXXXXX	11/09/12 15:39
11M87834	WG413890-01 VBLK1109 BLANK 8260	NA	1	1		11/09/12 16:10
11M87835	WG413655-12 50ug/L ALT SRC 8260	NA	1	1	STD54851	11/09/12 16:41
11M87836	WG413890-02 20ug/L LCS 8260	NA	1	1	STD54851	11/09/12 17:12
11M87837	L12110229-02 MS A 826-SPE	<2	1	1	STD54851	11/09/12 17:46
11M87838	L12110229-03 MSD A 826-SPE	<2	1	1	STD54851	11/09/12 18:17
11M87839	L12110229-05 TB A 826-SPE	<2	1	1		11/09/12 18:49
11M87840	L12110274-02 TB A 826-SPE	7	1	1		11/09/12 19:20
11M87841	L12110158-01 TB A 826-LOW	<2	1	1		11/09/12 19:51
11M87842	L12110246-04 TB A 826-A9	<2	1	1		11/09/12 20:22
11M87843	L12110200-01 TB A 826-LOW	<2	1	1		11/09/12 20:53
11M87844	L12110229-01 REF A 826-LOW	<2	1	1		11/09/12 21:24
11M87845	L12110229-04 A 826-LOW	<2	1	1		11/09/12 21:55
11M87846	L12110229-16 A 826-LOW	<2	1	1		11/09/12 22:26
11M87847	L12110274-01 A 826-SPE	7	1	1		11/09/12 22:57
11M87848	L12110158-02 A 826-LOW	<2	1	1		11/09/12 23:28
11M87849	L12110158-03 A 826-LOW	<2	1	1		11/09/12 23:59
11M87850	L12110246-01 A 826-A9	<2	1	1		11/10/12 00:29
11M87851	L12110246-02 A 826-A9	<2	1	1		11/10/12 01:00
11M87852	L12110246-03 A 826-A9	<2	1	1		11/10/12 01:31
11M87853	L12110200-02 A 826-LOW	<2	1	1		11/10/12 02:02
11M87854	L12110200-03 A 826-LOW	<2	1	1		11/10/12 02:33
11M87855	L12110289-03 WG413951-01 20ug/L LCS 6	NA	2	1	STD54851	11/10/12 03:03
11M87856	L12110296-05 WG413951-02 20ug/L LCS D	NA	2	1	STD54851	11/10/12 03:34
11M87857	WG413951-03 BLANK 624	NA	2	1		11/10/12 04:05
11M87858	L12110296-04 TB A 624-SPE	<2	2	1		11/10/12 04:36

Approved: November 13, 2012

Page: 1



Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 110912
 Analyst1: FJB Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13
 Method: 624 SOP: MSV10 Rev: 8
 Maintenance Log ID: 43956

Internal Standard: STD54849 Surrogate Standard: STD54858
 CCV: STD54685 LCS: STD54851 MS/MSD: STD54851
 Column 1 ID: RTX1 Column 2 ID: NA
 Workgroups: WG413890, WG413951

Comments: Has Alt Src

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M87859	L12110253-01 A 624-SPE	<2	2	1		11/10/12 05:07
11M87860	L12110266-01 A 624-SPE	<2	2	1		11/10/12 05:37
11M87861	L12110266-02 A 624-SPE	<2	2	1		11/10/12 06:08
11M87862	L12110266-03 A 624-SPE	<2	2	1		11/10/12 06:39
11M87863	L12110289-01 A 624-SPE	<2	2	1		11/10/12 07:10
11M87864	L12110289-02 A 624-SPE	<2	2	1		11/10/12 07:40
11M87865	L12110296-01 A 624-SPE	<2	2	1		11/10/12 08:11
11M87866	L12110296-02 A 624-SPE	<2	2	1		11/10/12 08:42
11M87867	L12110296-03 A 624-SPE	<2	2	1		11/10/12 09:13
11M87868	L12110277-01 A 624	<2	2	1		11/10/12 09:44
11M87869	L12110277-02 A 624	<2	2	1		11/10/12 10:15
11M87870	L12110277-03 A 624	<2	2	1		11/10/12 10:46
11M87871	L12110277-05 A 624	<2	2	1		11/10/12 11:17
11M87872	L12110277-07 A 624	<2	2	1		11/10/12 11:49
11M87873	L12110277-09 A 624	<2	2	1		11/10/12 12:20
11M87874	L12110277-04 10X A 624	11	2	10		11/10/12 12:51
11M87875	L12110277-06 10X A 624	<2	2	10		11/10/12 13:22
11M87876	L12110277-08 10X A 624	<2	2	10		11/10/12 13:53
11M87877	CCV	NA	1	1		11/10/12 14:25
11M87878	RINSE	NA	1	1		11/10/12 14:56
11M87879	RINSE	NA	1	1		11/10/12 15:27
11M87880	RINSE	NA	1	1		11/10/12 15:58
11M87881	RINSE	NA	1	1		11/10/12 16:29
11M87882	RINSE	NA	1	1		11/12/12 09:39
11M87883	RINSE	NA	1	1		11/12/12 10:28

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
File ID: 11M87826				
SS low, rerun to check if consistent				
3	X			
File ID: 11M87827				

Approved: November 13, 2012

Page: 2



Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 110912
 Analyst1: FJB Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13
 Method: 624 SOP: MSV10 Rev: 8
 Maintenance Log ID: 43956

Internal Standard: STD54849 Surrogate Standard: STD54858
 CCV: STD54685 LCS: STD54851 MS/MSD: STD54851
 Column 1 ID: RTX1 Column 2 ID: NA
 Workgroups: WG413890, WG413951

Comments: Has Alt Src

Comments

Seq.	Rerun	Dil.	Reason	Analytes
			SS still too low. Must have over estimated the amount it needed reduced. Increase from 220 to 240.	
4			File ID: 11M87828	
			SS good in rinse.	
7			File ID: 11M87831	
			PURGED THIRD BFB	
24	X	1	File ID: 11M87848	
			HAS NAPH C/O	
36	X	20	Over Calibration Range	CIS-12, TCE, PCE
			File ID: 11M87860	
37	X	1	Carry-over contamination	
			File ID: 11M87861	
38	X	1	Carry-over contamination	
			File ID: 11M87862	
50			File ID: 11M87874	
			Not running more concentrated. Sample is cloudy and very foamy and has high pH.	
51			File ID: 11M87875	
			Not running more concentrated. Sample is cloudy and very foamy.	
52			File ID: 11M87876	
			Not running more concentrated. Sample is cloudy and very foamy.	

Approved: November 13, 2012

Page: 3

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 120312
 Analyst1: ADC Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030C SOP: PAT01 Rev: 13
 Method: 624 SOP: MSV10 Rev: 9
 Maintenance Log ID: 44175

Internal Standard: STD54975 Surrogate Standard: STD54975
 CCV: STD54883 LCS: STD55059 MS/MSD: STD55059
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG415592

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M383841	WG415591-02 50ug/L CCV STD 8260	NA	1	1	STD54685	12/03/12 11:07
8M383842	WG415591-02 50ug/L CCV STD 8260	NA	1	1	STD54685	12/03/12 11:42
8M383843	rinse	NA	1	1	STD54685	12/03/12 12:12
8M383844	rinse	NA	1	1	STD54685	12/03/12 12:43
8M383845	WG415591-01 50ng BFB STD 8260	NA	1	1	STD54518	12/03/12 14:20
8M383846	WG415591-02 50ug/L CCV STD 8260	NA	1	1	STD54685	12/03/12 14:43
8M383847	WG415909-01 100ug/L A9 CCV STD 8260	NA	1	1	STD55057	12/03/12 15:13
8M383848	WG415592-01 BLK1203 BLANK STD 8260	NA	1	1		12/03/12 15:44
8M383849	WG415592-02 20ug/L LCS 8260	NA	1	1	STD55059	12/03/12 16:14
8M383850	WG415592-03 100ug/L A9LCS 8260	NA	1	1	STD55059	12/03/12 16:51
8M383851	L12110784-12 A MS 826-SPE	<2	1	1	STD55059	12/03/12 17:21
8M383852	L12110784-14 A MSD 826-SPE	<2	1	1	STD55059	12/03/12 17:52
8M383853	L12110607-03 500,000X 8260 0.99g	NA	11	50000		12/03/12 18:22
8M383854	L12110769-01 A 826-A9-SPE	5	1	1		12/03/12 18:52
8M383855	L12110784-01 A 826-SPE	<2	1	1		12/03/12 19:23
8M383856	L12120006-01 A 826-SPE	<2	1	1		12/03/12 19:53
8M383857	L12110784-10 A 826-SPE	<2	1	1		12/03/12 20:23
8M383858	L12110769-02 A 826-A9-SPE	7	1	1		12/03/12 20:54
8M383859	L12110784-02 A 826-SPE	7	1	1		12/03/12 21:24
8M383860	L12110784-04 A 100X 826-SPE	5	1	1		12/03/12 21:54
8M383861	L12110784-06 A 826-SPE	<2	1	1		12/03/12 22:24
8M383862	L12110784-08 A 826-SPE	<2	1	1		12/03/12 22:55
8M383863	L12110784-16 A 10X 826-SPE	5	1	1		12/03/12 23:25
8M383864	L12110784-18 A 826-SPE	<2	1	1		12/03/12 23:55
8M383865	L12110784-20 A 826-SPE	<2	1	1		12/04/12 00:25
8M383866	L12110784-22 A 826-SPE	7	1	1		12/04/12 00:56
8M383867	RINSE	NA	1	1		12/04/12 01:26
8M383868	WG415592-07 624-BLK	NA	2	1		12/04/12 01:56
8M383869	L12110768-01 A 5000X 624-SPE4	7	2	5000		12/04/12 02:26
8M383870	L12110768-02 A 5000X 624-SPE4	7	2	5000		12/04/12 02:56
8M383871	L12110768-03 A 5000X 624-SPE4	7	2	5000		12/04/12 03:26
8M383872	RINSE	NA	2	1		12/04/12 03:56
8M383873	RINSE	NA	2	1		12/04/12 04:26
8M383874	RINSE	NA	2	1		12/04/12 04:56

Approved: December 09, 2012

Page: 1




Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 120312
 Analyst1: ADC Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030C SOP: PAT01 Rev: 13
 Method: 624 SOP: MSV10 Rev: 9
 Maintenance Log ID: 44175

Internal Standard: STD54975 Surrogate Standard: STD54975
 CCV: STD54883 LCS: STD55059 MS/MSD: STD55059
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG415592

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
38	X	20	Over Calibration Range	ace, cf, 4m2p
File ID: 8M383857				
L12110784-10				
18	X			
File ID: 8M383858				
L12110769-02 DNR rr str c/o.				
23	X	20	Over Calibration Range	4M2P
File ID: 8M383863				
L12110784-16				
26	X	20	Over Calibration Range	ACE, 4M2P
File ID: 8M383866				
L12110784-22				
29				
File ID: 8M383869				
dnr does not confirm - 1 vial sent				
30				
File ID: 8M383870				
dnr does not confirm - 1 vial sent				
31				
File ID: 8M383871				
dnr does not confirm - 1 vial sent				

Approved: December 09, 2012

Page: 2




Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 120412
 Analyst1: ADC Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030C SOP: PAT01 Rev: 13
 Method: 624 SOP: MSV10 Rev: 9
 Maintenance Log ID: 44213

Internal Standard: STD54975 Surrogate Standard: STD54975
 CCV: STD54883 LCS: STD55059 MS/MSD: STD55059
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG415730, WG415719

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M383875	WG415718-01 50ng BFB STD 8260	NA	1	1	STD54518	12/04/12 13:25
8M383876	WG415718-02 50ug/L CCV STD 8260	NA	1	1	STD54685	12/04/12 13:49
8M383877	WG414XXX-01 100ug/L A9 CCV STD 8260	NA	1	1	STD54464	12/04/12 14:20
8M383878	WG415719-01 BLK1204 BLANK STD 8260	NA	1	1		12/04/12 14:50
8M383879	WG415730-01 EXT BLK 8260	NA	7	50		12/04/12 15:21
8M383880	WG415730-02 20ug/L EXTLCS 8260	NA	7	50		12/04/12 15:51
8M383881	WG415719-02 20ug/L LCS 8260	NA	1	1	STD55059	12/04/12 16:21
8M383882	WG415719-03 20ug/L LCSDUP 8260	NA	1	1	STD55059	12/04/12 16:51
8M383883	L12110836-02 A 826-BETX	<2	1	1		12/04/12 17:21
8M383884	L12120057-01 A 826-SPE	<2	1	1		12/04/12 17:52
8M383885	L12120057-02 A 826-SPE	6	1	1		12/04/12 18:22
8M383886	L12120057-03 A 826-SPE	<2	1	1		12/04/12 18:52
8M383887	L12110784-10 B 20X 826-SPE	<2	1	20		12/04/12 19:22
8M383888	L12110784-16 B 20X 826-SPE	5	1	20		12/04/12 19:53
8M383889	L12110784-22 B 20X 826-SPE	5	1	20		12/04/12 20:23
8M383890	WG415674-02 1000X 826-SPE 4.86g	NA	7	500		12/04/12 20:53
8M383891	WG415674-03 1000X 826-SPE 4.94g	NA	7	500		12/04/12 21:23
8M383892	WG415674-01 A 1000X 826-BETX 4.58g	NA	7	500		12/04/12 21:54
8M383893	L12110740-01 A 2000X 826-SPE 5.23g	NA	7	250		12/04/12 22:24
8M383894	L12110774-01 A 100X 826-SPE 5.08g	NA	10	50		12/04/12 22:54
8M383895	L12110720-06 A 100X 826-SPE 5.28g	NA	7	50		12/04/12 23:24
8M383896	L12110720-07 A 100X 826-SPE 4.89g	NA	7	50		12/04/12 23:54
8M383897	L12110691-09 C 100X 826-SPE 6.25g	NA	7	50		12/05/12 00:24
8M383898	L12110781-01 A 100X 826-SPE 2.00g/5.00g	NA	10	50		12/05/12 00:54
8M383899	RINSE	NA	7	50		12/05/12 01:24
8M383900	RINSE	NA	7	50		12/05/12 01:54
8M383901	RINSE	NA	7	50		12/05/12 02:24
8M383902	FISHER MEOH BLANK	NA	7	50		12/05/12 02:54

Comments

Seq.	Rerun	Dil.	Reason	Analytes
29				
File ID: 8M383892				

Approved: December 09, 2012

Page: 1

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Instrument Run Log

Instrument: HPMS8 Dataset: 120412
 Analyst1: ADC Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030C SOP: PAT01 Rev: 13
 Method: 624 SOP: MSV10 Rev: 9
 Maintenance Log ID: 44213

Internal Standard: STD54975 Surrogate Standard: STD54975
 CCV: STD54883 LCS: STD55059 MS/MSD: STD55059
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG415730, WG415719

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
			L12110720-05 RR 5x	
19			File ID: 8M383894	
			L12110774-01 too dilute DNR	

Approved: December 09, 2012

Page: 2




Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 120512
 Analyst1: FJB Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13

Maintenance Log ID: 44245

Internal Standard: STD54849 Surrogate Standard: STD54939
 CCV: STD55054 LCS: STD55171 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG415844

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M88370	WG415843-01 BFB 50ng 8260	NA	1	1	STD55066	12/05/12 14:22
11M88372	WG415843-01 BFB 50ng 8260	NA	1	1	STD55066	12/05/12 14:40
11M88373	WG415843-01 BFB 50ng 8260	NA	1	1	STD55066	12/05/12 15:26
11M88374	WG415843-02 50ug/L CCV 8260	NA	1	1	STD55054	12/05/12 15:50
11M88375	WG415XXX-01 100ug/L CCV A9	NA	1	1	STDXXXXX	12/05/12 16:23
11M88376	WG415844-01 VBLK1205 BLANK 8260	NA	1	1		12/05/12 16:54
11M88377	WG415844-02 20ug/L LCS 8260	NA	1	1	STD55171	12/05/12 17:25
11M88378	WG415844-03 20ug/L LCS DUP 8260	NA	1	1	STD55171	12/05/12 17:56
11M88379	L12110767-03 10X 826-TC	NA	17	10		12/05/12 18:27
11M88380	L12110744-01 100X 826-TC D1	NA	17	100		12/05/12 18:58
11M88381	L12110784-30 A 826-SPE	<2	1	1		12/05/12 19:29
11M88382	L12120020-09 A 826-SPE	<2	1	1		12/05/12 19:59
11M88383	L12120020-10 A 826-SPE	<2	1	1		12/05/12 20:30
11M88384	L12120020-11 A 826-SPE	<2	1	1		12/05/12 21:01
11M88385	L12120020-12 A 826-SPE	<2	1	1		12/05/12 21:32
11M88386	L12120020-13 A 826-SPE	<2	1	1		12/05/12 22:02
11M88387	L12120020-14 A 826-SPE	<2	1	1		12/05/12 22:33
11M88388	L12120020-15 A 826-SPE	<2	1	1		12/05/12 23:04
11M88389	L12120020-16 A 826-SPE	<2	1	1		12/05/12 23:34
11M88390	L12120020-17 A 826-SPE	<2	1	1		12/06/12 00:05
11M88391	L12120020-18 A 826-SPE	<2	1	1		12/06/12 00:36
11M88392	L12120020-19 A 826-SPE	<2	1	1		12/06/12 01:06
11M88393	L12120020-20 A 826-SPE	<2	1	1		12/06/12 01:37
11M88394	L12110784-26 5X A 826-SPE	7	1	5		12/06/12 02:08
11M88395	L12110784-24 A 826-SPE	7	1	1		12/06/12 02:38
11M88396	L12110784-28 A 826-SPE	7	1	1		12/06/12 03:09
11M88397	CCV	NA	1	1		12/06/12 03:39
11M88398	RINSE	NA	1	1		12/06/12 04:10
11M88399	RINSE	NA	1	1		12/06/12 04:41
11M88400	ANTIFOAM BLANK	NA	1	1		12/06/12 05:11

Comments

Seq.	Rerun	Dil.	Reason	Analytes
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Approved: December 12, 2012

Page: 1




Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS11 Dataset: 120512
 Analyst1: FJB Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 13

Maintenance Log ID: 44245

Internal Standard: STD54849 Surrogate Standard: STD54939
 CCV: STD55054 LCS: STD55171 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG415844

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			
File ID: 11M88370				
2	X			
File ID: 11M88372				
skipped file 11m88371, Change septa, liner, oring				
24				
File ID: 11M88394				
Has HCl sticker on vial				
25	X	1	Surrogate standard failure	
File ID: 11M88395				
1 SS low. Rerunning on 12-11-12. Has HCl sticker on vial				
26				
File ID: 11M88396				
Has HCl sticker on vial				
30				
File ID: 11M88400				
Ran Antifoam Blank and did a library search on it				

Approved: December 12, 2012

Page: 2

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 121112
 Analyst1: FJB Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 624 SOP: MSV10 Rev: 9
 Method: 5030B/5030C/5035A SOP: PAT0 Rev: 13
 Maintenance Log ID: 44278

Internal Standard: STD55330 Surrogate Standard: STD54939
 CCV: STD55226 LCS: STD55359 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG416293; WG416339

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M88551	WG416292-01 BFB 50ng 8260	NA	1	1	STD55066	12/11/12 11:19
11M88552	WG416292-02 50ug/L CCV 8260	NA	1	1	STD55226	12/11/12 11:44
11M88553	WG416292-02 50ug/L CCV 8260	NA	1	1	STD55226	12/11/12 12:20
11M88554	WG416XXX-01 100ug/L CCV A9	NA	1	1	STDXXXXX	12/11/12 12:52
11M88555	WG416293-01 VBLK1211 BLANK 8260	NA	1	1		12/11/12 13:23
11M88556	WG416293-02 20ug/L LCS 8260	NA	1	1	STD55359	12/11/12 13:55
11M88557	WG416293-03 20ug/L LCS DUP 8260	NA	1	1	STD55359	12/11/12 14:26
11M88558	L12120123-02 10000X B 826-SPE2 D1	<2	1	10000		12/11/12 14:57
11M88559	L12120123-03 10000X B 826-SPE2 D1	<2	1	10000		12/11/12 15:27
11M88560	L12120123-14 10X B 826-SPE2 D1	<2	1	10		12/11/12 15:59
11M88561	L12110784-24 B 826-SPE 00	7	1	1		12/11/12 16:30
11M88562	L12120191-10 EB A 826-SPE	<2	1	1		12/11/12 17:01
11M88563	L12120123-15 B 826-SPE2	<2	1	1		12/11/12 17:32
11M88564	L12120123-16 B 826-SPE2	<2	1	1		12/11/12 18:03
11M88565	L12120123-25 B 826-SPE2	<2	1	1		12/11/12 18:34
11M88566	L12120123-26 B 826-SPE2	<2	1	1		12/11/12 19:05
11M88567	L12120123-27 B 826-SPE2	<2	1	1		12/11/12 19:35
11M88568	L12120208-01 10X 826-TC	NA	17	10		12/11/12 20:06
11M88569	L12120208-02 10X 826-TC	NA	17	10		12/11/12 20:37
11M88570	L12120209-01 10X 826-TC	NA	17	10		12/11/12 21:08
11M88571	L12120123-33 A 826-SPE2	<2	1	1		12/11/12 21:39
11M88572	L12120123-34 A 826-SPE2	<2	1	1		12/11/12 22:10
11M88573	L12120123-35 A 826-SPE2	<2	1	1		12/11/12 22:40
11M88574	L12120123-36 A 826-SPE2	<2	1	1		12/11/12 23:11
11M88575	RINSE	NA	1	1		12/11/12 23:42
11M88576	ANTIFOAM BLANK	NA	1	1		12/12/12 00:12
11M88577	WG416339-01 20ug/L LCS 624	NA	2	1	STD55359	12/12/12 00:43
11M88578	WG416339-02 20ug/L LCS DUP 624	NA	2	1	STD55359	12/12/12 01:14
11M88579	RINSE	NA	2	1		12/12/12 01:44
11M88580	WG416339-03 BLANK 624	NA	2	1		12/12/12 02:15
11M88581	L12120135-02 20X B 624-SPE D1	<2	2	20		12/12/12 02:46
11M88582	L12120135-03 B 624-SPE	<2	2	1		12/12/12 03:16
11M88583	L12120297-01 A 624-SPE	<2	2	1		12/12/12 03:47
11M88584	L12120297-02 A 624-SPE	<2	2	1		12/12/12 04:18

Approved: December 13, 2012

Page: 1




Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 121112
 Analyst1: FJB Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 15
 Method: 624 SOP: MSV10 Rev: 9
 Method: 5030B/5030C/5035A SOP: PAT0 Rev: 13
 Maintenance Log ID: 44278

Internal Standard: STD55330 Surrogate Standard: STD54939
 CCV: STD55226 LCS: STD55359 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG416293; WG416339

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M88585	L12120298-01 A 624	<2	2	1		12/12/12 04:48
11M88586	L12120303-01 A 624-SPE	<2	2	1		12/12/12 05:19
11M88587	L12120305-01 A 624-SPE12	<2	2	1		12/12/12 05:50
11M88588	L12120343-01 A 624-SPE	<2	2	1		12/12/12 06:20
11M88589	L12120343-02 A 624-SPE	<2	2	1		12/12/12 06:51
11M88590	L12120343-03 A 624-SPE	<2	2	1		12/12/12 07:21

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2	X			
File ID: 11M88552				
DNR. Bromomethane was low.				
4				
File ID: 11M88554				
Not needed, DNR.				
37	X	10	Over Calibration Range	Benzene
File ID: 11M88587				

Approved: December 13, 2012

Page: 2

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Microbac Laboratories Inc.

Data Checklist

Date: 25-JAN-2012
 Analyst: ADC
 Analyst: NA
 Method: 8260
 Instrument: HPMS8
 Curve Workgroup: WG387881
 Runlog ID: 44940
 Analytical Workgroups: WG387845

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	NA
TCL Hits	NA
Spectra of TCL Hits	NA
Surrogates	NA
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	ADC
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
02-FEB-2012



Secondary Reviewer:
02-FEB-2012




Microbac Laboratories Inc.

Data Checklist

Date: 08-NOV-2012
 Analyst: FJB
 Analyst: NA
 Method: 8260B
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 49952
 Analytical Workgroups: WG413655

System Performance Check	X
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	NA
TCL Hits	NA
Spectra of TCL Hits	NA
Surrogates	NA
Internal Standards Criteria	NA
Library Searches	NA
Calculations & Correct Factors	NA
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	FJB
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
09-NOV-2012



Secondary Reviewer:
13-NOV-2012




Microbac Laboratories Inc.

Data Checklist

Date: 09-NOV-2012
 Analyst: FJB
 Analyst: NA
 Method: 8260B
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 49974
 Analytical Workgroups: WG413890, WG413951

System Performance Check	X
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	FJB
Surrogates	X
Internal Standards Criteria	X
Library Searches	X
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	FJB
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
13-NOV-2012



Secondary Reviewer:
13-NOV-2012




Microbac Laboratories Inc.

Data Checklist

Date: 03-DEC-2012
 Analyst: ADC
 Analyst: NA
 Method: 8260
 Instrument: HPMS8
 Curve Workgroup: NA
 Runlog ID: 50318
 Analytical Workgroups: WG415592

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	ADC
Surrogates	X
Internal Standards Criteria	X
Library Searches	X
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	ADC
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
06-DEC-2012



Secondary Reviewer:
09-DEC-2012




Microbac Laboratories Inc.

Data Checklist

Date: 04-DEC-2012
 Analyst: ADC
 Analyst: NA
 Method: 8260
 Instrument: HPMS8
 Curve Workgroup: NA
 Runlog ID: 50339
 Analytical Workgroups: WG415730, WG415719

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	ADC
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	ADC
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
07-DEC-2012



Secondary Reviewer:
09-DEC-2012




Microbac Laboratories Inc.

Data Checklist

Date: 05-DEC-2012
 Analyst: FJB
 Analyst: NA
 Method: 8260B
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 50393
 Analytical Workgroups: WG415844

System Performance Check	X
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	FJB
Surrogates	X
Internal Standards Criteria	X
Library Searches	X
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	FJB
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
11-DEC-2012

Secondary Reviewer:
12-DEC-2012





Microbac Laboratories Inc.

Data Checklist

Date: 11-DEC-2012
 Analyst: FJB
 Analyst: NA
 Method: 8260B/624
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 50461
 Analytical Workgroups: WG416293; WG416339

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	MDA
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
13-DEC-2012



Secondary Reviewer:
13-DEC-2012




Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method:8260B
 Login Number:L12110784

AAB#:WG415592

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
EB-GW-11272012	01	11/27/12					12/03/2012	6.5	14		12/03/12	6.5	14	
PZ-04-GW-11272012	02	11/27/12					12/03/2012	6.5	14		12/03/12	6.5	14	
MW-03-GW-11272012	04	11/27/12					12/03/2012	6.5	14		12/03/12	6.5	14	
PZ-06-GW-11272012	06	11/27/12					12/03/2012	6.5	14		12/03/12	6.5	14	
PZ-01-GW-11272012	08	11/27/12					12/03/2012	6.5	14		12/03/12	6.5	14	
MW-33-GW-11272012	10	11/27/12					12/03/2012	6.4	14		12/03/12	6.4	14	
MW-33-GW-11272012-MS	12	11/27/12					12/03/2012	6.3	14		12/03/12	6.3	14	
MW-33-GW-11272012-MSD	14	11/27/12					12/03/2012	6.3	14		12/03/12	6.3	14	
BLDG4-PIT-SSP-GW-1127201	16	11/27/12					12/03/2012	6.5	14		12/03/12	6.5	14	
MW-34-GW-11272012	18	11/27/12					12/03/2012	6.5	14		12/03/12	6.5	14	
MW-22-GW-11272012	20	11/27/12					12/04/2012	6.4	14		12/04/12	6.4	14	
DUP-GW-11272012-01	22	11/27/12					12/04/2012	6.5	14		12/04/12	6.5	14	

* = SEE PROJECT QAPP REQUIREMENTS

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Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B
 Login Number: L12110784

AAB#: WG415719

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW-33-GW-11272012	10	11/27/12					12/04/2012	7.3	14		12/04/12	7.3	14	
BLDG4-PIT-SSP-GW-1127201	16	11/27/12					12/04/2012	7.3	14		12/04/12	7.3	14	
DUP-GW-11272012-01	22	11/27/12					12/04/2012	7.4	14		12/04/12	7.4	14	

* = SEE PROJECT QAPP REQUIREMENTS

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Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B
 Login Number: L12110784

AAB#: WG415844

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW-02-GW-11282012	26	11/28/12					12/06/2012	7.7	14		12/06/12	7.7	14	
MW-23-GW-11282012	28	11/28/12					12/06/2012	7.7	14		12/06/12	7.7	14	
TB-11282012	30	11/27/12					12/05/2012	8.2	14		12/05/12	8.2	14	

* = SEE PROJECT QAPP REQUIREMENTS

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 PDF File ID: 2693886
 Report generated 12/13/2012 16:45



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method:8260B
Login Number:L12110784

AAB#:WG416293

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW-32-GW-11272012	24	11/27/12					12/11/2012	14.1	14	*	12/11/12	14.1	14	*

* = SEE PROJECT QAPP REQUIREMENTS

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PDF File ID:2693886
Report generated 12/13/2012 16:45



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12110784
Instrument Id: HPMS8
Workgroup (AAB#): WG415719

Method: 8260
CAL ID: HPMS8-06-NOV-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L12110784-10	20.0	DL01	87.4	96.7	92.3	92.8
L12110784-16	20.0	DL02	86.5	99.6	94.3	92.8
L12110784-22	20.0	DL01	83.3	94.6	93.7	92.9
WG415719-01	1.00	01	85.2	97.1	93.3	93.6
WG415719-02	1.00	01	85.8	94.9	93.0	91.4
WG415719-03	1.00	01	84.0	96.0	94.3	93.5

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - p-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected



Microbac Laboratories Inc.
 SURROGATE STANDARDS

Login Number: L12110784
 Instrument Id: HPMS11
 Workgroup (AAB#): WG416293

Method: 8260
 CAL ID: HPMS11-08-NOV-12
 Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L12110784-24	1.00	02	80.8	89.0	95.8	101
WG416293-01	1.00	01	82.2	90.3	99.2	103
WG416293-02	1.00	01	83.7	94.2	101	104
WG416293-03	1.00	01	82.0	94.6	99.2	104

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - p-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L12110784
Instrument Id: HPMS8
Workgroup (AAB#): WG415592

Method: 8260
CAL ID: HPMS8-06-NOV-12
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L12110784-01	1.00	01	86.4	95.3	91.8	95.0
L12110784-02	1.00	01	87.2	98.7	91.1	92.7
L12110784-04	100	01	83.5	95.9	91.3	94.0
L12110784-06	1.00	01	86.7	95.3	90.8	94.1
L12110784-08	1.00	01	86.9	97.7	89.3	94.6
L12110784-10	1.00	01	86.5	98.5	91.8	94.1
L12110784-12	1.00	01	88.4	99.0	92.9	93.3
L12110784-14	1.00	01	86.1	99.0	90.9	93.9
L12110784-16	10.0	DL01	87.4	96.7	90.5	94.9
L12110784-18	1.00	01	87.8	97.8	92.6	95.8
L12110784-20	1.00	01	87.3	96.8	90.7	94.6
L12110784-22	1.00	01	87.9	100	94.3	92.7
WG415592-01	1.00	01	88.5	97.0	92.2	94.5
WG415592-02	1.00	01	86.3	97.4	92.4	92.8
WG415592-03	1.00	02	88.9	99.0	93.5	93.5
WG415592-07	1.00	01	84.4	98.8	90.5	93.2

Surrogates	Surrogate Limits
1 - 1,2-Dichloroethane-d4	80 - 120
2 - Dibromofluoromethane	86 - 118
3 - p-Bromofluorobenzene	86 - 115
4 - Toluene-d8	88 - 110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected



Microbac Laboratories Inc.
 SURROGATE STANDARDS

Login Number: L12110784
 Instrument Id: HPMS11
 Workgroup (AAB#): WG415844

Method: 8260
 CAL ID: HPMS11-08-NOV-12
 Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L12110784-26	5.00	DL01	80.2	96.8	97.3	101
L12110784-28	1.00	01	80.0	95.7	95.8	97.5
L12110784-30	1.00	01	86.0	95.4	94.5	97.1
WG415844-01	1.00	01	88.3	94.9	94.5	99.1
WG415844-02	1.00	01	86.4	98.7	94.2	97.0
WG415844-03	1.00	01	87.4	99.7	96.8	99.6

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	80	-	120
2 - Dibromofluoromethane	86	-	118
3 - p-Bromofluorobenzene	86	-	115
4 - Toluene-d8	88	-	110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected



METHOD BLANK SUMMARY

Login Number: L12110784 Work Group: WG415592
 Blank File ID: 8M383848 Blank Sample ID: WG415592-01
 Prep Date: 12/03/12 15:44 Instrument ID: HPMS8
 Analyzed Date: 12/03/12 15:44 Method: 8260B
 Analyst: ADC

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG415592-02	8M383849	12/03/12 16:14	01
LCS	WG415592-03	8M383850	12/03/12 16:51	02
MW-33-GW-11272012-MS	L12110784-12	8M383851	12/03/12 17:21	01
MW-33-GW-11272012-MSD	L12110784-14	8M383852	12/03/12 17:52	01
EB-GW-11272012	L12110784-01	8M383855	12/03/12 19:23	01
MW-33-GW-11272012	L12110784-10	8M383857	12/03/12 20:23	01
PZ-04-GW-11272012	L12110784-02	8M383859	12/03/12 21:24	01
MW-03-GW-11272012	L12110784-04	8M383860	12/03/12 21:54	01
PZ-06-GW-11272012	L12110784-06	8M383861	12/03/12 22:24	01
PZ-01-GW-11272012	L12110784-08	8M383862	12/03/12 22:55	01
BLDG4-PIT-SSP-GW-11272012	L12110784-16	8M383863	12/03/12 23:25	DL01
MW-34-GW-11272012	L12110784-18	8M383864	12/03/12 23:55	01
MW-22-GW-11272012	L12110784-20	8M383865	12/04/12 00:25	01
DUP-GW-11272012-01	L12110784-22	8M383866	12/04/12 00:56	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2693887
 Report generated 12/13/2012 16:45



METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/05/12 16:54 Sample ID: WG415844-01
Instrument ID: HPMS11 Run Date: 12/05/12 16:54 Prep Method: 5030B/5030C/503
File ID: 11M88376 Analyst: FJB Method: 8260B
Workgroup (AAB#): WG415844 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: HPMS11-08-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.00	5.00	2.00	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,3-Trichlorobenzene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	1.00	5.00	1.00	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	1.00	5.00	1.00	1	U
Methyl tert-butyl ether	0.500	1.00	0.500	1	U
Methylcyclohexane	1.00	5.00	1.00	1	U
Methylene chloride	0.250	5.00	0.250	1	U

Report Name: BLANK

PDF ID: 2693888

13-DEC-2012 16:45



METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/05/12 16:54 Sample ID: WG415844-01
 Instrument ID: HPMS11 Run Date: 12/05/12 16:54 Prep Method: 5030B/5030C/503
 File ID: 11M88376 Analyst: FJB Method: 8260B
 Workgroup (AAB#): WG415844 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11-08-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
m,p-Xylene	0.500	1.00	0.500	1	U
o-Xylene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	88.3	80 - 120	PASS
Dibromofluoromethane	94.9	86 - 118	PASS
p-Bromofluorobenzene	94.5	86 - 115	PASS
Toluene-d8	99.1	88 - 110	PASS

MDL Method Detection Limit

RL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 2693888

13-DEC-2012 16:45



METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/11/12 13:23 Sample ID: WG416293-01
Instrument ID: HPMS11 Run Date: 12/11/12 13:23 Prep Method: 5030B/5030C/503
File ID: 11M88555 Analyst: FJB Method: 8260B
Workgroup (AAB#): WG416293 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: HPMS11-08-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.00	5.00	2.00	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,3-Trichlorobenzene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	1.00	5.00	1.00	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	1.00	5.00	1.00	1	U
Methyl tert-butyl ether	0.500	1.00	0.500	1	U
Methylcyclohexane	1.00	5.00	1.00	1	U
Methylene chloride	0.250	5.00	0.250	1	U

Report Name: BLANK

PDF ID: 2693888

13-DEC-2012 16:45



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/11/12 13:23 Sample ID: WG416293-01
Instrument ID: HPMS11 Run Date: 12/11/12 13:23 Prep Method: 5030B/5030C/503
File ID: 11M88555 Analyst: FJB Method: 8260B
Workgroup (AAB#): WG416293 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: HPMS11-08-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
m,p-Xylene	0.500	1.00	0.500	1	U
o-Xylene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	82.2	80 - 120	PASS
Dibromofluoromethane	90.3	86 - 118	PASS
p-Bromofluorobenzene	99.2	86 - 115	PASS
Toluene-d8	103	88 - 110	PASS

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 2693888
13-DEC-2012 16:45



METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/03/12 15:44 Sample ID: WG415592-01
Instrument ID: HPMS8 Run Date: 12/03/12 15:44 Prep Method: 5030B/5030C/503
File ID: 8M383848 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG415592 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: HPMS8-06-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.00	5.00	2.00	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,3-Trichlorobenzene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	1.00	5.00	1.00	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	1.00	5.00	1.00	1	U
Methyl tert-butyl ether	0.500	1.00	0.500	1	U
Methylcyclohexane	1.00	5.00	1.00	1	U
Methylene chloride	0.250	5.00	0.250	1	U

Report Name: BLANK

PDF ID: 2693888

13-DEC-2012 16:45



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/03/12 15:44 Sample ID: WG415592-01
 Instrument ID: HPMS8 Run Date: 12/03/12 15:44 Prep Method: 5030B/5030C/503
 File ID: 8M383848 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG415592 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS8-06-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
m,p-Xylene	0.500	1.00	0.500	1	U
o-Xylene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits		Qualifier
1,2-Dichloroethane-d4	88.5	80	- 120	PASS
Dibromofluoromethane	97.0	86	- 118	PASS
p-Bromofluorobenzene	92.2	86	- 115	PASS
Toluene-d8	94.5	88	- 110	PASS

MDL Method Detection Limit
 RL Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > RL

Report Name: BLANK
 PDF ID: 2693888
 13-DEC-2012 16:45



METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/04/12 14:50 Sample ID: WG415719-01
Instrument ID: HPMS8 Run Date: 12/04/12 14:50 Prep Method: 5030B/5030C/503
File ID: 8M383878 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG415719 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: HPMS8-06-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.00	5.00	2.00	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,3-Trichlorobenzene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
Cyclohexane	1.00	5.00	1.00	1	U
Dibromochloromethane	0.250	1.00	0.250	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
Ethyl benzene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U
Methyl acetate	1.00	5.00	1.00	1	U
Methyl tert-butyl ether	0.500	1.00	0.500	1	U
Methylcyclohexane	1.00	5.00	1.00	1	U
Methylene chloride	0.250	5.00	0.250	1	U

Report Name: BLANK

PDF ID: 2693888

13-DEC-2012 16:45



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/04/12 14:50 Sample ID: WG415719-01
Instrument ID: HPMS8 Run Date: 12/04/12 14:50 Prep Method: 5030B/5030C/503
File ID: 8M383878 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG415719 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: HPMS8-06-NOV-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
m,p-Xylene	0.500	1.00	0.500	1	U
o-Xylene	0.250	1.00	0.250	1	U
Styrene	0.125	1.00	0.125	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	85.2	80 - 120	PASS
Dibromofluoromethane	97.1	86 - 118	PASS
p-Bromofluorobenzene	93.3	86 - 115	PASS
Toluene-d8	93.6	88 - 110	PASS

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 2693888
13-DEC-2012 16:45



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415592-02
Instrument ID: HPMS8 Run Time: 16:14 Prep Method: 5030B/5030C/503
File ID: 8M383849 Analyst: ADC Method: 8260B
Workgroup (AAB#): WG415592 Matrix: Water Units: ug/L
QC Key: WATERLOO Lot#: STD55059 Cal ID: HPMS8-06-NOV-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
1,1,1-Trichloroethane	20.0	19.3	96.5	80 - 134	
1,1,2,2-Tetrachloroethane	20.0	20.4	102	79 - 125	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	22.0	110	80 - 130	
1,1,2-Trichloroethane	20.0	22.3	111	80 - 125	
1,1-Dichloroethane	20.0	19.2	96.2	80 - 125	
1,1-Dichloroethene	20.0	18.5	92.5	80 - 132	
1,2,3-Trichlorobenzene	20.0	19.6	97.8	55 - 140	
1,2,4-Trichlorobenzene	20.0	19.6	98.1	65 - 135	
1,2-Dibromo-3-chloropropane	20.0	18.1	90.6	50 - 130	
1,2-Dibromoethane	20.0	20.1	101	80 - 125	
1,2-Dichlorobenzene	20.0	18.4	91.8	80 - 125	
1,2-Dichloroethane	20.0	20.2	101	80 - 129	
cis-1,2-Dichloroethene	20.0	21.1	106	70 - 125	
trans-1,2-Dichloroethene	20.0	20.0	99.9	80 - 127	
1,2-Dichloropropane	20.0	21.1	105	80 - 120	
1,3-Dichlorobenzene	20.0	18.2	91.2	80 - 120	
1,4-Dichlorobenzene	20.0	19.4	96.8	80 - 120	
2-Butanone	20.0	21.1	106	30 - 150	
2-Hexanone	20.0	18.6	93.2	55 - 130	
4-Methyl-2-pentanone	20.0	19.2	96.1	64 - 140	
Acetone	20.0	19.8	99.0	40 - 142	
Benzene	20.0	20.4	102	80 - 121	
Bromochloromethane	20.0	21.9	109	65 - 130	
Bromodichloromethane	20.0	20.0	99.8	80 - 131	
Bromoform	20.0	22.1	111	70 - 130	
Bromomethane	20.0	21.8	109	30 - 145	
Carbon disulfide	20.0	22.6	113	58 - 138	
Carbon tetrachloride	20.0	19.5	97.5	65 - 140	
Chlorobenzene	20.0	18.7	93.7	80 - 120	
Chloroethane	20.0	20.6	103	60 - 135	
Chloroform	20.0	20.1	101	80 - 125	
Chloromethane	20.0	16.6	83.0	40 - 125	
cis-1,3-Dichloropropene	20.0	23.0	115	70 - 130	
Cyclohexane	20.0	18.3	91.5	80 - 130	
Dibromochloromethane	20.0	20.6	103	60 - 135	
Dichlorodifluoromethane	20.0	20.3	101	50 - 133	
Ethyl benzene	20.0	19.7	98.5	80 - 122	
Isopropylbenzene	20.0	18.6	93.0	80 - 122	
Methyl acetate	20.0	20.9	104	80 - 130	
Methyl tert-butyl ether	20.0	21.5	108	65 - 125	
Methylcyclohexane	20.0	20.7	103	80 - 130	

LCS - Modified 03/06/2008
PDF File ID: 2688783
Report generated: 12/13/2012 16:45



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415592-02
 Instrument ID: HPMS8 Run Time: 16:14 Prep Method: 5030B/5030C/503
 File ID: 8M383849 Analyst: ADC Method: 8260B
 Workgroup (AAB#): WG415592 Matrix: Water Units: ug/L
 QC Key: WATERLOO Lot#: STD55059 Cal ID: HPMS8-06-NOV-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Methylene chloride	20.0	20.6	103	80 - 123	
m,p-Xylene	40.0	40.0	100	80 - 122	
o-Xylene	20.0	19.0	94.8	80 - 122	
Styrene	20.0	21.3	106	80 - 123	
Tetrachloroethene	20.0	20.5	103	80 - 124	
Toluene	20.0	19.6	98.1	80 - 124	
trans-1,3-Dichloropropene	20.0	20.6	103	80 - 130	
Trichloroethene	20.0	22.0	110	80 - 122	
Trichlorofluoromethane	20.0	19.7	98.7	62 - 151	
Vinyl chloride	20.0	16.9	84.7	65 - 140	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	86.3	80 - 120	PASS
Dibromofluoromethane	97.4	86 - 118	PASS
p-Bromofluorobenzene	92.4	86 - 115	PASS
Toluene-d8	92.8	88 - 110	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
 PDF File ID: 2688783
 Report generated: 12/13/2012 16:45



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Analyst: ADC Prep Method: 5030B/5030C/503
Instrument ID: HPMS8 Matrix: Water Method: 8260B
Workgroup (AAB#): WG415719 Units: ug/L
QC Key: WATERLOO Lot #: STD55059

Sample ID: WG415719-02 LCS File ID: 8M383881 Run Date: 12/04/2012 16:21
Sample ID: WG415719-03 LCS2 File ID: 8M383882 Run Date: 12/04/2012 16:51

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1-Trichloroethane	20.0	18.1	90.7	20.0	19.4	96.9	6.61	80 - 134	30	
1,1,2,2-Tetrachloroethane	20.0	21.0	105	20.0	20.0	100	4.63	79 - 125	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	20.7	103	20.0	21.6	108	4.47	80 - 130	30	
1,1,2-Trichloroethane	20.0	22.1	111	20.0	21.4	107	3.51	80 - 125	30	
1,1-Dichloroethane	20.0	18.5	92.7	20.0	19.6	98.1	5.69	80 - 125	30	
1,1-Dichloroethene	20.0	17.4	87.1	20.0	18.2	90.8	4.11	80 - 132	30	
1,2,3-Trichlorobenzene	20.0	19.5	97.5	20.0	19.0	95.2	2.45	55 - 140	30	
1,2,4-Trichlorobenzene	20.0	19.7	98.5	20.0	20.3	101	3.00	65 - 135	30	
1,2-Dibromo-3-chloropropane	20.0	18.2	90.9	20.0	18.1	90.7	0.308	50 - 130	30	
1,2-Dibromoethane	20.0	19.7	98.6	20.0	19.7	98.5	0.0988	80 - 125	30	
1,2-Dichlorobenzene	20.0	18.0	90.1	20.0	18.3	91.5	1.46	80 - 125	30	
1,2-Dichloroethane	20.0	19.4	96.8	20.0	19.0	95.0	1.86	80 - 129	30	
cis-1,2-Dichloroethene	20.0	20.3	101	20.0	20.7	104	2.16	70 - 125	30	
trans-1,2-Dichloroethene	20.0	18.7	93.5	20.0	19.3	96.6	3.26	80 - 127	30	
1,2-Dichloropropane	20.0	21.0	105	20.0	21.2	106	1.03	80 - 120	30	
1,3-Dichlorobenzene	20.0	17.8	89.2	20.0	18.2	90.9	1.93	80 - 120	30	
1,4-Dichlorobenzene	20.0	18.9	94.3	20.0	19.5	97.4	3.23	80 - 120	30	
2-Butanone	20.0	18.6	92.8	20.0	17.3	86.3	7.20	30 - 150	30	
2-Hexanone	20.0	17.0	84.8	20.0	15.5	77.3	9.29	55 - 130	30	
4-Methyl-2-pentanone	20.0	19.5	97.3	20.0	17.7	88.5	9.42	64 - 140	30	
Acetone	20.0	18.5	92.3	20.0	16.7	83.6	9.89	40 - 142	30	
Benzene	20.0	19.8	98.9	20.0	20.2	101	1.96	80 - 121	30	
Bromochloromethane	20.0	22.1	111	20.0	21.8	109	1.49	65 - 130	30	
Bromodichloromethane	20.0	19.8	98.8	20.0	19.0	95.2	3.70	80 - 131	30	
Bromoform	20.0	20.5	103	20.0	19.5	97.7	4.96	70 - 130	30	
Bromomethane	20.0	11.2	55.9	20.0	15.0	75.2	29.4	30 - 145	30	
Carbon disulfide	20.0	22.7	114	20.0	23.9	120	5.03	58 - 138	30	
Carbon tetrachloride	20.0	17.9	89.4	20.0	18.8	94.0	5.04	65 - 140	30	
Chlorobenzene	20.0	18.4	92.2	20.0	19.0	95.0	2.98	80 - 120	30	
Chloroethane	20.0	20.8	104	20.0	20.6	103	0.728	60 - 135	30	
Chloroform	20.0	19.5	97.4	20.0	19.3	96.7	0.750	80 - 125	30	
Chloromethane	20.0	15.0	75.0	20.0	15.6	77.8	3.71	40 - 125	30	
cis-1,3-Dichloropropene	20.0	21.7	108	20.0	21.9	109	1.01	70 - 130	30	
Cyclohexane	20.0	17.4	86.9	20.0	18.4	92.1	5.75	80 - 130	30	
Dibromochloromethane	20.0	19.8	98.8	20.0	19.4	96.8	2.02	60 - 135	30	
Dichlorodifluoromethane	20.0	20.4	102	20.0	20.2	101	1.11	50 - 133	30	
Ethyl benzene	20.0	18.9	94.4	20.0	19.6	98.0	3.76	80 - 122	30	
Isopropylbenzene	20.0	18.2	90.9	20.0	19.3	96.6	6.07	80 - 122	30	
Methyl acetate	20.0	20.1	100	20.0	18.2	91.2	9.54	80 - 130	30	
Methyl tert-butyl ether	20.0	20.4	102	20.0	19.7	98.4	3.80	65 - 125	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2689875
Report generated: 12/13/2012 16:45



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Analyst: ADC Prep Method: 5030B/5030C/503
 Instrument ID: HPMS8 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG415719 Units: ug/L
 QC Key: WATERLOO Lot #: STD55059
 Sample ID: WG415719-02 LCS File ID: 8M383881 Run Date: 12/04/2012 16:21
 Sample ID: WG415719-03 LCS2 File ID: 8M383882 Run Date: 12/04/2012 16:51

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Methylcyclohexane	20.0	20.8	104	20.0	21.1	106	1.51	80 - 130	30	
Methylene chloride	20.0	20.4	102	20.0	20.5	102	0.303	80 - 123	30	
m,p-Xylene	40.0	38.9	97.3	40.0	40.8	102	4.64	80 - 122	30	
o-Xylene	20.0	18.9	94.5	20.0	19.4	97.2	2.89	80 - 122	30	
Styrene	20.0	20.8	104	20.0	21.6	108	3.94	80 - 123	30	
Tetrachloroethene	20.0	19.3	96.5	20.0	20.6	103	6.33	80 - 124	30	
Toluene	20.0	18.6	93.2	20.0	19.8	98.9	5.89	80 - 124	30	
trans-1,3-Dichloropropene	20.0	18.7	93.7	20.0	19.1	95.4	1.84	80 - 130	30	
Trichloroethene	20.0	21.1	105	20.0	22.1	111	4.99	80 - 122	30	
Trichlorofluoromethane	20.0	19.0	94.9	20.0	19.1	95.6	0.699	62 - 151	30	
Vinyl chloride	20.0	16.4	81.8	20.0	16.4	82.0	0.238	65 - 140	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	85.8	84.0	80 - 120	PASS
Dibromofluoromethane	94.9	96.0	86 - 118	PASS
p-Bromofluorobenzene	93.0	94.3	86 - 115	PASS
Toluene-d8	91.4	93.5	88 - 110	PASS

* EXCEEDS %REC LIMIT
EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2689875
Report generated: 12/13/2012 16:45



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Analyst: FJB Prep Method: 5030B/5030C/503
 Instrument ID: HPMS11 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG416293 Units: ug/L
 QC Key: WATERLOO Lot #: STD55171

Sample ID: WG416293-02 LCS File ID: 11M88556 Run Date: 12/11/2012 13:55
 Sample ID: WG416293-03 LCS2 File ID: 11M88557 Run Date: 12/11/2012 14:26

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1-Trichloroethane	20.0	20.1	101	20.0	19.8	99.2	1.43	80 - 134	30	
1,1,2,2-Tetrachloroethane	20.0	18.7	93.5	20.0	18.5	92.3	1.22	79 - 125	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	22.4	112	20.0	22.2	111	0.965	80 - 130	30	
1,1,2-Trichloroethane	20.0	21.0	105	20.0	20.8	104	1.10	80 - 125	30	
1,1-Dichloroethane	20.0	18.6	93.0	20.0	18.4	91.8	1.27	80 - 125	30	
1,1-Dichloroethene	20.0	17.8	89.1	20.0	17.7	88.5	0.573	80 - 132	30	
1,2,3-Trichlorobenzene	20.0	21.8	109	20.0	21.7	109	0.245	55 - 140	30	
1,2,4-Trichlorobenzene	20.0	22.9	114	20.0	22.9	114	0.0185	65 - 135	30	
1,2-Dibromo-3-chloropropane	20.0	16.2	80.8	20.0	16.6	83.0	2.63	50 - 130	30	
1,2-Dibromoethane	20.0	20.6	103	20.0	20.5	102	0.751	80 - 125	30	
1,2-Dichlorobenzene	20.0	20.4	102	20.0	20.2	101	1.22	80 - 125	30	
1,2-Dichloroethane	20.0	19.0	94.9	20.0	18.5	92.4	2.74	80 - 129	30	
cis-1,2-Dichloroethene	20.0	19.5	97.4	20.0	19.3	96.7	0.724	70 - 125	30	
trans-1,2-Dichloroethene	20.0	19.2	96.2	20.0	19.2	95.9	0.227	80 - 127	30	
1,2-Dichloropropane	20.0	18.9	94.3	20.0	18.6	92.8	1.53	80 - 120	30	
1,3-Dichlorobenzene	20.0	20.8	104	20.0	20.6	103	1.14	80 - 120	30	
1,4-Dichlorobenzene	20.0	21.3	106	20.0	21.6	108	1.58	80 - 120	30	
2-Butanone	20.0	16.2	80.8	20.0	15.6	78.0	3.56	30 - 150	30	
2-Hexanone	20.0	17.5	87.4	20.0	16.5	82.5	5.71	55 - 130	30	
4-Methyl-2-pentanone	20.0	15.9	79.4	20.0	15.3	76.6	3.64	64 - 140	30	
Acetone	20.0	21.6	108	20.0	19.0	94.8	13.0	40 - 142	30	
Benzene	20.0	18.5	92.7	20.0	18.3	91.6	1.18	80 - 121	30	
Bromochloromethane	20.0	21.5	108	20.0	20.4	102	5.31	65 - 130	30	
Bromodichloromethane	20.0	18.7	93.6	20.0	18.5	92.4	1.26	80 - 131	30	
Bromoform	20.0	21.9	109	20.0	20.6	103	5.85	70 - 130	30	
Bromomethane	20.0	10.3	51.3	20.0	10.3	51.3	0.0536	30 - 145	30	
Carbon disulfide	20.0	20.0	100	20.0	19.9	99.4	0.639	58 - 138	30	
Carbon tetrachloride	20.0	21.2	106	20.0	21.2	106	0.0359	65 - 140	30	
Chlorobenzene	20.0	20.5	102	20.0	20.3	101	0.992	80 - 120	30	
Chloroethane	20.0	17.4	87.2	20.0	16.9	84.4	3.26	60 - 135	30	
Chloroform	20.0	19.3	96.5	20.0	18.8	94.2	2.41	80 - 125	30	
Chloromethane	20.0	17.9	89.7	20.0	16.6	82.9	7.80	40 - 125	30	
cis-1,3-Dichloropropene	20.0	19.5	97.4	20.0	19.3	96.4	0.958	70 - 130	30	
Cyclohexane	20.0	19.7	98.4	20.0	19.4	97.1	1.26	80 - 130	30	
Dibromochloromethane	20.0	21.2	106	20.0	20.6	103	2.75	60 - 135	30	
Dichlorodifluoromethane	20.0	21.4	107	20.0	21.4	107	0.0613	50 - 133	30	
Ethyl benzene	20.0	22.0	110	20.0	22.0	110	0.0519	80 - 122	30	
Isopropylbenzene	20.0	21.4	107	20.0	21.1	105	1.64	80 - 122	30	
Methyl acetate	20.0	19.4	97.2	20.0	18.9	94.7	2.61	80 - 130	30	
Methyl tert-butyl ether	20.0	17.6	87.8	20.0	17.3	86.4	1.56	65 - 125	30	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 2689875
 Report generated: 12/13/2012 16:45



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Analyst: FJB Prep Method: 5030B/5030C/503
 Instrument ID: HPMS11 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG416293 Units: ug/L
 QC Key: WATERLOO Lot #: STD55171
 Sample ID: WG416293-02 LCS File ID: 11M88556 Run Date: 12/11/2012 13:55
 Sample ID: WG416293-03 LCS2 File ID: 11M88557 Run Date: 12/11/2012 14:26

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Methylcyclohexane	20.0	22.4	112	20.0	22.0	110	1.83	80 - 130	30	
Methylene chloride	20.0	17.8	88.8	20.0	17.5	87.3	1.77	80 - 123	30	
m,p-Xylene	40.0	42.7	107	40.0	42.3	106	0.756	80 - 122	30	
o-Xylene	20.0	20.4	102	20.0	20.1	101	1.36	80 - 122	30	
Styrene	20.0	21.9	109	20.0	21.4	107	2.11	80 - 123	30	
Tetrachloroethene	20.0	23.4	117	20.0	23.5	117	0.437	80 - 124	30	
Toluene	20.0	21.1	105	20.0	21.0	105	0.383	80 - 124	30	
trans-1,3-Dichloropropene	20.0	20.3	101	20.0	20.0	99.9	1.44	80 - 130	30	
Trichloroethene	20.0	21.2	106	20.0	21.1	105	0.846	80 - 122	30	
Trichlorofluoromethane	20.0	19.9	99.5	20.0	19.7	98.3	1.19	62 - 151	30	
Vinyl chloride	20.0	16.1	80.3	20.0	15.6	78.0	2.89	65 - 140	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	83.7	82.0	80 - 120	PASS
Dibromofluoromethane	94.2	94.6	86 - 118	PASS
p-Bromofluorobenzene	101	99.2	86 - 115	PASS
Toluene-d8	104	104	88 - 110	PASS

* EXCEEDS %REC LIMIT
 # EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 2689875
 Report generated: 12/13/2012 16:45



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Analyst: FJB Prep Method: 5030B/5030C/503
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG415844 Units: ug/L
QC Key: WATERLOO Lot #: STD55171

Sample ID: WG415844-02 LCS File ID: 11M88377 Run Date: 12/05/2012 17:25
Sample ID: WG415844-03 LCS2 File ID: 11M88378 Run Date: 12/05/2012 17:56

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1-Trichloroethane	20.0	22.2	111	20.0	22.4	112	0.913	80 - 134	30	
1,1,2,2-Tetrachloroethane	20.0	18.1	90.7	20.0	18.1	90.5	0.211	79 - 125	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	24.4	122	20.0	24.0	120	1.34	80 - 130	30	
1,1,2-Trichloroethane	20.0	20.3	102	20.0	20.2	101	0.419	80 - 125	30	
1,1-Dichloroethane	20.0	21.2	106	20.0	20.9	105	1.37	80 - 125	30	
1,1-Dichloroethene	20.0	20.0	100	20.0	19.9	99.4	0.635	80 - 132	30	
1,2,3-Trichlorobenzene	20.0	21.2	106	20.0	21.2	106	0.162	55 - 140	30	
1,2,4-Trichlorobenzene	20.0	21.8	109	20.0	22.0	110	0.996	65 - 135	30	
1,2-Dibromo-3-chloropropane	20.0	17.2	85.8	20.0	16.2	81.2	5.58	50 - 130	30	
1,2-Dibromoethane	20.0	20.1	100	20.0	20.5	102	1.99	80 - 125	30	
1,2-Dichlorobenzene	20.0	19.0	95.1	20.0	19.0	95.1	0.0090	80 - 125	30	
1,2-Dichloroethane	20.0	20.5	103	20.0	20.5	103	0.0786	80 - 129	30	
cis-1,2-Dichloroethene	20.0	21.8	109	20.0	21.4	107	1.96	70 - 125	30	
trans-1,2-Dichloroethene	20.0	22.2	111	20.0	22.0	110	0.943	80 - 127	30	
1,2-Dichloropropane	20.0	21.2	106	20.0	21.1	105	0.446	80 - 120	30	
1,3-Dichlorobenzene	20.0	19.2	96.2	20.0	19.1	95.7	0.510	80 - 120	30	
1,4-Dichlorobenzene	20.0	19.8	98.9	20.0	20.3	102	2.59	80 - 120	30	
2-Butanone	20.0	18.5	92.7	20.0	17.6	88.0	5.19	30 - 150	30	
2-Hexanone	20.0	17.0	85.2	20.0	16.4	81.8	4.05	55 - 130	30	
4-Methyl-2-pentanone	20.0	18.3	91.3	20.0	17.1	85.7	6.30	64 - 140	30	
Acetone	20.0	20.1	101	20.0	19.3	96.4	4.36	40 - 142	30	
Benzene	20.0	20.8	104	20.0	21.0	105	0.717	80 - 121	30	
Bromochloromethane	20.0	23.7	118	20.0	22.8	114	3.70	65 - 130	30	
Bromodichloromethane	20.0	21.0	105	20.0	20.7	104	1.51	80 - 131	30	
Bromoform	20.0	20.8	104	20.0	20.7	104	0.374	70 - 130	30	
Bromomethane	20.0	13.2	66.2	20.0	12.9	64.5	2.70	30 - 145	30	
Carbon disulfide	20.0	21.9	109	20.0	21.5	108	1.57	58 - 138	30	
Carbon tetrachloride	20.0	23.3	117	20.0	23.3	117	0.0726	65 - 140	30	
Chlorobenzene	20.0	19.7	98.4	20.0	19.6	97.8	0.608	80 - 120	30	
Chloroethane	20.0	21.1	105	20.0	21.3	107	1.13	60 - 135	30	
Chloroform	20.0	21.4	107	20.0	21.0	105	1.80	80 - 125	30	
Chloromethane	20.0	26.8	134	20.0	26.7	134	0.329	40 - 125	30	*
cis-1,3-Dichloropropene	20.0	21.9	110	20.0	21.9	109	0.208	70 - 130	30	
Cyclohexane	20.0	20.0	100	20.0	19.7	98.7	1.53	80 - 130	30	
Dibromochloromethane	20.0	20.0	99.8	20.0	20.4	102	1.95	60 - 135	30	
Dichlorodifluoromethane	20.0	23.0	115	20.0	23.3	117	1.17	50 - 133	30	
Ethyl benzene	20.0	21.5	107	20.0	21.7	109	1.28	80 - 122	30	
Isopropylbenzene	20.0	20.1	100	20.0	20.3	101	1.12	80 - 122	30	
Methyl acetate	20.0	19.9	99.3	20.0	18.7	93.7	5.81	80 - 130	30	
Methyl tert-butyl ether	20.0	19.0	94.9	20.0	18.5	92.4	2.65	65 - 125	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 2689875
Report generated: 12/13/2012 16:45



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Analyst: FJB Prep Method: 5030B/5030C/503
 Instrument ID: HPMS11 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG415844 Units: ug/L
 QC Key: WATERLOO Lot #: STD55171

Sample ID: WG415844-02 LCS File ID: 11M88377 Run Date: 12/05/2012 17:25
 Sample ID: WG415844-03 LCS2 File ID: 11M88378 Run Date: 12/05/2012 17:56

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Methylcyclohexane	20.0	21.8	109	20.0	22.2	111	1.70	80 - 130	30	
Methylene chloride	20.0	19.7	98.7	20.0	19.9	99.7	1.07	80 - 123	30	
m,p-Xylene	40.0	40.5	101	40.0	41.7	104	2.94	80 - 122	30	
o-Xylene	20.0	19.6	97.8	20.0	19.7	98.3	0.572	80 - 122	30	
Styrene	20.0	21.1	106	20.0	21.2	106	0.387	80 - 123	30	
Tetrachloroethene	20.0	21.9	110	20.0	23.1	116	5.40	80 - 124	30	
Toluene	20.0	20.7	103	20.0	20.9	105	1.19	80 - 124	30	
trans-1,3-Dichloropropene	20.0	19.6	98.0	20.0	20.1	101	2.63	80 - 130	30	
Trichloroethene	20.0	23.4	117	20.0	23.3	117	0.334	80 - 122	30	
Trichlorofluoromethane	20.0	22.1	110	20.0	22.4	112	1.29	62 - 151	30	
Vinyl chloride	20.0	22.4	112	20.0	22.2	111	0.857	65 - 140	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	86.4	87.4	80 - 120	PASS
Dibromofluoromethane	98.7	99.7	86 - 118	PASS
p-Bromofluorobenzene	94.2	96.8	86 - 115	PASS
Toluene-d8	97.0	99.6	88 - 110	PASS

* EXCEEDS %REC LIMIT
 # EXCEEDS RPD LIMIT



MS/MSD REPORT

Loginnum: L12110784 Cal ID: HPMS8- 06-NOV-12
 Instrument ID: HPMS8 Contract #: _____
 Parent ID: L12110784-10 File ID: 8M383857 Dil: 1
 Sample ID: L12110784-12 MS File ID: 8M383851 Dil: 1
 Sample ID: L12110784-14 MSD File ID: 8M383852 Dil: 1

Worknum: WG415592
 Prep Method: 5030B/5030C/
 Method: 5035A
 Matrix: 8260B
 Units: Water
ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1-Trichloroethane	U	20.0	20.5	102	20.0	20.4	102	0.515	80 - 134	30	
1,1,2,2-Tetrachloroethane	U	20.0	22.1	110	20.0	20.3	101	8.51	79 - 125	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	U	20.0	23.4	117	20.0	23.4	117	0.213	80 - 130	30	
1,1,2-Trichloroethane	U	20.0	23.5	117	20.0	23.3	117	0.697	80 - 125	30	
1,1-Dichloroethane	1.50	20.0	21.9	102	20.0	22.4	104	1.93	80 - 125	30	
1,1-Dichloroethene	U	20.0	20.0	99.9	20.0	19.6	98	1.91	80 - 132	30	
1,2,3-Trichlorobenzene	U	20.0	22.0	110	20.0	21.2	106	3.52	55 - 140	30	
1,2,4-Trichlorobenzene	U	20.0	21.3	106	20.0	20.9	105	1.81	65 - 135	30	
1,2-Dibromo-3-chloropropane	U	20.0	20.1	100	20.0	19.5	97.6	2.83	50 - 130	30	
1,2-Dibromoethane	U	20.0	20.4	102	20.0	20.7	103	1.26	80 - 125	30	
1,2-Dichlorobenzene	U	20.0	19.2	95.9	20.0	18.8	93.8	2.25	80 - 125	30	
1,2-Dichloroethane	U	20.0	20.4	102	20.0	20.2	101	1.02	80 - 129	30	
cis-1,2-Dichloroethene	3.02	20.0	24.6	108	20.0	24.2	106	1.73	70 - 125	30	
trans-1,2-Dichloroethene	U	20.0	21.2	106	20.0	21.1	106	0.492	80 - 127	30	
1,2-Dichloropropane	0.372	20.0	22.0	108	20.0	21.6	106	1.48	80 - 120	30	
1,3-Dichlorobenzene	U	20.0	18.8	93.9	20.0	18.4	92.2	1.76	80 - 120	30	
1,4-Dichlorobenzene	U	20.0	20.3	101	20.0	19.7	98.4	2.85	80 - 120	30	
2-Butanone	11.2	20.0	29.2	89.8	20.0	28.7	87.1	1.88	30 - 150	30	
2-Hexanone	U	20.0	20.0	100	20.0	20.0	100	0.232	55 - 130	30	
Benzene	1.93	20.0	22.4	102	20.0	22.5	103	0.269	80 - 121	30	
Bromochloromethane	U	20.0	23.7	118	20.0	23.2	116	1.88	65 - 130	30	
Bromodichloromethane	U	20.0	20.5	103	20.0	20.3	101	1.24	80 - 131	30	
Bromoform	U	20.0	21.0	105	20.0	21.1	106	0.656	70 - 130	30	
Bromomethane	U	20.0	22.6	113	20.0	18.2	91.2	21.4	30 - 145	30	
Carbon disulfide	3.11	20.0	27.1	120	20.0	27.6	123	1.87	58 - 138	30	
Carbon tetrachloride	U	20.0	20.0	100	20.0	19.7	98.5	1.66	65 - 140	30	
Chlorobenzene	0.716	20.0	19.6	94.4	20.0	19.8	95.2	0.908	80 - 120	30	
Chloroethane	U	20.0	21.2	106	20.0	20.7	104	2.26	60 - 135	30	
Chloromethane	U	20.0	17.3	86.7	20.0	16.9	84.3	2.85	40 - 125	30	
cis-1,3-Dichloropropene	U	20.0	22.6	113	20.0	21.2	106	6.18	70 - 130	30	
Cyclohexane	U	20.0	19.3	96.4	20.0	18.8	94	2.44	80 - 130	30	
Dibromochloromethane	U	20.0	20.4	102	20.0	20.4	102	0.248	60 - 135	30	
Dichlorodifluoromethane	U	20.0	21.6	108	20.0	21.3	106	1.36	50 - 133	30	
Ethyl benzene	0.434	20.0	20.9	102	20.0	20.8	102	0.582	80 - 122	30	
Isopropylbenzene	U	20.0	19.6	98	20.0	19.3	96.6	1.46	80 - 122	30	
Methyl acetate	U	20.0	17.9	89.4	20.0	19.4	97.2	8.34	80 - 130	30	
Methyl tert-butyl ether	U	20.0	21.0	105	20.0	20.6	103	1.61	65 - 125	30	
Methylcyclohexane	U	20.0	21.9	109	20.0	21.5	108	1.58	80 - 130	30	
Methylene chloride	141	20.0	149	40.9	20.0	150	47.1	0.837	80 - 123	30	*
m,p-Xylene	U	40.0	41.7	104	40.0	40.8	102	2.12	80 - 122	30	
o-Xylene	U	20.0	19.7	98.3	20.0	19.8	99	0.705	80 - 122	30	

MS_MSD - Modified 03/06/2008
 PDF File ID: 2688784
 Report generated 12/13/2012 16:45



MS/MSD REPORT

Loginum: L12110784 Cal ID: HPMS8 06-NOV-12
 Instrument ID: HPMS8 Contract #: _____
 Parent ID: L12110784-10 File ID: 8M383857 Dil: 1
 Sample ID: L12110784-12 MS File ID: 8M383851 Dil: 1
 Sample ID: L12110784-14 MSD File ID: 8M383852 Dil: 1

Worknum: WG415592
 Prep Method: 5030B/5030C/
 Method: 5035A
 Matrix: 8260B
 Units: Water
ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Styrene	U	20.0	21.8	109	20.0	21.6	108	0.957	80 - 123	30	
Tetrachloroethene	U	20.0	21.7	108	20.0	20.6	103	5.24	80 - 124	30	
Toluene	10.7	20.0	29.8	95.6	20.0	29.3	93.2	1.59	80 - 124	30	
trans-1,3-Dichloropropene	U	20.0	20.0	99.9	20.0	17.7	88.7	11.8	80 - 130	30	
Trichloroethene	U	20.0	22.8	114	20.0	22.4	112	1.44	80 - 122	30	
Trichlorofluoromethane	U	20.0	20.7	104	20.0	20.4	102	1.62	62 - 151	30	
Vinyl chloride	U	20.0	18.2	91	20.0	17.3	86.3	5.29	65 - 140	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12110784 Tune ID: WG413655-01
 Instrument: HPMS11 Run Date: 11/08/2012
 Analyst: FJB Run Time: 08:56
 Workgroup: WG413655 File ID: 11M87807
 Cal ID: HPMS11-08-NOV-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	25.3	5195	PASS
75.0	95.0	30.0	60.0	46.1	9479	PASS
95.0	95.0	100	100	100	20559	PASS
96.0	95.0	5.00	9.00	6.51	1338	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	87.8	18045	PASS
175	174	5.00	9.00	6.75	1218	PASS
176	174	95.0	101	97.2	17545	PASS
177	176	5.00	9.00	6.89	1208	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG413655-03	STD	01	11/08/2012 10:01	
WG413655-02	STD	01	11/08/2012 10:35	
WG413655-04	STD	01	11/08/2012 11:06	
WG413655-05	STD	01	11/08/2012 11:37	
WG413655-06	STD	01	11/08/2012 12:07	
WG413655-07	STD	01	11/08/2012 12:38	
WG413655-08	STD-CCV	01	11/08/2012 13:10	
WG413655-09	STD	01	11/08/2012 13:41	
WG413655-10	STD	01	11/08/2012 14:12	
WG413655-11	STD	01	11/08/2012 14:43	

* Sample past 12 hour tune limit



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12110784

Tune ID: WG413889-01

Instrument: HPMS11

Run Date: 11/09/2012

Analyst: FJB

Run Time: 14:36

Workgroup: WG413889

File ID: 11M87831

Cal ID: HPMS11-08-NOV-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	24.2	7750	PASS
75.0	95.0	30.0	60.0	44.7	14354	PASS
95.0	95.0	100	100	100	32088	PASS
96.0	95.0	5.00	9.00	6.39	2050	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	89.0	28544	PASS
175	174	5.00	9.00	6.44	1838	PASS
176	174	95.0	101	97.6	27864	PASS
177	176	5.00	9.00	7.08	1974	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG413655-12	SSCV	01	11/09/2012 16:41	

* Sample past 12 hour tune limit



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12110784

Tune ID: WG415843-01

Instrument: HPMS11

Run Date: 12/05/2012

Analyst: FJB

Run Time: 15:26

Workgroup: WG415843

File ID: 11M88373

Cal ID: HPMS11-08-NOV-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	26.9	7661	PASS
75.0	95.0	30.0	60.0	44.9	12802	PASS
95.0	95.0	100	100	100	28514	PASS
96.0	95.0	5.00	9.00	7.38	2105	PASS
173	174	0	2.00	0.836	209	PASS
174	95.0	50.0	100	87.7	24999	PASS
175	174	5.00	9.00	7.80	1950	PASS
176	174	95.0	101	95.2	23802	PASS
177	176	5.00	9.00	6.15	1465	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG415843-02	CCV	01	12/05/2012 15:50	
WG415844-01	BLANK	01	12/05/2012 16:54	
WG415844-01	BLANK	01	12/05/2012 16:54	
WG415844-02	LCS	01	12/05/2012 17:25	
WG415844-03	LCS2	01	12/05/2012 17:56	
L12110784-30	TB-11282012	01	12/05/2012 19:29	
L12110784-26	MW-02-GW-11282012	DL01	12/06/2012 02:08	
L12110784-28	MW-23-GW-11282012	01	12/06/2012 03:09	

* Sample past 12 hour tune limit



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12110784 Tune ID: WG416292-01
 Instrument: HPMS11 Run Date: 12/11/2012
 Analyst: FJB Run Time: 11:19
 Workgroup: WG416292 File ID: 11M88551
 Cal ID: HPMS11-

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	22.9	5400	PASS
75.0	95.0	30.0	60.0	45.2	10647	PASS
95.0	95.0	100	100	100	23578	PASS
96.0	95.0	5.00	9.00	6.72	1584	PASS
173	174	0	2.00	0.547	113	PASS
174	95.0	50.0	100	87.6	20645	PASS
175	174	5.00	9.00	7.64	1578	PASS
176	174	95.0	101	99.1	20455	PASS
177	176	5.00	9.00	6.49	1327	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG416292-02	CCV	01	12/11/2012 12:20	
WG416293-01	BLANK	01	12/11/2012 13:23	
WG416293-01	BLANK	01	12/11/2012 13:23	
WG416293-02	LCS	01	12/11/2012 13:55	
WG416293-03	LCS2	01	12/11/2012 14:26	
L12110784-24	MW-32-GW-11272012	02	12/11/2012 16:30	

* Sample past 12 hour tune limit



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12110784 Tune ID: WG387844-01
 Instrument: HPMS8 Run Date: 01/25/2012
 Analyst: ADC Run Time: 10:52
 Workgroup: WG387844 File ID: 8M376554
 Cal ID: HPMS8-12-DEC-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.8	8808	PASS
75.0	95.0	30.0	60.0	45.0	19993	PASS
95.0	95.0	100	100	100	44392	PASS
96.0	95.0	5.00	9.00	6.71	2979	PASS
173	174	0	2.00	0.970	324	PASS
174	95.0	50.0	100	75.3	33405	PASS
175	174	5.00	9.00	7.47	2495	PASS
176	174	95.0	101	97.5	32579	PASS
177	176	5.00	9.00	6.44	2099	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG387881-01	STD	01	01/25/2012 12:43	
WG387881-02	STD	01	01/25/2012 13:28	
WG387881-03	STD	01	01/25/2012 13:58	
WG387881-04	STD-CCV	01	01/25/2012 14:29	
WG387881-05	STD	01	01/25/2012 14:59	
WG387881-06	STD	01	01/25/2012 15:29	
WG387881-07	STD	01	01/25/2012 15:59	
WG387881-08	SSCV	01	01/25/2012 16:29	

* Sample past 12 hour tune limit



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12110784

Tune ID: WG413483-01

Instrument: HPMS8

Run Date: 11/06/2012

Analyst: ADC

Run Time: 07:53

Workgroup: WG413483

File ID: 8M383305

Cal ID: HPMS8-06-NOV-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	26.3	11880	PASS
75.0	95.0	30.0	60.0	54.7	24693	PASS
95.0	95.0	100	100	100	45162	PASS
96.0	95.0	5.00	9.00	6.86	3096	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	79.5	35914	PASS
175	174	5.00	9.00	8.14	2922	PASS
176	174	95.0	101	97.0	34821	PASS
177	176	5.00	9.00	6.56	2283	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG413483-02	STD	01	11/06/2012 08:48	
WG413483-03	STD	01	11/06/2012 09:18	
WG413483-04	STD	01	11/06/2012 09:47	
WG413483-05	STD	01	11/06/2012 10:17	
WG413483-06	STD	01	11/06/2012 10:47	
WG413483-07	STD	01	11/06/2012 11:17	
WG413483-08	STD-CCV	01	11/06/2012 11:47	
WG413483-09	STD	01	11/06/2012 12:17	
WG413483-10	STD	01	11/06/2012 12:48	
WG413483-11	STD	01	11/06/2012 13:19	

* Sample past 12 hour tune limit



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12110784

Tune ID: WG413606-01

Instrument: HPMS8

Run Date: 11/06/2012

Analyst: ADC

Run Time: 15:36

Workgroup: WG413606

File ID: 8M383320

Cal ID: HPMS8-06-NOV-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	26.0	13323	PASS
75.0	95.0	30.0	60.0	50.5	25925	PASS
95.0	95.0	100	100	100	51304	PASS
96.0	95.0	5.00	9.00	7.12	3652	PASS
173	174	0	2.00	0.811	319	PASS
174	95.0	50.0	100	76.7	39333	PASS
175	174	5.00	9.00	7.87	3095	PASS
176	174	95.0	101	100	39333	PASS
177	176	5.00	9.00	7.16	2817	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG413483-12	SSCV	01	11/06/2012 17:39	

* Sample past 12 hour tune limit



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L12110784 Tune ID: WG415718-01
 Instrument: HPMS8 Run Date: 12/04/2012
 Analyst: ADC Run Time: 13:25
 Workgroup: WG415718 File ID: 8M383875
 Cal ID: HPMS8-06-NOV-12

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	28.1	8169	PASS
75.0	95.0	30.0	60.0	51.8	15064	PASS
95.0	95.0	100	100	100	29082	PASS
96.0	95.0	5.00	9.00	8.11	2359	PASS
173	174	0	2.00	0.626	135	PASS
174	95.0	50.0	100	74.1	21564	PASS
175	174	5.00	9.00	6.45	1391	PASS
176	174	95.0	101	97.9	21118	PASS
177	176	5.00	9.00	7.17	1514	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG415718-02	CCV	01	12/04/2012 13:49	
WG415719-01	BLANK	01	12/04/2012 14:50	
WG415719-02	LCS	01	12/04/2012 16:21	
WG415719-03	LCS2	01	12/04/2012 16:51	
L12110784-10	MW-33-GW-11272012	DL01	12/04/2012 19:22	
L12110784-16	BLDG4-PIT-SSP-GW-11272012	DL02	12/04/2012 19:53	
L12110784-22	DUP-GW-11272012-01	DL01	12/04/2012 20:23	

* Sample past 12 hour tune limit



Calibration Table Report

Method: 8260WTR.M

Title: 8260B/624 (SOP: OVL MSV01) Water 11/08/12 HPMS11

Last Calibration: Thu Nov 08 15:43:08 2012

Curve: WG413655

Calibration Files

Compound	0.3 0.4 1 2 5 20 50 100 200 300										Avg	%RSD	Linear	Quadratic
	11M87810.D	11M87809.D	11M87811.D	11M87812.D	11M87813.D	11M87814.D	11M87815.D	11M87816.D	11M87817.D	11M87818.D				
I Fluorobenzene	ISTD													
T Dichlorodifluoromethane	0.233	0.201	0.209	0.199	0.250	0.242	0.260	0.260	0.248	0.233	10.463			
P Chloromethane	0.348	0.316	0.354	0.303	0.312	0.280	0.330	0.358	0.415	0.335	11.807			
C Vinyl Chloride	0.365	0.276	0.293	0.252	0.295	0.278	0.291	0.291	0.247	0.288	11.741			
T 1,3-Butadiene		0.192	0.263	0.201	0.181	0.136	0.130			0.184	26.353	0.999		
T Bromomethane		0.445	0.348	0.288	0.288	0.245	0.229	0.227	0.220	0.286	27.052	0.998		
T Chloroethane	0.239	0.199	0.203	0.190	0.209	0.209	0.220	0.223	0.219	0.212	6.854			
T Trichlorofluoromethane	0.458	0.369	0.421	0.381	0.436	0.434	0.458	0.453	0.437	0.428	7.564			
T Diethyl ether		0.248	0.231	0.241	0.233	0.238	0.244			0.246	0.240	2.706		
T Isoprene	0.509	0.377	0.424	0.403	0.441	0.452	0.472	0.472	0.453	0.445	8.897			
T Acrolein		0.030	0.029	0.034	0.033	0.037	0.038		0.040	0.034	11.582			
T 1,1,2-Trichloro-1,2,2-Trifluoroet	0.235	0.227	0.257	0.238	0.272	0.263	0.282	0.278	0.270	0.258	7.788			
T Acetone				0.105	0.073	0.082	0.085	0.089	0.084	0.086	12.216			
C 1,1-Dichloroethene	0.583	0.468	0.516	0.472	0.539	0.530	0.560	0.557	0.539	0.529	7.332			
T Tert-Butyl Alcohol		0.022	0.022	0.025	0.025	0.027	0.027			0.028	0.025	9.666		
T Dimethyl Sulfide	0.416	0.386	0.411	0.391	0.391	0.403	0.411	0.413	0.409	0.403	2.809			
T Iodomethane		0.101	0.060	0.057	0.108	0.218	0.314	0.315		0.168	67.954	0.997		
T Methyl acetate		0.278	0.258	0.266	0.247	0.253	0.258	0.260	0.272	0.262	3.865			
T Methylene Chloride	0.395	0.299	0.297	0.276	0.288	0.286	0.294	0.296	0.294	0.303	11.594			
T Carbon Disulfide	0.882	0.681	0.719	0.672	0.707	0.726	0.755	0.758	0.734	0.737	8.376			
T Acrylonitrile		0.110	0.100	0.117	0.114	0.126	0.126			0.140	10.902			
T Methyl Tert Butyl Ether	0.626	0.665	0.708	0.719	0.726	0.729	0.747	0.743	0.745	0.712	5.749			
T trans-1,2-Dichloroethene	0.311	0.244	0.280	0.269	0.291	0.282	0.299	0.298	0.295	0.286	6.887			
T n-Hexane	0.523	0.367	0.413	0.368	0.412	0.415	0.440	0.432	0.415	0.421	10.890			
T Diisopropyl ether		1.439	1.367	1.427	1.353	1.404	1.430		1.400	1.403	2.339			
T Vinyl Acetate				0.312	0.402	0.484	0.508	0.518	0.534	0.460	18.671	0.999		
P 1,1-Dichloroethane	0.634	0.549	0.592	0.567	0.616	0.605	0.634	0.628	0.616	0.605	4.972			
T Ethyl-Tert-Butyl ether		1.169	1.106	1.163	1.122	1.157	1.175		1.168	1.151	2.293			
T 2-Butanone			0.125	0.142	0.133	0.139	0.139	0.139	0.146	0.138	5.059			
T Propionitrile		0.035	0.038	0.041	0.041	0.044	0.044		0.048	0.042	10.424			
T 2,2-Dichloropropane	0.466	0.387	0.378	0.373	0.391	0.384	0.406	0.392	0.380	0.395	7.104			
T cis-1,2-Dichloroethene	0.307	0.287	0.297	0.299	0.314	0.310	0.322	0.321	0.316	0.308	3.870			
C Chloroform	0.529	0.499	0.447	0.490	0.459	0.477	0.480	0.501	0.495	0.489	4.699			
T 1-Bromopropane		0.038	0.048	0.044	0.051	0.052	0.054	0.054	0.053	0.049	11.579			
T Bromochloromethane	0.122	0.153	0.174	0.178	0.188	0.188	0.195	0.194	0.196	0.176	13.979			
T Tetrahydrofuran		0.082	0.080	0.087	0.087	0.093	0.092		0.095	0.088	6.350			
S Dibromofluoromethane		0.240	0.241	0.272	0.276	0.272	0.285	0.286	0.282	0.269	6.913			
T 1,1,1-Trichloroethane	0.459	0.362	0.413	0.383	0.422	0.428	0.447	0.440	0.428	0.420	7.287			
T Cyclohexane	0.838	0.599	0.668	0.595	0.660	0.668	0.706	0.703	0.674	0.679	10.496			
T 1,1-Dichloropropene	0.372	0.359	0.372	0.347	0.382	0.386	0.403	0.400	0.391	0.379	4.922			
T Carbon Tetrachloride	0.378	0.311	0.356	0.325	0.384	0.387	0.412	0.409	0.393	0.373	9.454			
T Tert-Amyl-Methyl ether		0.747	0.718	0.761	0.734	0.758	0.767		0.764	0.750	2.403			
S 1,2-Dichloroethane-d4		0.254	0.290	0.296	0.306	0.300	0.308	0.306	0.305	0.295	6.044			
T Heptane										0.000	0.000			
T 1,2-Dichloroethane	0.396	0.389	0.401	0.391	0.412	0.412	0.427	0.418	0.414	0.407	3.152			
T Benzene	1.400	1.092	1.119	1.066	1.142	1.136	1.186	1.157	1.117	1.157	8.442			
T Trichloroethene	0.313	0.277	0.298	0.278	0.307	0.304	0.322	0.317	0.308	0.303	5.274			
T Methylcyclohexane	0.418	0.359	0.370	0.334	0.365	0.373	0.393	0.390	0.375	0.375	6.303			
C 1,2-Dichloropropane	0.371	0.334	0.336	0.335	0.352	0.352	0.364	0.362	0.360	0.352	3.931			
T 1,4-Dioxane			0.002	0.002	0.002	0.002	0.002			0.002	13.351			
T Bromodichloromethane	0.344	0.353	0.336	0.345	0.367	0.373	0.393	0.384	0.381	0.364	5.584			
T Dibromomethane	0.094	0.132	0.143	0.151	0.153	0.155	0.159	0.158	0.157	0.145	14.305			
T 2-Chloroethyl Vinyl Ether		0.146	0.144	0.154	0.171	0.166	0.163	0.169	0.173	0.161	6.991			
T 4-Methyl-2-Pentanone		0.091	0.100	0.112	0.128	0.122	0.124	0.127	0.133	0.117	12.871			
T cis-1,3-Dichloropropene	0.453	0.431	0.434	0.427	0.445	0.454	0.477	0.468	0.464	0.450	3.876			

T	Dimethyl Disulfide		0.210	0.221	0.225	0.242	0.244	0.266	0.273	0.276	0.276	0.248	10.368
I	Chlorobenzene-d5	ISTD											
S	Toluene-d8			1.079	1.091	1.063	1.156	1.136	1.162	1.132	1.076	1.112	3.506
C	Toluene		1.575	1.375	1.414	1.309	1.420	1.388	1.460	1.371	1.255	1.396	6.494
T	Ethyl Methacrylate		0.244	0.288	0.344	0.333	0.352	0.377	0.373	0.366	0.359	0.337	13.084
T	Paraldehyde				0.006	0.006	0.006	0.007	0.007		0.007	0.006	8.974
T	trans-1,3-Dichloropropene		0.392	0.392	0.419	0.434	0.460	0.474	0.493	0.464	0.444	0.441	8.044
T	1,1,2-Trichloroethane		0.260	0.232	0.245	0.258	0.262	0.268	0.270	0.256	0.248	0.255	4.778
T	2-Hexanone		0.200	0.221	0.223	0.246	0.283	0.254	0.261	0.260	0.260	0.245	10.537
T	1,3-Dichloropropane		0.418	0.427	0.431	0.440	0.451	0.458	0.470	0.445	0.429	0.441	3.732
T	Tetrachloroethene		0.325	0.270	0.291	0.277	0.304	0.302	0.314	0.298	0.281	0.296	6.085
T	Dibromochloromethane		0.318	0.296	0.302	0.321	0.339	0.352	0.362	0.346	0.335	0.330	6.849
T	1,2-Dibromoethane		0.245	0.223	0.254	0.263	0.274	0.284	0.290	0.278	0.272	0.265	7.963
T	1-Chlorohexane		0.508	0.369	0.410	0.396	0.429	0.439	0.449	0.436	0.412	0.428	9.126
P	Chlorobenzene		1.101	0.885	0.954	0.912	0.987	0.967	1.013	0.945	0.878	0.960	7.235
T	1,1,1,2-Tetrachloroethane		0.348	0.307	0.350	0.323	0.348	0.352	0.365	0.344	0.326	0.340	5.260
C	Ethylbenzene		0.540	0.479	0.530	0.490	0.533	0.526	0.555	0.525	0.488	0.518	5.089
T	m-,p-Xylene		0.716	0.602	0.608	0.596	0.657	0.650	0.678	0.625	0.567	0.633	7.288
T	o-Xylene		0.646	0.582	0.625	0.608	0.640	0.640	0.665	0.633	0.599	0.626	4.129
T	Styrene		1.002	0.974	1.008	1.014	1.112	1.123	1.168	1.105	1.026	1.059	6.431
P	Bromoform		0.178	0.181	0.187	0.204	0.220	0.238	0.244	0.235	0.231	0.213	12.232
T	Isopropylbenzene		1.692	1.345	1.481	1.420	1.565	1.550	1.630	1.523	1.377	1.509	7.631
I	1,4-Dichlorobenzene-d4	ISTD											
P	1,1,2,2-Tetrachloroethane		0.474	0.566	0.524	0.575	0.570	0.617	0.596	0.606	0.591	0.569	7.856
S	p-Bromofluorobenzene			0.749	0.785	0.765	0.807	0.812	0.819	0.839	0.811	0.798	3.755
T	1,2,3-Trichloropropane		0.153	0.165	0.160	0.175	0.169	0.184	0.178	0.178	0.175	0.171	5.906
T	trans-1,4-Dichloro-2-Butene			0.187	0.185	0.226	0.238	0.254	0.252	0.257	0.256	0.232	13.067
T	n-Propylbenzene		3.269	2.808	2.993	2.777	3.094	3.128	3.190	3.070	2.735	3.007	6.384
T	Bromobenzene	0.883	0.937	0.783	0.782	0.778	0.786	0.809	0.817	0.806	0.765	0.815	6.636
T	1,3,5-Trimethylbenzene		2.467	2.096	2.275	2.108	2.280	2.332	2.421	2.347	2.168	2.277	5.762
T	2-Chlorotoluene		2.301	1.960	2.094	1.955	2.049	2.047	2.071	2.072	1.860	2.045	5.962
T	4-Chlorotoluene		2.032	1.821	1.816	1.759	1.865	1.907	1.968	1.937	1.805	1.879	4.722
T	a-Methylstyrene		1.306	1.150	1.208	1.183	1.269	1.384	1.377	1.360	1.307	1.283	6.728
T	tert-Butylbenzene		0.417	0.493	0.483	0.439	0.481	0.485	0.500	0.485	0.459	0.471	5.865
T	1,2,4-Trimethylbenzene		2.694	2.299	2.359	2.216	2.366	2.400	2.466	2.373	2.185	2.373	6.293
T	sec-Butylbenzene		2.963	2.455	2.564	2.382	2.639	2.648	2.740	2.628	2.413	2.604	6.936
T	p-Isopropyltoluene		2.316	1.997	2.126	1.962	2.163	2.205	2.277	2.170	2.025	2.138	5.747
T	1,3-Dichlorobenzene		1.584	1.393	1.444	1.381	1.430	1.475	1.510	1.466	1.397	1.453	4.457
T	1,4-Dichlorobenzene	1.600	1.657	1.452	1.487	1.468	1.502	1.528	1.550	1.491	1.426	1.516	4.637
T	n-Butylbenzene		1.925	1.714	1.812	1.665	1.833	1.861	1.934	1.835	1.745	1.814	5.038
T	1,2-Dichlorobenzene	1.409	1.345	1.359	1.387	1.342	1.379	1.432	1.440	1.397	1.337	1.383	2.678
T	1,2-Dibromo-3-Chloropropane			0.082	0.079	0.097	0.102	0.117	0.110	0.108	0.105	0.100	13.508
T	1,2,4-Trichlorobenzene		1.022	0.877	0.862	0.873	0.901	0.941	0.921	0.891	0.866	0.906	5.609
T	Hexachlorobutadiene		0.299	0.227	0.250	0.251	0.284	0.279	0.291	0.278	0.269	0.270	8.556
T	Naphthalene		1.899	1.877	1.912	1.982	2.036	2.227	2.106	2.043	1.935	2.002	5.679
T	1,2,3-Trichlorobenzene	0.870	0.943	0.806	0.807	0.811	0.824	0.862	0.835	0.815	0.790	0.836	5.398

Fri Nov 09 14:43:25 2012

Calibration Table Report
 Method: A9FOOWT.M
 Title: A9-FOO Water - IC: 01/25/12- HPMS8
 Last Calibration: Wed Feb 01 15:35:09 2012
 Curve: WG387881
 Calibration Files

Compound	5	20	50	100	200	300	400	500	Linear		
	8M376558.D	8M376559.D	8M376560.D	8M376561.D	8M376562.D	8M376563.D	8M376564.D	8M367713.D	Avg	%RSD	
Fluorobenzene	ISTD										
Acetonitrile	0.018	0.017	0.018	0.019	0.020	0.019	0.019		0.019	5.995	
3-Chloro-1-propene	0.376	0.390	0.392	0.395	0.408	0.388	0.382		0.390	2.658	
2-Chloro-1,3-butadiene	0.465	0.465	0.468	0.464	0.475	0.452	0.445		0.462	2.198	
Ethyl Acetate	0.125	0.125	0.128	0.137	0.138	0.133	0.126		0.130	4.168	
Methacrylonitrile	0.053	0.050	0.054	0.055	0.056	0.054	0.053		0.054	4.009	
Isobutyl Alcohol		0.005	0.006	0.006	0.006	0.006	0.006		0.006	7.894	
1-Butanol		0.001	0.002	0.003	0.003	0.003	0.003		0.003	23.485	
Methyl methacrylate	0.141	0.155	0.162	0.167	0.172	0.164	0.159		0.160	6.259	
2-Nitropropane	0.043	0.051	0.055	0.059	0.063	0.060	0.058		0.056	11.690	
Chlorobenzene-d5	ISTD										
1,4-Dichlorobenzene-d4	ISTD										
Cyclohexanone		0.025	0.024	0.024	0.025	0.026	0.024		0.025	3.783	

Wed Feb 01 15:40:12 2012



Calibration Table Report
 Method: 8260WTR.M
 Title: Method 8260B/624 WTR-SOP:OVLMSV01 11/06/12 HPMS 8
 Last Calibration: Tue Nov 06 14:04:33 2012
 Curve: WG413483
 Calibration Files

Compound	0.3 0.4 1 2 5 20 50 100 200 300										Avg	%RSD	LINEAR	R^2 QUADRATIC
	8M383307.D	8M383308.D	8M383309.D	8M383310.D	8M383311.D	8M383312.D	8M383313.D	8M383314.D	8M383315.D	8M383316.D				
Fluorobenzene	ISTD													
Dichlorodifluoromethane			0.350	0.359	0.358	0.358	0.360	0.344	0.326	0.346	0.350	3.312		
Chloromethane			0.683	0.705	0.587	0.577	0.576	0.549	0.519	0.543	0.592	11.220		
Vinyl Chloride		0.516	0.446	0.455	0.439	0.437	0.434	0.422	0.392	0.420	0.440	7.663		
1,3-Butadiene	0.393	0.367	0.377	0.382	0.371	0.386	0.390	0.322	0.285	0.245	0.352	14.407		
Bromomethane			0.169	0.193	0.186	0.201	0.222	0.221	0.221	0.247	0.207	12.027		
Chloroethane		0.161	0.234	0.223	0.222	0.225	0.231	0.226	0.218	0.239	0.220	10.533		
Trichlorofluoromethane		0.603	0.646	0.623	0.618	0.653	0.664	0.648	0.620	0.671	0.639	3.606		
Diethyl ether			0.186	0.188	0.194	0.202	0.204	0.203		0.205	0.197	4.070		
Isoprene			0.447	0.430	0.414	0.418	0.444	0.426	0.442	0.428	0.431	2.860		
Acrolein			0.023	0.023	0.028	0.027	0.028	0.028		0.029	0.027	9.012		
1,1,2-Trichloro-1,2,2-Trifluoroet			0.312	0.313	0.299	0.308	0.314	0.313	0.302	0.332	0.312	3.216		
Acetone					0.060	0.067	0.065	0.061	0.063	0.066	0.064	4.607		
1,1-Dichloroethene		0.701	0.593	0.656	0.654	0.671	0.688	0.670	0.652	0.704	0.665	5.033		
Tert-Butyl Alcohol			0.011	0.014	0.014	0.013	0.014	0.013		0.015	0.013	9.606		
Dimethyl Sulfide			0.376	0.349	0.347	0.349	0.369	0.354	0.354	0.348	0.356	2.994		
Iodomethane			0.213	0.232	0.250	0.284	0.310	0.295	0.300	0.288	0.271	13.047		
Methyl acetate					0.168	0.163	0.162	0.167	0.162	0.176	0.167	2.807		
Methylene Chloride		0.254	0.262	0.287	0.274	0.277	0.279	0.271	0.264	0.293	0.273	4.494		
Carbon Disulfide		0.712	0.780	0.782	0.729	0.713	0.748	0.695	0.701	0.672	0.726	5.209		
Acrylonitrile			0.073	0.069	0.078	0.083	0.089	0.086		0.107	0.084	14.831		
Methyl Tert Butyl Ether	0.253	0.239	0.275	0.295	0.296	0.310	0.320	0.312	0.317	0.365	0.298	12.084		
trans-1,2-Dichloroethene		0.536	0.585	0.629	0.629	0.612	0.622	0.614	0.587	0.660	0.608	5.805		
n-Hexane			0.527	0.515	0.506	0.490	0.512	0.474	0.471	0.448	0.493	5.434		
Disopropyl ether			1.355	1.353	1.397	1.402	1.390	1.322		1.261	1.354	3.702		
Vinyl Acetate					0.486	0.542	0.516	0.513	0.493	0.500	0.509	3.938		
1,1-Dichloroethane		0.631	0.704	0.654	0.686	0.688	0.691	0.672	0.653	0.733	0.679	4.518		
Ethyl-Tert-Butyl ether			1.063	1.083	1.136	1.146	1.143	1.088		1.089	1.107	3.043		
2-Butanone					0.076	0.096	0.094	0.090	0.095	0.101	0.092	9.615		
Propionitrile			0.016	0.025	0.027	0.029	0.030	0.029		0.033	0.027	19.605	0.995	
2,2-Dichloropropane			0.625	0.578	0.621	0.565	0.603	0.600	0.585	0.594	0.592	4.066		
cis-1,2-Dichloroethene			0.297	0.317	0.305	0.315	0.310	0.314	0.312	0.303	0.348	3.14	4.620	
Chloroform		0.521	0.627	0.609	0.611	0.634	0.625	0.630	0.615	0.585	0.637	6.09	5.705	
1-Bromopropane					0.024	0.050	0.055	0.054	0.058	0.056	0.051	21.742		1.000
Bromochloromethane		0.167	0.168	0.176	0.177	0.181	0.189	0.181	0.180	0.205	0.180	6.254		
Tetrahydrofuran			0.047	0.052	0.055	0.057	0.059	0.058		0.065	0.056	10.148		
Dibromofluoromethane					0.319	0.349	0.344	0.357	0.335	0.337	0.338	3.40	3.453	
1,1,1-Trichloroethane		0.505	0.620	0.625	0.626	0.613	0.636	0.618	0.590	0.631	0.607	6.651		
Cyclohexane			0.776	0.712	0.728	0.723	0.744	0.698	0.708	0.678	0.721	4.133		
1,1-Dichloropropene		0.459	0.464	0.507	0.481	0.459	0.481	0.467	0.450	0.494	0.474	3.957		
Tert-Amyl-Methyl ether			0.593	0.628	0.652	0.667	0.670	0.643		0.670	0.646	4.358		
Carbon Tetrachloride		0.546	0.57	0.558	0.565	0.566	0.584	0.567	0.548	0.582	0.56516	2.33717		
1,2-Dichloroethane-d4					0.402	0.425	0.413	0.385	0.383	0.373	0.39691	4.99823		
Heptane											0	0		
1,2-Dichloroethane		0.438	0.499	0.533	0.499	0.524	0.538	0.516	0.5	0.543	0.51007	6.26563		
Benzene		1.198	1.165	1.195	1.136	1.126	1.158	1.106	1.051	1.111	1.13838	4.097		
Trichloroethene		0.352	0.349	0.307	0.332	0.337	0.345	0.337	0.327	0.358	0.33835	4.57344		
Methylcyclohexane			0.411	0.435	0.441	0.426	0.446	0.419	0.427	0.417	0.42784	2.87295		
1,2-Dichloropropane		0.29	0.335	0.343	0.331	0.342	0.352	0.343	0.338	0.374	0.33869	6.47875		
Bromodichloromethane		0.391	0.422	0.475	0.443	0.474	0.489	0.464	0.453	0.496	0.45644	7.32341		
1,4-Dioxane					0.001	0.001	0.001	0.001		0.001	0.00109	7.75033		
Dibromomethane		0.095	0.136	0.153	0.144	0.145	0.159	0.154	0.152	0.171	0.14541	14.7382		
2-Chloroethyl Vinyl Ether			0.099	0.122	0.132	0.161	0.152	0.145	0.15	0.157	0.13984	14.9029		
4-Methyl-2-Pentanone				0.079	0.059	0.103	0.082	0.081	0.085	0.089	0.08262	15.9637		0.997
cis-1,3-Dichloropropene		0.491	0.458	0.469	0.459	0.506	0.514	0.494		0.534	0.49063	5.52907		
Dimethyl Disulfide			0.372	0.417	0.422	0.443	0.486	0.465	0.478	0.477	0.44518	8.83736		
Chlorobenzene-d5	ISTD													
Toluene-d8					1.372	1.386	1.341	1.263	1.263	1.24	1.31081	4.7954		
Toluene		1.658	1.603	1.59	1.572	1.551	1.546	1.495	1.401	1.45	1.54056	5.17879		
Ethyl Methacrylate			0.21	0.266	0.262	0.292	0.306	0.296	0.307	0.313	0.28143	12.248		
Paraldehyde											0	0		
trans-1,3-Dichloropropene		0.491	0.533	0.521	0.518	0.556	0.573	0.55	0.541	0.598	0.54234	5.88636		
1,1,2-Trichloroethane		0.158	0.217	0.225	0.235	0.232	0.25	0.237	0.239	0.274	0.22955	13.6101		
2-Hexanone					0.083	0.118	0.093	0.091	0.096	0.099	0.09665	12.3531		
1,3-Dichloropropane		0.406	0.436	0.435	0.434	0.449	0.454	0.431	0.432	0.485	0.4401	4.86018		
Tetrachloroethene		0.315	0.326	0.347	0.341	0.352	0.357	0.345	0.341	0.378	0.34486	5.18929		
Dibromochloromethane		0.347	0.348	0.365	0.386	0.401	0.418	0.401	0.403	0.451	0.39117	8.64294		
1,2-Dibromoethane		0.341	0.252	0.27	0.279	0.284	0.288	0.28	0.285	0.321	0.28882	9.1854		
1-Chlorohexane		0.554	0.527	0.509	0.527	0.493	0.522	0.489	0.488	0.473	0.50906	5.05705		
Chlorobenzene		1.22	1.195	1.157	1.15	1.116	1.119	1.084	1.028	1.08	1.12769	5.33438		
1,1,1,2-Tetrachloroethane		0.431	0.443	0.468	0.447	0.452	0.461	0.455	0.437	0.466	0.45094	2.84916		
Ethylbenzene		0.685	0.661	0.662	0.619	0.622	0.621	0.608	0.598	0.64	0.63517	4.55441		
m-,p-Xylene		0.728	0.785	0.781	0.794	0.754	0.769	0.731	0.682	0.693	0.74627	5.4446		
o-Xylene		0.712	0.743	0.744	0.738	0.744	0.749	0.727	0.701	0.754	0.73479	2.4056		
Styrene		1	1.178	1.169	1.257	1.248	1.258	1.219	1.158	1.203	1.18792	6.72672		
Bromoform			0.191	0.188	0.2	0.228	0.232	0.23	0.239	0.271	0.22241	12.6807		
Isopropylbenzene		2.12	2.163	2.206	2.035	2.054	2.034	1.924	1.747	1.701	1.99822	8.79793		
1,4-Dichlorobenzene-d4	ISTD													
1,1,2,2-Tetrachloroethane		0.438	0.468	0.455	0.474	0.491	0.481	0.47	0.463	0.532	0.47456	5.50099		
p-Bromofluorobenzene					1.145	1.106	1.074	1.01	0.982	0.968	1.04751	6.83805		

1,2,3-Trichloropropane		0.129	0.182	0.156	0.174	0.181	0.17	0.166	0.189	0.16845	11.3173	
trans-1,4-Dichloro-2-Butene		0.199	0.235	0.243	0.245	0.257	0.244	0.242	0.243	0.23842	7.09617	
n-Propylbenzene	4.401	4.398	4.326	4.194	4.02	3.982	3.757	3.272	3.161	3.94555	11.789	
Bromobenzene	0.983	0.958	0.923	0.99	0.909	0.903	0.912	0.893	0.842	0.941	0.92543	4.81173
1,3,5-Trimethylbenzene		3.362	3.515	3.529	3.427	3.299	3.263	3.112	2.74	3.22312	9.2073	
2-Chlorotoluene		3.46	3.005	3.055	2.979	2.764	2.644	2.547	2.179	2.258	2.76566	14.7589
4-Chlorotoluene	3	2.959	2.886	2.777	2.713	2.704	2.434	2.232	2.366	2.67465	10.1804	
a-Methylstyrene		1.708	1.514	1.681	1.575	1.633	1.562	1.479	1.428	1.57257	6.21464	
tert-Butylbenzene		0.815	0.65	0.692	0.668	0.663	0.629	0.629	0.587	0.646	0.66432	9.59103
1,2,4-Trimethylbenzene		3.344	3.606	3.594	3.526	3.382	3.333	3.156	2.774	2.735	3.27203	9.96452
sec-Butylbenzene		4.087	4.088	4.02	4.034	3.819	3.767	3.544	3.133	3.058	3.72782	10.7493
p-Isopropyltoluene		2.995	3.431	3.302	3.322	3.227	3.135	2.99	2.656	2.646	3.07841	9.18515
1,3-Dichlorobenzene		1.87	1.951	1.837	1.885	1.81	1.778	1.727	1.601	1.715	1.79713	5.86293
1,4-Dichlorobenzene	1.845	1.903	1.985	1.965	1.853	1.815	1.781	1.731	1.605	1.708	1.81912	6.47812
n-Butylbenzene		3.252	2.919	3.078	3.035	2.862	2.786	2.64	2.345	2.36	2.80854	11.1235
1,2-Dichlorobenzene	1.615	1.55	1.719	1.637	1.663	1.603	1.614	1.54	1.439	1.55	1.59301	4.86264
1,2-Dibromo-3-Chloropropane				0.085	0.107	0.111	0.115	0.107	0.107	0.124	0.10823	10.9898
1,2,4-Trichlorobenzene		0.977	1.029	1.121	1.106	1.081	1.049	1.015	0.959	1.046	1.04254	5.2595
Hexachlorobutadiene		0.539	0.48	0.568	0.486	0.479	0.47	0.465	0.434	0.472	0.48806	8.303
Naphthalene		1.608	1.677	1.774	1.794	1.874	1.843	1.736	1.666	1.79	1.75125	4.98607
1,2,3-Trichlorobenzene	0.786	0.938	0.954	0.824	0.903	0.923	0.895	0.864	0.831	0.917	0.88348	6.21614

Wed Nov 07 11:05:47 2012

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12110784 Run Date: 11/09/2012 Sample ID: WG413655-12
 Instrument ID: HPMS11 Run Time: 16:41 Method: 8260B
 File ID: 11M87835 Analyst: FJB QC Key: WATERLOO
 ICal Workgroup: WG413655 Cal ID: HPMS11 - 08-NOV-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	46.1	ug/L	0.488	7.70	25	
1,2-Dichloropropane	CCC	50.0	50.0	ug/L	0.352	0.100	25	
Chloroform	CCC	50.0	48.4	ug/L	0.471	3.20	25	
Ethylbenzene	CCC	50.0	54.1	ug/L	0.561	8.20	25	
Toluene	CCC	50.0	53.3	ug/L	1.49	6.70	25	
Vinyl Chloride	CCC	50.0	37.5	ug/L	0.216	25.0	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	57.8	ug/L	0.657	15.5	25	
1,1-Dichloroethane	SPCC	50.0	47.8	ug/L	0.578	4.40	25	
Bromoform	SPCC	50.0	61.2	ug/L	0.261	22.4	25	
Chlorobenzene	SPCC	50.0	49.4	ug/L	0.948	1.20	25	
Chloromethane	SPCC	50.0	54.9	ug/L	0.368	9.80	25	
1,1,1-Trichloroethane		50.0	49.0	ug/L	0.412	1.90	25	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	52.9	ug/L	0.273	5.70	25	
1,1,2-Trichloroethane		50.0	57.3	ug/L	0.293	14.6	25	
1,2,3-Trichlorobenzene		50.0	54.6	ug/L	0.913	9.20	25	
1,2,4-Trichlorobenzene		50.0	54.3	ug/L	0.984	8.60	25	
1,2-Dibromo-3-Chloropropane		50.0	61.1	ug/L	0.122	22.3	25	
1,2-Dibromoethane		50.0	58.7	ug/L	0.311	17.3	25	
1,2-Dichlorobenzene		50.0	49.9	ug/L	1.38	0.300	25	
1,2-Dichloroethane		50.0	50.6	ug/L	0.412	1.30	25	
cis-1,2-Dichloroethene		50.0	49.6	ug/L	0.306	0.900	25	
trans-1,2-Dichloroethene		50.0	48.9	ug/L	0.279	2.10	25	
1,3-Dichlorobenzene		50.0	49.0	ug/L	1.42	2.00	25	
1,4-Dichlorobenzene		50.0	51.5	ug/L	1.56	2.90	25	
2-Butanone		50.0	53.4	ug/L	0.147	6.90	25	
2-Hexanone		50.0	60.7	ug/L	0.298	21.3	25	
4-Methyl-2-Pentanone		50.0	55.0	ug/L	0.129	9.90	25	
Acetone		50.0	52.6	ug/L	0.0907	5.10	25	
Benzene		50.0	48.0	ug/L	1.11	4.00	25	
Bromochloromethane		50.0	54.7	ug/L	0.193	9.40	25	
Bromodichloromethane		50.0	48.9	ug/L	0.356	2.20	25	
Bromomethane		50.0	43.1	ug/L	0.200	13.7	25	
Carbon Disulfide		50.0	57.1	ug/L	0.841	14.1	25	
Carbon Tetrachloride		50.0	49.8	ug/L	0.371	0.300	25	
Chloroethane		50.0	46.5	ug/L	0.198	6.90	25	
cis-1,3-Dichloropropene		50.0	52.7	ug/L	0.475	5.40	25	
Cyclohexane		50.0	48.0	ug/L	0.652	4.10	25	
Dibromochloromethane		50.0	55.9	ug/L	0.369	11.8	25	
Dichlorodifluoromethane		50.0	53.7	ug/L	0.251	7.30	25	
Isopropylbenzene		50.0	50.3	ug/L	1.52	0.600	25	
Methyl acetate		50.0	50.1	ug/L	0.262	0.200	25	
Methyl Tert Butyl Ether		50.0	52.2	ug/L	0.743	4.40	25	

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Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12110784 Run Date: 11/09/2012 Sample ID: WG413655-12
 Instrument ID: HPMS11 Run Time: 16:41 Method: 8260B
 File ID: 11M87835 Analyst: FJB QC Key: WATERLOO
 ICal Workgroup: WG413655 Cal ID: HPMS11 - 08-NOV-12

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Methylcyclohexane	50.0	49.1	ug/L	0.368	1.80	25	
Methylene Chloride	50.0	46.4	ug/L	0.281	7.10	25	
m-,p-Xylene	100	105	ug/L	0.664	4.90	25	
o-Xylene	50.0	50.2	ug/L	0.629	0.500	25	
Styrene	50.0	56.0	ug/L	1.19	11.9	25	
Tetrachloroethene	50.0	54.2	ug/L	0.321	8.30	25	
trans-1,3-Dichloropropene	50.0	56.5	ug/L	0.499	13.1	25	
Trichloroethene	50.0	50.9	ug/L	0.308	1.80	25	
Trichlorofluoromethane	50.0	48.6	ug/L	0.415	2.90	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
 SPCC System Performance Check Compounds

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Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12110784 Run Date: 11/06/2012 Sample ID: WG413483-12
 Instrument ID: HPMS8 Run Time: 17:39 Method: 8260B
 File ID: 8M383324 Analyst: ADC QC Key: WATERLOO
 ICal Workgroup: WG413483 Cal ID: HPMS8 - 06-NOV-12

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	44.6	ug/L	0.594	10.7	25	
1,2-Dichloropropane	CCC	50.0	50.9	ug/L	0.345	1.70	25	
Chloroform	CCC	50.0	47.2	ug/L	0.575	5.60	25	
Ethylbenzene	CCC	50.0	45.9	ug/L	0.584	8.10	25	
Toluene	CCC	50.0	46.6	ug/L	1.44	6.80	25	
Vinyl Chloride	CCC	50.0	39.9	ug/L	0.351	20.2	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	55.1	ug/L	0.523	10.1	25	
1,1-Dichloroethane	SPCC	50.0	45.4	ug/L	0.616	9.30	25	
Bromoform	SPCC	50.0	54.9	ug/L	0.244	9.70	25	
Chlorobenzene	SPCC	50.0	43.7	ug/L	0.985	12.7	25	
Chloromethane	SPCC	50.0	40.6	ug/L	0.481	18.9	25	
1,1,1-Trichloroethane		50.0	45.5	ug/L	0.552	9.00	25	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	49.4	ug/L	0.308	1.20	25	
1,1,2-Trichloroethane		50.0	55.0	ug/L	0.252	9.90	25	
1,2,3-Trichlorobenzene		50.0	50.9	ug/L	0.900	1.90	25	
1,2,4-Trichlorobenzene		50.0	48.9	ug/L	1.02	2.20	25	
1,2-Dibromo-3-Chloropropane		50.0	53.4	ug/L	0.116	6.70	25	
1,2-Dibromoethane		50.0	50.2	ug/L	0.290	0.300	25	
1,2-Dichlorobenzene		50.0	45.1	ug/L	1.44	9.80	25	
1,2-Dichloroethane		50.0	50.7	ug/L	0.517	1.40	25	
cis-1,2-Dichloroethene		50.0	47.5	ug/L	0.298	5.00	25	
trans-1,2-Dichloroethene		50.0	46.4	ug/L	0.564	7.30	25	
1,3-Dichlorobenzene		50.0	43.4	ug/L	1.56	13.2	25	
1,4-Dichlorobenzene		50.0	46.5	ug/L	1.69	7.10	25	
2-Butanone		50.0	55.2	ug/L	0.102	10.3	25	
2-Hexanone		50.0	52.4	ug/L	0.101	4.90	25	
4-Methyl-2-Pentanone		50.0	50.5	ug/L	0.0867	1.00	25	
Acetone		50.0	55.7	ug/L	0.0709	11.3	25	
Benzene		50.0	47.5	ug/L	1.08	5.00	25	
Bromochloromethane		50.0	50.5	ug/L	0.182	1.10	25	
Bromodichloromethane		50.0	48.5	ug/L	0.443	3.00	25	
Bromomethane		50.0	42.7	ug/L	0.177	14.7	25	
Carbon Disulfide		50.0	53.9	ug/L	0.783	7.90	25	
Carbon Tetrachloride		50.0	45.0	ug/L	0.509	9.90	25	
Chloroethane		50.0	49.9	ug/L	0.220	0.100	25	
cis-1,3-Dichloropropene		50.0	53.1	ug/L	0.521	6.20	25	
Cyclohexane		50.0	45.5	ug/L	0.656	9.00	25	
Dibromochloromethane		50.0	50.1	ug/L	0.392	0.300	25	
Dichlorodifluoromethane		50.0	48.9	ug/L	0.342	2.20	25	
Isopropylbenzene		50.0	43.2	ug/L	1.73	13.6	25	
Methyl acetate		50.0	52.8	ug/L	0.176	5.70	25	
Methyl Tert Butyl Ether		50.0	53.5	ug/L	0.639	7.10	25	

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Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L12110784 Run Date: 11/06/2012 Sample ID: WG413483-12
Instrument ID: HPMS8 Run Time: 17:39 Method: 8260B
File ID: 8M383324 Analyst: ADC QC Key: WATERLOO
ICal Workgroup: WG413483 Cal ID: HPMS8 - 06-NOV-12

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Methylcyclohexane	50.0	49.0	ug/L	0.419	2.00	25	
Methylene Chloride	50.0	48.4	ug/L	0.265	3.10	25	
m-,p-Xylene	100	91.8	ug/L	0.685	8.20	25	
o-Xylene	50.0	44.5	ug/L	0.654	11.0	25	
Styrene	50.0	50.3	ug/L	1.19	0.500	25	
Tetrachloroethene	50.0	47.4	ug/L	0.327	5.20	25	
trans-1,3-Dichloropropene	50.0	50.6	ug/L	0.549	1.30	25	
Trichloroethene	50.0	49.7	ug/L	0.336	0.600	25	
Trichlorofluoromethane	50.0	47.5	ug/L	0.606	5.10	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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Report generated 12/13/2012 16:45



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415591-02
Instrument ID: HPMS8 Run Time: 14:43 Method: 8260B
File ID: 8M383846 Analyst: ADC QC Key: WATERLOO
Workgroup (AAB#): WG415592 Cal ID: HPMS8 - 06-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	46.2	ug/L	0.615	7.60	20	
1,2-Dichloropropane	CCC	50.0	49.5	ug/L	0.336	0.941	20	
Chloroform	CCC	50.0	48.2	ug/L	0.587	3.61	20	
Ethylbenzene	CCC	50.0	47.8	ug/L	0.607	4.47	20	
Toluene	CCC	50.0	47.8	ug/L	1.47	4.33	20	
Vinyl Chloride	CCC	50.0	40.5	ug/L	0.356	19.1	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	46.4	ug/L	0.440	7.22	20	
1,1-Dichloroethane	SPCC	50.0	48.0	ug/L	0.652	3.97	20	
Bromoform	SPCC	50.0	49.6	ug/L	0.221	0.843	20	
Chlorobenzene	SPCC	50.0	48.3	ug/L	1.09	3.38	20	
Chloromethane	SPCC	50.0	37.1	ug/L	0.440	25.7	20	*
Xylenes		150	149	ug/L	0.738	0.382	20	
1,1,1-Trichloroethane		50.0	47.3	ug/L	0.574	5.45	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	48.8	ug/L	0.304	2.33	20	
1,1,2-Trichloroethane		50.0	50.1	ug/L	0.230	0.108	20	
1,2,3-Trichlorobenzene		50.0	47.0	ug/L	0.830	6.07	20	
1,2,4-Trichlorobenzene		50.0	48.0	ug/L	1.00	3.94	20	
1,2-Dibromo-3-Chloropropane		50.0	43.9	ug/L	0.0949	12.3	20	
1,2-Dibromoethane		50.0	45.6	ug/L	0.264	8.73	20	
1,2-Dichlorobenzene		50.0	48.6	ug/L	1.55	2.74	20	
1,2-Dichloroethane		50.0	45.2	ug/L	0.461	9.65	20	
cis-1,2-Dichloroethene		50.0	50.3	ug/L	0.316	0.596	20	
trans-1,2-Dichloroethene		50.0	47.4	ug/L	0.576	5.21	20	
1,3-Dichlorobenzene		50.0	48.8	ug/L	1.76	2.35	20	
1,4-Dichlorobenzene		50.0	48.8	ug/L	1.78	2.38	20	
2-Butanone		50.0	45.0	ug/L	0.0827	10.1	20	
2-Hexanone		50.0	41.4	ug/L	0.0800	17.3	20	
4-Methyl-2-Pentanone		50.0	42.0	ug/L	0.0719	16.1	20	
Acetone		50.0	43.6	ug/L	0.0555	12.8	20	
Benzene		50.0	48.5	ug/L	1.10	3.02	20	
Bromochloromethane		50.0	53.0	ug/L	0.191	6.08	20	
Bromodichloromethane		50.0	48.3	ug/L	0.441	3.39	20	
Bromomethane		50.0	52.7	ug/L	0.219	5.39	20	
Carbon Disulfide		50.0	49.5	ug/L	0.718	1.09	20	
Carbon Tetrachloride		50.0	47.5	ug/L	0.537	5.02	20	
Chloroethane		50.0	48.4	ug/L	0.213	3.15	20	
cis-1,3-Dichloropropene		50.0	50.6	ug/L	0.496	1.19	20	
Cyclohexane		50.0	47.3	ug/L	0.682	5.44	20	
Dibromochloromethane		50.0	49.4	ug/L	0.387	1.13	20	
Dichlorodifluoromethane		50.0	32.9	ug/L	0.230	34.2	20	*
Isopropylbenzene		50.0	49.2	ug/L	1.96	1.67	20	
Methyl acetate		50.0	49.4	ug/L	0.165	1.18	20	

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415591-02
 Instrument ID: HPMS8 Run Time: 14:43 Method: 8260B
 File ID: 8M383846 Analyst: ADC QC Key: WATERLOO
 Workgroup (AAB#): WG415592 Cal ID: HPMS8 - 06-NOV-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Methyl Tert Butyl Ether	50.0	50.2	ug/L	0.599	0.331	20	
Methylcyclohexane	50.0	51.7	ug/L	0.443	3.44	20	
Methylene Chloride	50.0	49.4	ug/L	0.270	1.15	20	
m-,p-Xylene	100	99.6	ug/L	0.743	0.406	20	
o-Xylene	50.0	49.8	ug/L	0.732	0.334	20	
Styrene	50.0	50.8	ug/L	1.21	1.64	20	
Tetrachloroethene	50.0	50.2	ug/L	0.346	0.404	20	
trans-1,3-Dichloropropene	50.0	47.9	ug/L	0.520	4.15	20	
Trichloroethene	50.0	51.3	ug/L	0.347	2.58	20	
Trichlorofluoromethane	50.0	45.6	ug/L	0.583	8.73	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
 SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415718-02
Instrument ID: HPMS8 Run Time: 13:49 Method: 8260B
File ID: 8M383876 Analyst: ADC QC Key: WATERLOO
Workgroup (AAB#): WG415719 Cal ID: HPMS8 - 06-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	47.1	ug/L	0.627	5.74	20	
1,2-Dichloropropane	CCC	50.0	49.6	ug/L	0.336	0.715	20	
Chloroform	CCC	50.0	49.8	ug/L	0.607	0.453	20	
Ethylbenzene	CCC	50.0	49.4	ug/L	0.627	1.22	20	
Toluene	CCC	50.0	49.2	ug/L	1.52	1.60	20	
Vinyl Chloride	CCC	50.0	42.0	ug/L	0.369	16.1	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	49.0	ug/L	0.465	2.09	20	
1,1-Dichloroethane	SPCC	50.0	49.1	ug/L	0.667	1.86	20	
Bromoform	SPCC	50.0	49.5	ug/L	0.220	0.992	20	
Chlorobenzene	SPCC	50.0	50.1	ug/L	1.13	0.144	20	
Chloromethane	SPCC	50.0	35.4	ug/L	0.420	29.2	20	*
4-Methyl-2-Pentanone		50.0	43.3	ug/L	0.0742	13.4	20	
Acetone		50.0	45.0	ug/L	0.0574	9.94	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

CCV - Modified 03/05/2008

PDF File ID: 2688787

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415843-02
Instrument ID: HPMS11 Run Time: 15:50 Method: 8260B
File ID: 11M88374 Analyst: FJB QC Key: WATERLOO
Workgroup (AAB#): WG415844 Cal ID: HPMS11 - 08-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	50.5	ug/L	0.534	0.970	20	
1,2-Dichloropropane	CCC	50.0	50.3	ug/L	0.354	0.688	20	
Chloroform	CCC	50.0	52.2	ug/L	0.508	4.36	20	
Ethylbenzene	CCC	50.0	52.0	ug/L	0.539	3.95	20	
Toluene	CCC	50.0	50.7	ug/L	1.42	1.37	20	
Vinyl Chloride	CCC	50.0	53.3	ug/L	0.307	6.63	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	42.1	ug/L	0.479	15.8	20	
1,1-Dichloroethane	SPCC	50.0	51.9	ug/L	0.627	3.76	20	
Bromoform	SPCC	50.0	49.3	ug/L	0.210	1.49	20	
Chlorobenzene	SPCC	50.0	51.4	ug/L	0.987	2.83	20	
Chloromethane	SPCC	50.0	57.8	ug/L	0.387	15.5	20	
Xylenes		150	156	ug/L	0.653	3.69	20	
1,1,1-Trichloroethane		50.0	54.3	ug/L	0.456	8.54	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	53.4	ug/L	0.276	6.77	20	
1,1,2-Trichloroethane		50.0	45.9	ug/L	0.235	8.22	20	
1,2,3-Trichlorobenzene		50.0	50.9	ug/L	0.851	1.84	20	
1,2,4-Trichlorobenzene		50.0	53.7	ug/L	0.973	7.34	20	
1,2-Dibromo-3-Chloropropane		50.0	41.2	ug/L	0.0824	17.7	20	
1,2-Dibromoethane		50.0	46.7	ug/L	0.248	6.56	20	
1,2-Dichlorobenzene		50.0	50.1	ug/L	1.39	0.273	20	
1,2-Dichloroethane		50.0	47.9	ug/L	0.390	4.12	20	
cis-1,2-Dichloroethene		50.0	52.3	ug/L	0.322	4.58	20	
trans-1,2-Dichloroethene		50.0	52.1	ug/L	0.298	4.22	20	
1,3-Dichlorobenzene		50.0	51.7	ug/L	1.50	3.30	20	
1,4-Dichlorobenzene		50.0	50.3	ug/L	1.52	0.530	20	
2-Butanone		50.0	39.6	ug/L	0.109	20.8	20	*
2-Hexanone		50.0	38.9	ug/L	0.191	22.2	20	*
4-Methyl-2-Pentanone		50.0	39.3	ug/L	0.0919	21.5	20	*
Acetone		50.0	44.3	ug/L	0.0765	11.4	20	
Benzene		50.0	50.6	ug/L	1.17	1.16	20	
Bromochloromethane		50.0	54.5	ug/L	0.192	9.00	20	
Bromodichloromethane		50.0	51.7	ug/L	0.377	3.47	20	
Bromomethane		50.0	34.4	ug/L	0.160	31.3	20	*
Carbon Disulfide		50.0	50.0	ug/L	0.737	0.0452	20	
Carbon Tetrachloride		50.0	57.9	ug/L	0.431	15.7	20	
Chloroethane		50.0	50.2	ug/L	0.213	0.335	20	
cis-1,3-Dichloropropene		50.0	50.4	ug/L	0.454	0.713	20	
Cyclohexane		50.0	52.8	ug/L	0.717	5.62	20	
Dibromochloromethane		50.0	49.7	ug/L	0.328	0.586	20	
Dichlorodifluoromethane		50.0	38.3	ug/L	0.179	23.5	20	*
Isopropylbenzene		50.0	53.2	ug/L	1.61	6.36	20	
Methyl acetate		50.0	44.3	ug/L	0.232	11.4	20	

CCV - Modified 03/05/2008
PDF File ID: 2688787
Report generated 12/13/2012 16:45



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415843-02
 Instrument ID: HPMS11 Run Time: 15:50 Method: 8260B
 File ID: 11M88374 Analyst: FJB QC Key: WATERLOO
 Workgroup (AAB#): WG415844 Cal ID: HPMS11 - 08-NOV-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Methyl Tert Butyl Ether	50.0	44.0	ug/L	0.627	12.0	20	
Methylcyclohexane	50.0	58.0	ug/L	0.435	16.0	20	
Methylene Chloride	50.0	47.2	ug/L	0.286	5.59	20	
m-,p-Xylene	100	104	ug/L	0.657	3.75	20	
o-Xylene	50.0	51.8	ug/L	0.649	3.57	20	
Styrene	50.0	51.3	ug/L	1.09	2.69	20	
Tetrachloroethene	50.0	55.0	ug/L	0.326	10.0	20	
trans-1,3-Dichloropropene	50.0	48.6	ug/L	0.429	2.79	20	
Trichloroethene	50.0	55.3	ug/L	0.335	10.6	20	
Trichlorofluoromethane	50.0	51.1	ug/L	0.437	2.20	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
 SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
 PDF File ID: 2688787
 Report generated 12/13/2012 16:45



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/11/2012 Sample ID: WG416292-02
Instrument ID: HPMS11 Run Time: 12:20 Method: 8260B
File ID: 11M88553 Analyst: FJB QC Key: WATERLOO
Workgroup (AAB#): WG416293 Cal ID: HPMS11 - 08-NOV-12
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	43.7	ug/L	0.463	12.5	20	
1,2-Dichloropropane	CCC	50.0	44.0	ug/L	0.310	12.0	20	
Chloroform	CCC	50.0	45.3	ug/L	0.441	9.30	20	
Ethylbenzene	CCC	50.0	52.1	ug/L	0.540	4.12	20	
Toluene	CCC	50.0	50.1	ug/L	1.40	0.222	20	
Vinyl Chloride	CCC	50.0	41.9	ug/L	0.241	16.1	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	42.4	ug/L	0.483	15.1	20	
1,1-Dichloroethane	SPCC	50.0	45.0	ug/L	0.544	10.1	20	
Bromoform	SPCC	50.0	50.3	ug/L	0.215	0.620	20	
Chlorobenzene	SPCC	50.0	51.7	ug/L	0.992	3.35	20	
Chloromethane	SPCC	50.0	42.1	ug/L	0.282	15.9	20	
Xylenes		150	157	ug/L	0.658	4.44	20	
1,1,1-Trichloroethane		50.0	47.6	ug/L	0.400	4.76	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	44.8	ug/L	0.231	10.5	20	
1,1,2-Trichloroethane		50.0	47.6	ug/L	0.243	4.84	20	
1,2,3-Trichlorobenzene		50.0	51.9	ug/L	0.868	3.78	20	
1,2,4-Trichlorobenzene		50.0	55.0	ug/L	0.997	10.1	20	
1,2-Dibromo-3-Chloropropane		50.0	40.1	ug/L	0.0803	19.8	20	
1,2-Dibromoethane		50.0	48.5	ug/L	0.257	2.96	20	
1,2-Dichlorobenzene		50.0	51.3	ug/L	1.42	2.66	20	
1,2-Dichloroethane		50.0	43.9	ug/L	0.357	12.3	20	
cis-1,2-Dichloroethene		50.0	46.7	ug/L	0.288	6.63	20	
trans-1,2-Dichloroethene		50.0	45.7	ug/L	0.261	8.61	20	
1,3-Dichlorobenzene		50.0	53.2	ug/L	1.55	6.48	20	
1,4-Dichlorobenzene		50.0	51.7	ug/L	1.57	3.31	20	
2-Butanone		50.0	35.5	ug/L	0.0976	29.0	20	*
2-Hexanone		50.0	40.5	ug/L	0.199	19.1	20	
4-Methyl-2-Pentanone		50.0	36.3	ug/L	0.0851	27.3	20	*
Acetone		50.0	38.6	ug/L	0.0667	22.8	20	*
Benzene		50.0	43.9	ug/L	1.02	12.2	20	
Bromochloromethane		50.0	49.8	ug/L	0.176	0.361	20	
Bromodichloromethane		50.0	45.8	ug/L	0.334	8.35	20	
Bromomethane		50.0	30.8	ug/L	0.144	38.4	20	*
Carbon Disulfide		50.0	50.6	ug/L	0.745	1.12	20	
Carbon Tetrachloride		50.0	49.9	ug/L	0.372	0.230	20	
Chloroethane		50.0	43.0	ug/L	0.183	14.0	20	
cis-1,3-Dichloropropene		50.0	44.7	ug/L	0.403	10.6	20	
Cyclohexane		50.0	47.6	ug/L	0.647	4.71	20	
Dibromochloromethane		50.0	51.4	ug/L	0.339	2.71	20	
Dichlorodifluoromethane		50.0	43.1	ug/L	0.201	13.7	20	
Isopropylbenzene		50.0	53.9	ug/L	1.63	7.79	20	
Methyl acetate		50.0	45.3	ug/L	0.237	9.44	20	

CCV - Modified 03/05/2008
PDF File ID: 2688787
Report generated 12/13/2012 16:45



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/11/2012 Sample ID: WG416292-02
 Instrument ID: HPMS11 Run Time: 12:20 Method: 8260B
 File ID: 11M88553 Analyst: FJB QC Key: WATERLOO
 Workgroup (AAB#): WG416293 Cal ID: HPMS11 - 08-NOV-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Methyl Tert Butyl Ether	50.0	39.9	ug/L	0.569	20.1	20	*
Methylcyclohexane	50.0	51.8	ug/L	0.389	3.64	20	
Methylene Chloride	50.0	42.1	ug/L	0.255	15.7	20	
m-,p-Xylene	100	104	ug/L	0.661	4.45	20	
o-Xylene	50.0	52.2	ug/L	0.654	4.43	20	
Styrene	50.0	51.9	ug/L	1.10	3.78	20	
Tetrachloroethene	50.0	55.3	ug/L	0.328	10.7	20	
trans-1,3-Dichloropropene	50.0	49.3	ug/L	0.435	1.35	20	
Trichloroethene	50.0	48.5	ug/L	0.293	3.04	20	
Trichlorofluoromethane	50.0	45.3	ug/L	0.387	9.37	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
 SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
 PDF File ID: 2688787
 Report generated 12/13/2012 16:45



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L12110784
Instrument ID: HPMS8
Workgroup (AAB#): WG415592

CCV Number: WG415591-02
CAL ID: HPMS8-06-NOV-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG415591-02	NA	NA	209082	381375	454282
Upper Limit	NA	NA	418164	762750	908564
Lower Limit	NA	NA	104541	190688	227141
<u>L12110784-01</u>	1.00	01	192984	335675	402648
L12110784-02	1.00	01	196022	336178	374736
L12110784-04	100	01	193148	340255	403677
L12110784-06	1.00	01	195673	339662	401589
L12110784-08	1.00	01	197306	337818	399570
L12110784-10	1.00	01	196717	335102	383176
L12110784-12	1.00	01	195451	343639	395509
L12110784-14	1.00	01	202437	350518	402632
L12110784-16	10.0	DL01	193995	334366	390701
L12110784-18	1.00	01	192975	335473	402487
L12110784-20	1.00	01	192577	338431	394104
L12110784-22	1.00	01	189511	330070	364957
WG415592-01	1.00	01	196986	345221	408402
WG415592-02	1.00	01	204988	352242	412667
WG415592-07	1.00	01	194918	341396	394147

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L12110784
Instrument ID: HPMS8
Workgroup (AAB#): WG415719

CCV Number: WG415718-02
CAL ID: HPMS8-06-NOV-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG415718-02	NA	NA	208327	379904	449195
Upper Limit	NA	NA	416654	759808	898390
Lower Limit	NA	NA	104164	189952	224598
<u>L12110784-10</u>	20.0	DL01	188657	331979	368422
L12110784-16	20.0	DL02	185426	329885	374541
L12110784-22	20.0	DL01	186612	328066	378290
WG415719-01	1.00	01	195445	341969	396802
WG415719-02	1.00	01	200238	346070	386521
WG415719-03	1.00	01	197619	344909	403295

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L12110784
Instrument ID: HPMS11
Workgroup (AAB#): WG415844

CCV Number: WG415843-02
CAL ID: HPMS11-08-NOV-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG415843-02	NA	NA	391505	689689	789007
Upper Limit	NA	NA	783010	1379378	1578014
Lower Limit	NA	NA	195753	344845	394504
<u>L12110784-26</u>	5.00	DL01	383856	667242	766273
L12110784-28	1.00	01	382358	676876	773556
L12110784-30	1.00	01	389157	670079	757609
WG415844-01	1.00	01	392584	670890	769045
WG415844-02	1.00	01	407021	686928	764867
WG415844-03	1.00	01	400459	679310	769849

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L12110784
Instrument ID: HPMS11
Workgroup (AAB#): WG416293

CCV Number: WG416292-02
CAL ID: HPMS11-08-NOV-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG416292-02	NA	NA	373751	665890	860768
Upper Limit	NA	NA	747502	1331780	1721536
Lower Limit	NA	NA	186876	332945	430384
<u>L12110784-24</u>	1.00	02	371973	659287	864441
WG416293-01	1.00	01	365469	646862	833878
WG416293-02	1.00	01	383350	659306	840196
WG416293-03	1.00	01	381671	662287	842568

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number: L12110784
Instrument ID: HPMS8
Workgroup (AAB#): WG415592

CCV Number: WG415591-02
CAL ID: HPMS8-06-NOV-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG415591-02	NA	NA	16.88	13.88	10.04
Upper Limit	NA	NA	17.38	14.38	10.54
Lower Limit	NA	NA	16.38	13.38	9.54
L12110784-01	1.00	01	16.89	13.88	10.03
L12110784-02	1.00	01	16.88	13.89	10.03
L12110784-04	100	01	16.88	13.89	10.03
L12110784-06	1.00	01	16.88	13.88	10.04
L12110784-08	1.00	01	16.88	13.89	10.03
L12110784-10	1.00	01	16.88	13.88	10.03
L12110784-12	1.00	01	16.88	13.89	10.03
L12110784-14	1.00	01	16.89	13.88	10.03
L12110784-16	10.0	DL01	16.88	13.88	10.03
L12110784-18	1.00	01	16.88	13.88	10.03
L12110784-20	1.00	01	16.89	13.88	10.03
L12110784-22	1.00	01	16.88	13.88	10.03
WG415592-01	1.00	01	16.88	13.88	10.04
WG415592-02	1.00	01	16.88	13.88	10.03
WG415592-07	1.00	01	16.89	13.88	10.03

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number: L12110784
Instrument ID: HPMS8
Workgroup (AAB#): WG415719

CCV Number: WG415718-02
CAL ID: HPMS8-06-NOV-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG415718-02	NA	NA	16.88	13.88	10.03
Upper Limit	NA	NA	17.38	14.38	10.53
Lower Limit	NA	NA	16.38	13.38	9.53
<u>L12110784-10</u>	20.0	DL01	16.88	13.88	10.04
L12110784-16	20.0	DL02	16.88	13.88	10.04
L12110784-22	20.0	DL01	16.89	13.88	10.03
WG415719-01	1.00	01	16.89	13.88	10.03
WG415719-02	1.00	01	16.89	13.88	10.03
WG415719-03	1.00	01	16.88	13.88	10.04

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number: L12110784
Instrument ID: HPMS11
Workgroup (AAB#): WG415844

CCV Number: WG415843-02
CAL ID: HPMS11-08-NOV-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG415843-02	NA	NA	16.66	13.86	10.23
Upper Limit	NA	NA	17.16	14.36	10.73
Lower Limit	NA	NA	16.16	13.36	9.73
<u>L12110784-26</u>	5.00	DL01	16.66	13.86	10.23
L12110784-28	1.00	01	16.66	13.86	10.23
L12110784-30	1.00	01	16.66	13.86	10.23
WG415844-01	1.00	01	16.66	13.86	10.23
WG415844-02	1.00	01	16.66	13.86	10.23
WG415844-03	1.00	01	16.66	13.86	10.23

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number: L12110784
Instrument ID: HPMS11
Workgroup (AAB#): WG416293

CCV Number: WG416292-02
CAL ID: HPMS11-08-NOV-12
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG416292-02	NA	NA	16.66	13.86	10.23
Upper Limit	NA	NA	17.16	14.36	10.73
Lower Limit	NA	NA	16.16	13.36	9.73
<u>L12110784-24</u>	1.00	02	16.66	13.86	10.23
WG416293-01	1.00	01	16.66	13.86	10.23
WG416293-02	1.00	01	16.66	13.86	10.23
WG416293-03	1.00	01	16.66	13.86	10.23

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



2.2 Metals Data

2.2.1 Metals I C P Data

2.2.1.1 Summary Data



Login Number: L12110784
Department: Metals
Analyst: Kim Rhodes

METHOD

Preparation: SW-846 3005

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: WG415696 - The continuing calibration verification analyzed on 04-DEC-2012 at 21:10 yielded a cadmium result that was slightly below the lower acceptance limit. However, since the CCV bracketed compliant interference check samples, and did not bracket any client samples or batch QA/QC, no further action was taken with the permission of the project chemist.

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: WG415619 - All acceptance criteria were met.

WG415696 - All acceptance criteria were met.

WG415817 - All acceptance criteria were met.

Matrix Spikes: WG415619 - Sample 10 was chosen by the client for MS/MSD analysis. Samples 12(MS) and 14(MSD) yielded noncompliant recoveries for four analytes.

WG415696 - Sample 11 was chosen by the client for MS/MSD analysis. Samples 13(MS) and 15(MSD) yielded noncompliant recoveries for five analytes.

SAMPLES

Samples: WG415619 - Client samples 02, 03, 06, 07, 10, 12MS, 14MSD, 20, and 21 required dilution analyses in order to obtain results for sodium within the linear range. Samples 16, 17, and 22 required dilution analyses in order to obtain results for calcium, potassium, and sodium within the linear range. Due to a result that was noncompliant on the negative side upon initial analysis, cadmium for client sample 17 was reported from a dilution analysis.

WG415696 - Client samples 04 and 05 required dilution analyses in order to obtain results for calcium, potassium, and sodium within the linear range. Client sample 11 as well as the post digestion spike and serial dilution, 13MS, and 15MSD required dilution analyses in order to obtain results for sodium within the linear range. Due to results that were noncompliant on the negative side upon initial analysis, cadmium for client samples 05 and 11 were reported from dilution

analyses. In order to maintain consistency with sample 11(REF), cadmium for the batch post spike, 13MS and 15MSD was also reported from a dilution analysis.

WG415817 - Client sample 23 required a dilution analysis for calcium, potassium, and sodium and samples 24 through 29 for sodium in order to obtain results within the linear range.

Narrative ID: 56779

Approved By: Maren Beery

Maren Beery

Certificate of Analysis

Sample #: L12110784-01	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: EB-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 13:47
Collect Date: 11/27/2012 08:00	Dilution: 1	File ID: P2.120312.134725
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.100	0.0500
Barium, Total	7440-39-3		U	0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2		U	0.200	0.100
Chromium, Total	7440-47-3		U	0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Total	7439-95-4		U	0.500	0.250
Manganese, Total	7439-96-5		U	0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7		U	1.00	0.500
Silica, Calculated as SiO2			U	2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Sodium, Total	7440-23-5	0.370	J	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 #: L12110784-02	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-04-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 13:41
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: P2.120312.134128
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.294		0.100	0.0500
Barium, Total	7440-39-3	0.133		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9	0.000308	J	0.000500	0.000250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Total	7440-70-2	159		0.200	0.100
Chromium, Total	7440-47-3	0.00786		0.00500	0.00250
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	0.622		0.100	0.0500
Magnesium, Total	7439-95-4	32.1		0.500	0.250
Manganese, Total	7439-96-5	0.0432		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	20.9		1.00	0.500
Silica, Calculated as SiO2		74.1		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0160		0.0100	0.00500
Zinc, Total	7440-66-6	0.0281		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 #: L12110784-02	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-04-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 16:15
Collect Date: 11/27/2012 09:35	Dilution: 100	File ID: P2.120312.161522
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	1430		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-03	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-04-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:18
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: P2.120312.141839
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.136		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Dissolved	7440-70-2	155		0.200	0.100
Chromium, Dissolved	7440-47-3	0.00486	J	0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	31.5		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0308		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	21.4		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.00606	J	0.0100	0.00500
Zinc, Dissolved	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 #: L12110784-03	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-04-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 15:43
Collect Date: 11/27/2012 09:35	Dilution: 100	File ID: P2.120412.154347
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	1400		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 12:05
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: P2.120412.120539
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.571		0.100	0.0500
Barium, Total	7440-39-3	0.761		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9	0.0114		0.000500	0.000250
Chromium, Total	7440-47-3	7.97		0.00500	0.00250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cobalt, Total	7440-48-4	0.0158	J	0.0200	0.0100
Copper, Total	7440-50-8		U	0.0200	0.0100
Iron, Total	7439-89-6	1.54		0.100	0.0500
Magnesium, Total	7439-95-4	355		0.500	0.250
Manganese, Total	7439-96-5	3.76		0.0100	0.00500
Nickel, Total	7440-02-0	0.0856		0.0400	0.0200
Silica, Calculated as SiO ₂		35.2		2.14	1.07
Silver, Total	7440-22-4	0.0193		0.0100	0.00500
Vanadium, Total	7440-62-2	0.389		0.0100	0.00500
Zinc, Total	7440-66-6	0.825		0.0200	0.0100
E	Semiquantitative result (out of calibration 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 #: L12110784-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/06/2012 16:52
Collect Date: 11/27/2012 10:00	Dilution: 10	File ID: P2.120612.165245
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Total	7440-09-7	110		10.0	5.00
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 14:38
Collect Date: 11/27/2012 10:00	Dilution: 100	File ID: P2.120412.143816
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Total	7440-70-2	1680		20.0	10.0
Sodium, Total	7440-23-5	430		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 12:11
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: P2.120412.121139
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.836		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Chromium, Dissolved	7440-47-3	8.76		0.00500	0.00250
Cobalt, Dissolved	7440-48-4	0.0167	J	0.0200	0.0100
Copper, Dissolved	7440-50-8		U	0.0200	0.0100
Iron, Dissolved	7439-89-6		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	406		0.500	0.250
Manganese, Dissolved	7439-96-5	4.28		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.0901		0.0400	0.0200
Silver, Dissolved	7440-22-4	0.0192		0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.433		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.0117	J	0.0200	0.0100
E	Semiquantitative result (out of calibration 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 #: L12110784-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/06/2012 17:00
Collect Date: 11/27/2012 10:00	Dilution: 10	File ID: P2.120612.170026
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Dissolved	7440-43-9		U	0.00500	0.00250
Potassium, Dissolved	7440-09-7	115		10.0	5.00
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-03-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 14:52
Collect Date: 11/27/2012 10:00	Dilution: 100	File ID: P2.120412.145210
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Dissolved	7440-70-2	1910		20.0	10.0
Sodium, Dissolved	7440-23-5	491		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-06	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-06-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:25
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: P2.120312.142538
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	2.78		0.100	0.0500
Barium, Total	7440-39-3	0.0819		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9	0.00107		0.000500	0.000250
Calcium, Total	7440-70-2	31.2		0.200	0.100
Chromium, Total	7440-47-3	0.0313		0.00500	0.00250
Cobalt, Total	7440-48-4		U	0.0200	0.0100
Copper, Total	7440-50-8	0.0145	J	0.0200	0.0100
Iron, Total	7439-89-6	4.04		0.100	0.0500
Magnesium, Total	7439-95-4	10.4		0.500	0.250
Manganese, Total	7439-96-5	0.101		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	6.80		1.00	0.500
Silica, Calculated as SiO2		25.6		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0406		0.0100	0.00500
Zinc, Total	7440-66-6	0.159		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.				

Certificate of Analysis

Sample #: L12110784-06	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-06-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 15:50
Collect Date: 11/27/2012 10:00	Dilution: 100	File ID: P2.120412.155043
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	1050		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-07	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-06-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:31
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: P2.120312.143136
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.0532		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	8.98		0.200	0.100
Chromium, Dissolved	7440-47-3	0.00288	J	0.00500	0.00250
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	0.0902	J	0.100	0.0500
Magnesium, Dissolved	7439-95-4	3.89		0.500	0.250
Manganese, Dissolved	7439-96-5		U	0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	6.74		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0298		0.0100	0.00500
Zinc, Dissolved	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.				

Certificate of Analysis

Sample #: L12110784-07	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-06-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 15:57
Collect Date: 11/27/2012 10:00	Dilution: 100	File ID: P2.120412.155738
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	1070		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-08	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-01-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:38
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: P2.120312.143831
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	2.68		0.100	0.0500
Barium, Total	7440-39-3	0.609		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	149		0.200	0.100
Chromium, Total	7440-47-3	0.00278	J	0.00500	0.00250
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	6.43		0.100	0.0500
Magnesium, Total	7439-95-4	106		0.500	0.250
Manganese, Total	7439-96-5	0.251		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	4.24		1.00	0.500
Silica, Calculated as SiO2		34.9		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Sodium, Total	7440-23-5	83.9		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6	0.0213		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.				

Certificate of Analysis

Sample #: L12110784-09	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: PZ-01-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:44
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: P2.120312.144430
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.596		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	110		0.200	0.100
Chromium, Dissolved	7440-47-3		U	0.00500	0.00250
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	2.29		0.100	0.0500
Magnesium, Dissolved	7439-95-4	90.2		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0314		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	3.57		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Sodium, Dissolved	7440-23-5	83.2		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.				

Sample #: L12110784-10	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:50
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120312.145029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.316		0.100	0.0500
Barium, Total	7440-39-3	0.611		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	352		0.200	0.100
Chromium, Total	7440-47-3	8.34		0.00500	0.00250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
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	1.02		0.100	0.0500
Magnesium, Total	7439-95-4	77.1		0.500	0.250
Manganese, Total	7439-96-5	0.527		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	12.3		1.00	0.500
Silica, Calculated as SiO2		29.1		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0386		0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
E	Semiquantitative result (out of calibration range)				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-10	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:04
Collect Date: 11/27/2012 11:10	Dilution: 100	File ID: P2.120412.160435
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	290		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-11	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 12:18
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120412.121838
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.561		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Calcium, Dissolved	7440-70-2	317		0.200	0.100
Chromium, Dissolved	7440-47-3	8.11		0.00500	0.00250
Cobalt, Dissolved	7440-48-4		U	0.0200	0.0100
Copper, Dissolved	7440-50-8		U	0.0200	0.0100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Iron, Dissolved	7439-89-6	0.116		0.100	0.0500
Magnesium, Dissolved	7439-95-4	73.1		0.500	0.250
Manganese, Dissolved	7439-96-5	0.497		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	12.1		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0341		0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
E	Semiquantitative result (out of calibration range)				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-11	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 15:11
Collect Date: 11/27/2012 11:10	Dilution: 5	File ID: P2.120412.151157
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Dissolved	7440-43-9		U	0.00250	0.00125
Sodium, Dissolved	7440-23-5	286		2.50	1.25
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-12	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 14:56
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120312.145634
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	5.48		0.100	0.0500
Barium, Total	7440-39-3	1.08		0.0100	0.00500
Beryllium, Total	7440-41-7	0.0236		0.00200	0.00100
Cadmium, Total	7440-43-9	0.0219		0.000500	0.000250
Calcium, Total	7440-70-2	350		0.200	0.100
Chromium, Total	7440-47-3	8.39		0.00500	0.00250
Cobalt, Total	7440-48-4	0.0994		0.0200	0.0100
Copper, Total	7440-50-8	0.239		0.0200	0.0100
Iron, Total	7439-89-6	2.87		0.100	0.0500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Magnesium, Total	7439-95-4	79.0		0.500	0.250
Manganese, Total	7439-96-5	0.757		0.0100	0.00500
Nickel, Total	7440-02-0	0.263		0.0400	0.0200
Potassium, Total	7440-09-7	36.6		1.00	0.500
Silica, Calculated as SiO ₂		34.0		2.14	1.07
Silver, Total	7440-22-4	0.200		0.0100	0.00500
Vanadium, Total	7440-62-2	0.551		0.0100	0.00500
Zinc, Total	7440-66-6	0.463		0.0200	0.0100
E	Semiquantitative result (out of calibration range)				

Sample #: L12110784-12	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:11
Collect Date: 11/27/2012 11:10	Dilution: 100	File ID: P2.120412.161131
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	302		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-13	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 12:53
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120412.125326
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5	4.87		0.100	0.0500
Barium, Dissolved	7440-39-3	1.03		0.0100	0.00500
Beryllium, Dissolved	7440-41-7	0.0227		0.00200	0.00100
Calcium, Dissolved	7440-70-2	341		0.200	0.100
Chromium, Dissolved	7440-47-3	8.69		0.00500	0.00250
Cobalt, Dissolved	7440-48-4	0.0957		0.0200	0.0100
Copper, Dissolved	7440-50-8	0.228		0.0200	0.0100
Iron, Dissolved	7439-89-6	2.01		0.100	0.0500
Magnesium, Dissolved	7439-95-4	77.9		0.500	0.250
Manganese, Dissolved	7439-96-5	0.732		0.0100	0.00500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Nickel, Dissolved	7440-02-0	0.243		0.0400	0.0200
Potassium, Dissolved	7440-09-7	37.0		1.00	0.500
Silver, Dissolved	7440-22-4	0.191		0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.524		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.446		0.0200	0.0100
E	Semiquantitative result (out of calibration range)				

Sample #: L12110784-13	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 15:31
Collect Date: 11/27/2012 11:10	Dilution: 5	File ID: P2.120412.153150
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Dissolved	7440-43-9	0.0208		0.00250	0.00125
Sodium, Dissolved	7440-23-5	326		2.50	1.25
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-14	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:02
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120312.150237
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	5.43		0.100	0.0500
Barium, Total	7440-39-3	1.09		0.0100	0.00500
Beryllium, Total	7440-41-7	0.0235		0.00200	0.00100
Cadmium, Total	7440-43-9	0.0219		0.000500	0.000250
Calcium, Total	7440-70-2	356		0.200	0.100
Chromium, Total	7440-47-3	8.60		0.00500	0.00250
Cobalt, Total	7440-48-4	0.0990		0.0200	0.0100
Copper, Total	7440-50-8	0.235		0.0200	0.0100
Iron, Total	7439-89-6	2.91		0.100	0.0500
Magnesium, Total	7439-95-4	81.2		0.500	0.250
Manganese, Total	7439-96-5	0.766		0.0100	0.00500
Nickel, Total	7440-02-0	0.261		0.0400	0.0200
Potassium, Total	7440-09-7	36.8		1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Silica, Calculated as SiO2		34.7		2.14	1.07
Silver, Total	7440-22-4	0.198		0.0100	0.00500
Vanadium, Total	7440-62-2	0.548		0.0100	0.00500
Zinc, Total	7440-66-6	0.465		0.0200	0.0100
E	Semiquantitative result (out of calibration range)				

Sample #: L12110784-14	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:31
Collect Date: 11/27/2012 11:10	Dilution: 100	File ID: P2.120412.163119
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	313		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-15	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 12:59
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: P2.120412.125927
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5	4.87		0.100	0.0500
Barium, Dissolved	7440-39-3	1.05		0.0100	0.00500
Beryllium, Dissolved	7440-41-7	0.0229		0.00200	0.00100
Calcium, Dissolved	7440-70-2	352		0.200	0.100
Chromium, Dissolved	7440-47-3	8.47		0.00500	0.00250
Cobalt, Dissolved	7440-48-4	0.0952		0.0200	0.0100
Copper, Dissolved	7440-50-8	0.230		0.0200	0.0100
Iron, Dissolved	7439-89-6	2.00		0.100	0.0500
Magnesium, Dissolved	7439-95-4	79.2		0.500	0.250
Manganese, Dissolved	7439-96-5	0.725		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.244		0.0400	0.0200
Potassium, Dissolved	7440-09-7	37.0		1.00	0.500
Silver, Dissolved	7440-22-4	0.194		0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.525		0.0100	0.00500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Zinc, Dissolved	7440-66-6	0.442		0.0200	0.0100
E	Semiquantitative result (out of calibration range)				

Sample #: L12110784-15	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3005A	Prep Date: 12/04/2012 06:46
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415696	Analyst: KHR	Run Date: 12/04/2012 15:37
Collect Date: 11/27/2012 11:10	Dilution: 5	File ID: P2.120412.153748
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Dissolved	7440-43-9	0.0203		0.00250	0.00125
Sodium, Dissolved	7440-23-5	331		2.50	1.25
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:08
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: P2.120312.150839
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.100	0.0500
Barium, Total	7440-39-3	0.414		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Chromium, Total	7440-47-3	1.43		0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Total	7439-95-4	182		0.500	0.250
Manganese, Total	7439-96-5	0.116		0.0100	0.00500
Nickel, Total	7440-02-0	0.0739		0.0400	0.0200
Silica, Calculated as SiO2		34.7		2.14	1.07
Silver, Total	7440-22-4	0.00791	J	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0241		0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
E	Semiquantitative result (out of calibration range)				

Certificate of Analysis

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

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/06/2012 17:35
Collect Date: 11/27/2012 11:40	Dilution: 10	File ID: P2.120612.173502
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Total	7440-09-7	113		10.0	5.00
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:38
Collect Date: 11/27/2012 11:40	Dilution: 100	File ID: P2.120412.163814
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Total	7440-70-2	557		20.0	10.0
Sodium, Total	7440-23-5	342		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-17	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:28
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: P2.120312.152831
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.426		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Chromium, Dissolved	7440-47-3	1.48		0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	186		0.500	0.250
Manganese, Dissolved	7439-96-5	0.119		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.0736		0.0400	0.0200
Silver, Dissolved	7440-22-4	0.00774	J	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0255		0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
E	Semiquantitative result (out of calibration 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 #: L12110784-17	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/06/2012 17:42
Collect Date: 11/27/2012 11:40	Dilution: 10	File ID: P2.120612.174201
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Dissolved	7440-43-9		U	0.00500	0.00250
Potassium, Dissolved	7440-09-7	116		10.0	5.00
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-17	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:52
Collect Date: 11/27/2012 11:40	Dilution: 100	File ID: P2.120412.165208
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Dissolved	7440-70-2	575		20.0	10.0
Sodium, Dissolved	7440-23-5	355		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				

Certificate of Analysis

U	Not detected at or above adjusted sample detection limit.
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Sample #: L12110784-18	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-34-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:35
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: P2.120312.153530
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.317		0.100	0.0500
Barium, Total	7440-39-3	0.131		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	78.4		0.200	0.100
Chromium, Total	7440-47-3		U	0.00500	0.00250
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	1.66		0.100	0.0500
Magnesium, Total	7439-95-4	70.6		0.500	0.250
Manganese, Total	7439-96-5	0.0399		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	3.54		1.00	0.500
Silica, Calculated as SiO2		26.9		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Sodium, Total	7440-23-5	102		0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

U	Not detected at or above adjusted sample detection limit.
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Sample #: L12110784-19	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-34-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:41
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: P2.120312.154126
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.132		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	79.7		0.200	0.100
Chromium, Dissolved	7440-47-3		U	0.00500	0.00250
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	1.42		0.100	0.0500
Magnesium, Dissolved	7439-95-4	73.0		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0352		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	3.63		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Sodium, Dissolved	7440-23-5	109		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.

Sample #: L12110784-20	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-22-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:47
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: P2.120312.154724
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.106		0.100	0.0500
Barium, Total	7440-39-3	0.118		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9	0.0226		0.000500	0.000250
Calcium, Total	7440-70-2	200		0.200	0.100
Chromium, Total	7440-47-3	0.0133		0.00500	0.00250
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	0.0804	J	0.100	0.0500
Magnesium, Total	7439-95-4	69.3		0.500	0.250
Manganese, Total	7439-96-5	0.0429		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	15.9		1.00	0.500
Silica, Calculated as SiO2		13.4		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2		U	0.0100	0.00500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Zinc, Total	7440-66-6	0.779		0.0200	0.0100
E	Semiquantitative result (out of calibration 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 #: L12110784-20	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-22-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 16:59
Collect Date: 11/27/2012 15:10	Dilution: 100	File ID: P2.120412.165902
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	371		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-21	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-22-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 15:54
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: P2.120312.155424
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.126		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9	0.0228		0.000500	0.000250
Calcium, Dissolved	7440-70-2	210		0.200	0.100
Chromium, Dissolved	7440-47-3	0.0130		0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	72.7		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0462		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	16.2		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2		U	0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.825		0.0200	0.0100

Certificate of Analysis

E	Semiquantitative result (out of calibration range)
U	Not detected at or above adjusted sample detection limit.

Sample #: L12110784-21	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-22-GW-11272012	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 17:06
Collect Date: 11/27/2012 15:10	Dilution: 100	File ID: P2.120412.170602
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	377		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: DUP-GW-11272012-01	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/03/2012 09:08
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/03/2012 16:01
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: P2.120312.160127
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.100	0.0500
Barium, Total	7440-39-3	0.395		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Chromium, Total	7440-47-3	1.37		0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Total	7439-95-4	175		0.500	0.250
Manganese, Total	7439-96-5	0.110		0.0100	0.00500
Nickel, Total	7440-02-0	0.0714		0.0400	0.0200
Silica, Calculated as SiO2		33.5		2.14	1.07
Silver, Total	7440-22-4	0.00689	J	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0212		0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100

E	Semiquantitative result (out of calibration range)
J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: DUP-GW-11272012-01	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/06/2012 17:49
Collect Date: 11/27/2012 11:50	Dilution: 10	File ID: P2.120612.174900
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Total	7440-09-7	106		10.0	5.00
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: DUP-GW-11272012-01	Prep Method: 3005A	Prep Date: 12/03/2012 07:23
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/04/2012 07:58
Workgroup #: WG415619	Analyst: KHR	Run Date: 12/04/2012 17:12
Collect Date: 11/27/2012 11:50	Dilution: 100	File ID: P2.120412.171257
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Total	7440-70-2	551		20.0	10.0
Sodium, Total	7440-23-5	339		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-23	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: DUP-GW-11272012-01	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 13:04
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: P2.120512.130425
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.398		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Chromium, Dissolved	7440-47-3	1.37		0.00500	0.00250
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		U	0.100	0.0500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Magnesium, Dissolved	7439-95-4	176		0.500	0.250
Manganese, Dissolved	7439-96-5	0.112		0.0100	0.00500
Nickel, Dissolved	7440-02-0	0.0734		0.0400	0.0200
Silver, Dissolved	7440-22-4	0.00978	J	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0327		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.0141	J	0.0200	0.0100
E	Semiquantitative result (out of calibration 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 #: L12110784-23	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: DUP-GW-11272012-01	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 17:55
Collect Date: 11/27/2012 11:50	Dilution: 50	File ID: P2.120612.175559
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Dissolved	7440-70-2	568		10.0	5.00
Potassium, Dissolved	7440-09-7	104		50.0	25.0
Sodium, Dissolved	7440-23-5	368		25.0	12.5
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-24	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-32-GW-11272012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 13:11
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: P2.120512.131125
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	1.18		0.100	0.0500
Barium, Total	7440-39-3	0.0920		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9	0.000276	J	0.000500	0.000250
Calcium, Total	7440-70-2	7.87		0.200	0.100
Chromium, Total	7440-47-3	0.156		0.00500	0.00250
Cobalt, Total	7440-48-4		U	0.0200	0.0100
Copper, Total	7440-50-8		U	0.0200	0.0100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Iron, Total	7439-89-6	0.828		0.100	0.0500
Magnesium, Total	7439-95-4	19.1		0.500	0.250
Manganese, Total	7439-96-5	0.0173		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	15.1		1.00	0.500
Silica, Calculated as SiO2		16.8		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.159		0.0100	0.00500
Zinc, Total	7440-66-6	0.0750		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 #: L12110784-24	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-32-GW-11272012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:15
Collect Date: 11/27/2012 15:15	Dilution: 100	File ID: P2.120612.181549
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	1620		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-25	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-32-GW-11272012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 13:17
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: P2.120512.131728
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5	0.868		0.100	0.0500
Barium, Dissolved	7440-39-3	0.0853		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9	0.000384	J	0.000500	0.000250
Calcium, Dissolved	7440-70-2	7.28		0.200	0.100
Chromium, Dissolved	7440-47-3	0.145		0.00500	0.00250
Cobalt, Dissolved	7440-48-4		U	0.0200	0.0100
Copper, Dissolved	7440-50-8		U	0.0200	0.0100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Iron, Dissolved	7439-89-6	0.615		0.100	0.0500
Magnesium, Dissolved	7439-95-4	18.2		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0152		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	14.5		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.141		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.0440		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 #: L12110784-25	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-32-GW-11272012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:22
Collect Date: 11/27/2012 15:15	Dilution: 100	File ID: P2.120612.182246
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	1560		50.0	25.0
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-26	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-02-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 13:23
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: P2.120512.132331
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.0712	J	0.100	0.0500
Barium, Total	7440-39-3	0.0665		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	423		0.200	0.100
Chromium, Total	7440-47-3	0.0213		0.00500	0.00250
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	0.248		0.100	0.0500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Magnesium, Total	7439-95-4	44.1		0.500	0.250
Manganese, Total	7439-96-5	0.0439		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200
Potassium, Total	7440-09-7	19.2		1.00	0.500
Silica, Calculated as SiO2		72.4		2.14	1.07
Silver, Total	7440-22-4	0.00717	J	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0257		0.0100	0.00500
Zinc, Total	7440-66-6	0.0176	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 #: L12110784-26	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-02-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:29
Collect Date: 11/28/2012 10:30	Dilution: 100	File ID: P2.120612.182942
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	1630		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-27	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-02-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 13:30
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: P2.120512.133031
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.0682		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	437		0.200	0.100
Chromium, Dissolved	7440-47-3	0.0208		0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	44.7		0.500	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Manganese, Dissolved	7439-96-5	0.0420		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	19.6		1.00	0.500
Silver, Dissolved	7440-22-4	0.00721	J	0.0100	0.00500
Vanadium, Dissolved	7440-62-2	0.0273		0.0100	0.00500
Zinc, Dissolved	7440-66-6	0.0114	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 #: L12110784-27	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-02-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:36
Collect Date: 11/28/2012 10:30	Dilution: 100	File ID: P2.120612.183636
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	1620		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-28	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-23-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 14:07
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: P2.120512.140749
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.223		0.100	0.0500
Barium, Total	7440-39-3	0.0948		0.0100	0.00500
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Cadmium, Total	7440-43-9		U	0.000500	0.000250
Calcium, Total	7440-70-2	159		0.200	0.100
Chromium, Total	7440-47-3	0.0501		0.00500	0.00250
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	0.241		0.100	0.0500
Magnesium, Total	7439-95-4	13.6		0.500	0.250
Manganese, Total	7439-96-5	0.0353		0.0100	0.00500
Nickel, Total	7440-02-0		U	0.0400	0.0200

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Potassium, Total	7440-09-7	13.2		1.00	0.500
Silica, Calculated as SiO2		44.9		2.14	1.07
Silver, Total	7440-22-4		U	0.0100	0.00500
Vanadium, Total	7440-62-2	0.0708		0.0100	0.00500
Zinc, Total	7440-66-6	0.0332		0.0200	0.0100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-28	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-23-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:43
Collect Date: 11/28/2012 09:15	Dilution: 100	File ID: P2.120612.184331
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Total	7440-23-5	1800		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-29	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-23-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/05/2012 07:59
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/05/2012 14:14
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: P2.120512.141444
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.100	0.0500
Barium, Dissolved	7440-39-3	0.0913		0.0100	0.00500
Beryllium, Dissolved	7440-41-7		U	0.00200	0.00100
Cadmium, Dissolved	7440-43-9		U	0.000500	0.000250
Calcium, Dissolved	7440-70-2	158		0.200	0.100
Chromium, Dissolved	7440-47-3	0.0362		0.00500	0.00250
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		U	0.100	0.0500
Magnesium, Dissolved	7439-95-4	12.7		0.500	0.250
Manganese, Dissolved	7439-96-5	0.0324		0.0100	0.00500
Nickel, Dissolved	7440-02-0		U	0.0400	0.0200
Potassium, Dissolved	7440-09-7	12.8		1.00	0.500
Silver, Dissolved	7440-22-4		U	0.0100	0.00500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Vanadium, Dissolved	7440-62-2	0.0561		0.0100	0.00500
Zinc, Dissolved	7440-66-6		U	0.0200	0.0100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-29	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MW-23-GW-11282012	Prep Method: 3005A	Prep Date: 12/05/2012 07:10
Matrix: Water	Analytical Method: 6010B	Cal Date: 12/06/2012 08:18
Workgroup #: WG415817	Analyst: KHR	Run Date: 12/06/2012 18:50
Collect Date: 11/28/2012 09:15	Dilution: 100	File ID: P2.120612.185026
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Sodium, Dissolved	7440-23-5	1810		50.0	25.0
U	Not detected at or above adjusted sample detection limit.				

2.2.1.2 QC Summary Data

Example 6010 Calculations
Perkin Elmer Optima 4300 DV

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system in ug/mL (ppm)

Vf = Final volume (mL)

Vi = Initial volume (mL)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/mL (mg/L)

Example:

0.1

50

50

1

0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (mg/L) (ppm)

Vf = Final volume (mL)

Vi = Initial weight (g)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/g (mg/kg)

Example:

0.1

50

1

1

5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (mg/kg)

Example:

5

80

6.25

Example 6010 Calculations
Thermo Scientific IRIS Advantage

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system in ug/mL (ppm)

Vf = Final volume (mL)

Vi = Initial volume (mL)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/mL (mg/L)

Example:

0.1

50

50

1

0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (mg/L) (ppm)

Vf = Final volume (mL)

Vi = Initial weight (g)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/g (mg/kg)

Example:

0.1

50

1

1

5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (mg/kg)

Example:

5

80

6.25

Example 6010 Calculations
Thermo Scientific iCAP 6500

1.0 Initial Calibration (ICAL) Parameters

For a multi-point calibration, the system performs linear regression from data consisting of a blank and four standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system in ug/mL (ppm)

Vf = Final volume (mL)

Vi = Initial volume (mL)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/mL (mg/L)

Example:

0.1

50

50

1

0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (mg/L) (ppm)

Vf = Final volume (mL)

Vi = Initial weight (g)

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in ug/g (mg/kg)

Example:

0.1

50

1

1

5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (mg/kg)

Example:

5

80

6.25

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG415755

Analyst: REK

Spike Analyst: REK

Method: 3005A

Run Date: 12/05/2012 07:10

Hotblock Start Temp: 95 @ 06:10

Hotblock End Temp: 95.1 @ 10:10

Instrument: HB6

SOP: ME401 Revision 14

Spike Solution: STD54722

Spike Witness: VC

ICP;WG401305 Filter Lot COA16240

Digestion Tubes Lot #: COA16400

HNO3 Lot #: COA16520

HCL Lot #: COA16547

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG415755-02	BLANK	1	50 mL	50 mL		
2	WG415755-03	LCS	1	50 mL	50 mL	5 mL	
3	L12110784-23	SAMP	1	50 mL	50 mL		12/13/12
4	L12110784-24	SAMP	1	50 mL	50 mL		12/13/12
5	L12110784-25	SAMP	1	50 mL	50 mL		12/13/12
6	L12110784-26	SAMP	1	50 mL	50 mL		12/13/12
7	L12110784-27	SAMP	1	50 mL	50 mL		12/13/12
8	L12110784-28	SAMP	1	50 mL	50 mL		12/13/12
9	L12110784-29	SAMP	1	50 mL	50 mL		12/13/12
10	L12120043-01	SAMP	1	50 mL	50 mL		12/14/12
11	L12120043-02	SAMP	1	50 mL	50 mL		12/14/12
12	L12120043-03	SAMP	1	50 mL	50 mL		12/14/12
13	L12120043-04	SAMP	1	50 mL	50 mL		12/14/12
14	L12120043-05	SAMP	1	50 mL	50 mL		12/14/12
15	L12120043-06	SAMP	1	50 mL	50 mL		12/14/12
16	L12120043-07	SAMP	1	50 mL	50 mL		12/14/12
17	L12120043-08	SAMP	1	50 mL	50 mL		12/14/12
18	L12120043-09	SAMP	1	50 mL	50 mL		12/14/12
19	WG415755-01	REF	1	50 mL	50 mL		
20	L12120063-01	RS01	1	50 mL	50 mL		12/14/12
21	WG415755-04	MS	1	50 mL	50 mL	5 mL	
22	L12120063-02	MS01	1	50 mL	50 mL	5 mL	12/14/12
23	WG415755-05	MSD	1	50 mL	50 mL	5 mL	
24	L12120063-03	SD01	1	50 mL	50 mL	5 mL	12/14/12

L12110784-24	FILTERED DIGESTATE
L12110784-25	FILTERED DIGESTATE
L12110784-28	FILTERED DIGESTATE

Analyst: *REK*

Reviewer: *Evan Poston*



Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG415562
 Analyst: REK
 Spike Analyst: REK
 Method: 3005A
 Run Date: 12/03/2012 07:23
 Hotblock Start Temp: 95 @ 06:45
 Hotblock End Temp: 95.1 @ 10:45
 Instrument: HB6

SOP: ME401 Revison 14
 Spike Solution: STD54722
 Spike Witness: VC
 ICP;WG401305 Filter Lot COA16240
 Digestion Tubes Lot #: COA16400
 HNO3 Lot #: COA16520
 HCL Lot #: COA16547

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG415562-02	BLANK	1	50 mL	50 mL		
2	WG415562-03	LCS	1	50 mL	50 mL	5 mL	
3	L12110724-01	SAMP	1	50 mL	50 mL		12/07/12
4	L12110724-02	SAMP	1	50 mL	50 mL		12/07/12
5	L12110724-03	SAMP	1	50 mL	50 mL		12/07/12
6	L12110754-01	SAMP	1	50 mL	50 mL		12/07/12
7	L12110784-01	SAMP	1	50 mL	50 mL		12/13/12
8	L12110784-02	SAMP	1	50 mL	50 mL		12/13/12
9	L12110784-03	SAMP	1	50 mL	50 mL		12/13/12
10	L12110784-06	SAMP	1	50 mL	50 mL		12/13/12
11	L12110784-07	SAMP	1	50 mL	50 mL		12/13/12
12	L12110784-08	SAMP	1	50 mL	50 mL		12/13/12
13	L12110784-09	SAMP	1	50 mL	50 mL		12/13/12
14	WG415562-01	REF	1	50 mL	50 mL		
15	L12110784-10	RS01	1	50 mL	50 mL		12/13/12
16	WG415562-04	MS	1	50 mL	50 mL	5 mL	
17	L12110784-12	MS01	1	50 mL	50 mL	5 mL	12/13/12
18	WG415562-05	MSD	1	50 mL	50 mL	5 mL	
19	L12110784-14	SD01	1	50 mL	50 mL	5 mL	12/13/12
20	L12110784-16	SAMP	1	50 mL	50 mL		12/13/12
21	L12110784-17	SAMP	1	50 mL	50 mL		12/13/12
22	L12110784-18	SAMP	1	50 mL	50 mL		12/13/12
23	L12110784-19	SAMP	1	50 mL	50 mL		12/13/12
24	L12110784-20	SAMP	1	50 mL	50 mL		12/13/12
25	L12110784-21	SAMP	1	50 mL	50 mL		12/13/12
26	L12110784-22	SAMP	1	50 mL	50 mL		12/13/12
27	L12110788-01	SAMP	1	50 mL	50 mL		12/06/12

L12110784-06 FILTERED DIGESTATE

L12110784-08 FILTERED DIGESTATE

Analyst: *REK*

Reviewer: *Veeha Collier*



Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG415653
 Analyst: REK
 Spike Analyst: REK
 Method: 3005A
 Run Date: 12/04/2012 06:42
 Hotblock Start Temp: 93.5 @ 05:55
 Hotblock End Temp: 95 @ 09:55
 Instrument: HB6

SOP: ME401 Revision 14
 Spike Solution: STD54722
 Spike Witness: VC
 ICP;WG401305 Filter Lot COA16240
 Digestion Tubes Lot #: COA16400
 HNO3 Lot #: COA16520
 HCL Lot #: COA16547

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG415653-02	BLANK	1	50 mL	50 mL		
2	WG415653-03	LCS	1	50 mL	50 mL	5 mL	
3	L12110771-36	SAMP	1	50 mL	50 mL		12/13/12
4	L12110771-38	SAMP	1	50 mL	50 mL		12/13/12
5	L12110784-04	SAMP	1	50 mL	50 mL		12/13/12
6	L12110784-05	SAMP	1	50 mL	50 mL		12/13/12
7	WG415653-01	REF	1	50 mL	50 mL		
8	L12110784-11	RS02	1	50 mL	50 mL		12/13/12
9	WG415653-04	MS	1	50 mL	50 mL	5 mL	
10	L12110784-13	MS02	1	50 mL	50 mL	5 mL	12/13/12
11	WG415653-05	MSD	1	50 mL	50 mL	5 mL	
12	L12110784-15	SD02	1	50 mL	50 mL	5 mL	12/13/12
13	L12110836-01	SAMP	1	50 mL	50 mL		12/07/12
14	L12120021-01	SAMP	1	50 mL	50 mL		12/14/12
15	L12120034-01	SAMP	1	50 mL	50 mL		12/14/12
16	L12120039-01	SAMP	1	50 mL	50 mL		12/14/12
17	L12120039-02	SAMP	1	50 mL	50 mL		12/14/12
18	L12120039-03	SAMP	1	50 mL	50 mL		12/14/12
19	L12120039-04	SAMP	1	50 mL	50 mL		12/14/12
20	L12120042-01	SAMP	1	50 mL	50 mL		12/14/12
21	L12120042-02	SAMP	1	50 mL	50 mL		12/14/12
22	L12120042-03	SAMP	1	50 mL	50 mL		12/14/12
23	L12120054-01	SAMP	1	50 mL	50 mL		12/17/12
24	L12120054-02	SAMP	1	50 mL	50 mL		12/17/12

L12120021-01 FILTERED DIGESTATE

Analyst: *REK*

Reviewer: *Veeche Collier*



Microbac Laboratories Inc.
Instrument Run Log

Instrument: PE-ICP2 Dataset: 120312H.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44167

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD54811 Int. Std: RG17684
 CCV: STD54922 LLCCV: _____

415570, 415619

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.120312.084153	WG415629-01	Calibration Point		1		12/03/12 08:41
2	P2.120312.084846	WG415629-02	Calibration Point		1		12/03/12 08:48
3	P2.120312.085541	WG415629-03	Calibration Point		1		12/03/12 08:55
4	P2.120312.090235	WG415629-04	Calibration Point		1		12/03/12 09:02
5	P2.120312.090834	WG415629-05	Calibration Point		1		12/03/12 09:08
6	P2.120312.091433	WG415629-06	Initial Calibration Verification		1		12/03/12 09:14
7	P2.120312.092031	WG415629-07	Initial Calib Blank		1		12/03/12 09:20
8	P2.120312.092724	WG415629-08	Interference Check		1		12/03/12 09:27
9	P2.120312.093320	WG415629-09	Interference Check		1		12/03/12 09:33
10	P2.120312.093916	WG415629-10	CCV		1		12/03/12 09:39
11	P2.120312.094516	WG415629-11	CCB		1		12/03/12 09:45
12	P2.120312.095209	WG415501-02	Method/Prep Blank	5/50	1		12/03/12 09:52
13	P2.120312.095904	WG415501-03	Laboratory Control S	5/50	1		12/03/12 09:59
14	P2.120312.100503	WG415438-01	Fluid Blank		1		12/03/12 10:05
15	P2.120312.101201	L12110762-01	AOC 4-5-01	5/50	1		12/03/12 10:12
16	P2.120312.101857	L12110762-02	AOC 4-5-02	5/50	1		12/03/12 10:18
17	P2.120312.102456	L12110762-03	AOC 4-5-03	5/50	1		12/03/12 10:24
18	P2.120312.103153	L12110762-04	AOC 4-6-01	5/50	1		12/03/12 10:31
19	P2.120312.103852	L12110763-01	AOC 4-6-02	5/50	1		12/03/12 10:38
20	P2.120312.104552	WG415570-01	Post Digestion Spike		1	L12110763-01	12/03/12 10:45
21	P2.120312.105153	WG415570-02	Serial Dilution		5	L12110763-01	12/03/12 10:51
22	P2.120312.105846	WG415629-12	CCV		1		12/03/12 10:58
23	P2.120312.110446	WG415629-13	CCB		1		12/03/12 11:04
24	P2.120312.111139	L12110763-02	AOC 4-6-03	5/50	1		12/03/12 11:11
25	P2.120312.111736	L12110763-03	AOC 4-6-04	5/50	1		12/03/12 11:17
26	P2.120312.112333	WG415501-01	Reference Sample		1	L12110763-04	12/03/12 11:23
27	P2.120312.112932	WG415501-04	Matrix Spike	5/50	1	L12110763-04	12/03/12 11:29
28	P2.120312.113530	WG415501-05	Matrix Spike Duplica	5/50	1	L12110763-04	12/03/12 11:35
29	P2.120312.114129	WG415629-14	CCV		1		12/03/12 11:41
30	P2.120312.114730	WG415629-15	CCB		1		12/03/12 11:47
31	P2.120312.125104	WG415629-16	CCV		1		12/03/12 12:51
32	P2.120312.125704	WG415629-17	CCB		1		12/03/12 12:57
33	P2.120312.130146	WG415562-02	Method/Prep Blank	50/50	1		12/03/12 13:01
34	P2.120312.130841	WG415562-03	Laboratory Control S	50/50	1		12/03/12 13:08

Page: 1 Approved: December 04, 2012

Shari L. Baharuf



Microbac Laboratories Inc.
Instrument Run Log

Instrument: PE-ICP2 Dataset: 120312H.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44167

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD54811 Int. Std: RG17684
 CCV: STD54922 LLCCV: _____

415570, 415619

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	P2.120312.131440	L12110724-01	201 EFFLUENT	50/50	1		12/03/12 13:14
36	P2.120312.132039	L12110724-02	202 EFFLUENT	50/50	1		12/03/12 13:20
37	P2.120312.132735	L12110724-03	FLUME	50/50	1		12/03/12 13:27
38	P2.120312.133432	L12110754-01	ERT003:FB-2:W112712	50/50	1		12/03/12 13:34
39	P2.120312.134128	L12110784-02	PZ-04-GW-11272012	50/50	1		12/03/12 13:41
40	P2.120312.134725	L12110784-01	EB-GW-11272012	50/50	1		12/03/12 13:47
41	P2.120312.135418	WG415619-01	Post Digestion Spike		1	L12110784-01	12/03/12 13:54
42	P2.120312.140016	WG415619-02	Serial Dilution		5	L12110784-01	12/03/12 14:00
43	P2.120312.140711	WG415629-18	CCV		1		12/03/12 14:07
44	P2.120312.141311	WG415629-19	CCB		1		12/03/12 14:13
45	P2.120312.141839	L12110784-03	PZ-04-GW-11272012	50/50	1		12/03/12 14:18
46	P2.120312.142538	L12110784-06	PZ-06-GW-11272012	50/50	1		12/03/12 14:25
47	P2.120312.143136	L12110784-07	PZ-06-GW-11272012	50/50	1		12/03/12 14:31
48	P2.120312.143831	L12110784-08	PZ-01-GW-11272012	50/50	1		12/03/12 14:38
49	P2.120312.144430	L12110784-09	PZ-01-GW-11272012	50/50	1		12/03/12 14:44
50	P2.120312.145029	L12110784-10	MW-33-GW-11272012		1	WG415562-01	12/03/12 14:50
51	P2.120312.145634	L12110784-12	MW-33-GW-11272012-MS	50/50	1	WG415562-04	12/03/12 14:56
52	P2.120312.150237	L12110784-14	MW-33-GW-11272012-MSD	50/50	1	WG415562-05	12/03/12 15:02
53	P2.120312.150839	L12110784-16	BLDG4-PIT-SSP-GW-11272012	50/50	1		12/03/12 15:08
54	P2.120312.151537	WG415629-20	CCV		1		12/03/12 15:15
55	P2.120312.152138	WG415629-21	CCB		1		12/03/12 15:21
56	P2.120312.152831	L12110784-17	BLDG4-PIT-SSP-GW-11272012	50/50	1		12/03/12 15:28
57	P2.120312.153530	L12110784-18	MW-34-GW-11272012	50/50	1		12/03/12 15:35
58	P2.120312.154126	L12110784-19	MW-34-GW-11272012	50/50	1		12/03/12 15:41
59	P2.120312.154724	L12110784-20	MW-22-GW-11272012	50/50	1		12/03/12 15:47
60	P2.120312.155424	L12110784-21	MW-22-GW-11272012	50/50	1		12/03/12 15:54
61	P2.120312.160127	L12110784-22	DUP-GW-11272012-01	50/50	1		12/03/12 16:01
62	P2.120312.160826	L12110788-01	ADDLEMAN W1 45-2-8-1 NV	50/50	1		12/03/12 16:08
63	P2.120312.161522	L12110784-02	PZ-04-GW-11272012	50/50	100		12/03/12 16:15
64	P2.120312.162217	WG415629-22	CCV		1		12/03/12 16:22
65	P2.120312.162818	WG415629-23	CCB		1		12/03/12 16:28
66	P2.120312.163511	WG415629-24	Interference Check		1		12/03/12 16:35
67	P2.120312.164107	WG415629-25	Interference Check		1		12/03/12 16:41
68	P2.120312.164703	WG415629-26	CCV		1		12/03/12 16:47

Page: 2 Approved: December 04, 2012

Shari L. Bahgat



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 120312H.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44167

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD54811 Int. Std: RGT17684
 CCV: STD54922 LLCCV: _____

415570, 415619

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	P2.120312.165303	WG415629-27	CCB		1		12/03/12 16:53
70	P2.120312.165956	WG415614-01	Method/Prep Blank		1		12/03/12 16:59
71	P2.120312.170651	WG415614-02	Laboratory Control S		1		12/03/12 17:06
72	P2.120312.171252	WG415614-03	Laboratory Control S		1		12/03/12 17:12
73	P2.120312.171852	L12110619-05	GT120059		1		12/03/12 17:18
74	P2.120312.172449	L12110619-07	GT120061		1		12/03/12 17:24
75	P2.120312.173146	L12120030-01	TRC COND		1		12/03/12 17:31
76	P2.120312.173756	WG415634-01	Post Digestion Spike		1	L12120030-01	12/03/12 17:37
77	P2.120312.174404	WG415634-02	Serial Dilution		5	L12120030-01	12/03/12 17:44

Page: 3 Approved: December 04, 2012




Microbac Laboratories Inc.
Instrument Run Log

Instrument: PE-ICP2 Dataset: 120412HR.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44177

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD54811 Int. Std: RG17684
 CCV: STD54922 LLCCV: _____

415634, 415655, 415696, 415619

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.120412.073204	WG415688-01	Calibration Point		1		12/04/12 07:32
2	P2.120412.073859	WG415688-02	Calibration Point		1		12/04/12 07:38
3	P2.120412.074553	WG415688-03	Calibration Point		1		12/04/12 07:45
4	P2.120412.075247	WG415688-04	Calibration Point		1		12/04/12 07:52
5	P2.120412.075846	WG415688-05	Calibration Point		1		12/04/12 07:58
6	P2.120412.080449	WG415688-06	ICV 2nd Vendor		1		12/04/12 08:04
7	P2.120412.081045	WG415688-07	Initial Calibration Verification		1		12/04/12 08:10
8	P2.120412.081643	WG415688-08	Initial Calib Blank		1		12/04/12 08:16
9	P2.120412.082336	WG415688-09	Interference Check		1		12/04/12 08:23
10	P2.120412.082932	WG415688-10	Interference Check		1		12/04/12 08:29
11	P2.120412.083529	WG415688-11	CCV		1		12/04/12 08:35
12	P2.120412.084130	WG415688-12	CCB		1		12/04/12 08:41
13	P2.120412.090017	WG415614-01	Method/Prep Blank	1/50	1		12/04/12 09:00
14	P2.120412.090712	WG415614-02	Laboratory Control S	1/50	1		12/04/12 09:07
15	P2.120412.091311	WG415614-03	Laboratory Control S	1/50	1		12/04/12 09:13
16	P2.120412.091910	L12110619-05	GT120059	1/50	2		12/04/12 09:19
17	P2.120412.092508	L12110619-07	GT120061	1/50	2		12/04/12 09:25
18	P2.120412.093205	L12120030-01	TRC COND	1/50	2		12/04/12 09:32
19	P2.120412.093811	WG415634-01	Post Digestion Spike		2	L12120030-01	12/04/12 09:38
20	P2.120412.094418	WG415634-02	Serial Dilution		10	L12120030-01	12/04/12 09:44
21	P2.120412.095115	WG415688-13	CCV		1		12/04/12 09:51
22	P2.120412.095716	WG415688-14	CCB		1		12/04/12 09:57
23	P2.120412.100409	WG415561-02	Method/Prep Blank	50/50	1		12/04/12 10:04
24	P2.120412.101106	WG415561-03	Laboratory Control S	50/50	1		12/04/12 10:11
25	P2.120412.101703	L12110736-01	1211-256-1	50/50	1		12/04/12 10:17
26	P2.120412.102357	WG415561-01	Reference Sample		1	L12110772-01	12/04/12 10:23
27	P2.120412.102959	WG415561-04	Duplicate	50/50	1	L12110772-01	12/04/12 10:29
28	P2.120412.103602	WG415561-05	Matrix Spike	50/50	1	L12110772-01	12/04/12 10:36
29	P2.120412.104205	L12110815-01	1211-335-1	50/50	1		12/04/12 10:42
30	P2.120412.104900	WG415655-01	Post Digestion Spike		1	L12110815-01	12/04/12 10:49
31	P2.120412.105459	WG415655-02	Serial Dilution		5	L12110815-01	12/04/12 10:54
32	P2.120412.110154	WG415688-15	CCV		1		12/04/12 11:01
33	P2.120412.110755	WG415688-16	CCB		1		12/04/12 11:07
34	P2.120412.111448	L12110815-02	1211-336-1	50/50	1		12/04/12 11:14

Page: 1 Approved: December 05, 2012

Shari L. Babcock



Microbac Laboratories Inc.
Instrument Run Log

Instrument: PE-ICP2 Dataset: 120412HR.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44177

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD54811 Int. Std: RGT17684
 CCV: STD54922 LLCCV: _____

415634, 415655, 415696, 415619

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	P2.120412.112144	L12110833-01	1211-395-1	50/50	1		12/04/12 11:21
36	P2.120412.112743	WG415688-17	CCV		1		12/04/12 11:27
37	P2.120412.113344	WG415688-18	CCB		1		12/04/12 11:33
38	P2.120412.113857	WG415653-02	Method/Prep Blank	50/50	1		12/04/12 11:38
39	P2.120412.114553	WG415653-03	Laboratory Control S	50/50	1		12/04/12 11:45
40	P2.120412.115153	L12110771-36	ORG.SO1.279.14	50/50	1		12/04/12 11:51
41	P2.120412.115846	L12110771-38	ORG.SO2.279.14	50/50	1		12/04/12 11:58
42	P2.120412.120539	L12110784-04	MW-03-GW-11272012	50/50	1		12/04/12 12:05
43	P2.120412.121139	L12110784-05	MW-03-GW-11272012	50/50	1		12/04/12 12:11
44	P2.120412.121838	WG415653-01	Reference Sample		1	L12110784-11	12/04/12 12:18
45	P2.120412.122538	WG415696-01	Post Digestion Spike		1	L12110784-11	12/04/12 12:25
46	P2.120412.123138	WG415696-02	Serial Dilution		5	L12110784-11	12/04/12 12:31
47	P2.120412.123837	WG415688-19	CCV		1		12/04/12 12:38
48	P2.120412.124438	WG415688-20	CCB		1		12/04/12 12:44
49	P2.120412.125326	WG415653-04	Matrix Spike	50/50	1	L12110784-11	12/04/12 12:53
50	P2.120412.125927	WG415653-05	Matrix Spike Duplica	50/50	1	L12110784-11	12/04/12 12:59
51	P2.120412.130559	L12110836-01	GOTTSCHALK,THOMAS W1	50/50	1		12/04/12 13:05
52	P2.120412.131258	L12120021-01	WV OIL	50/50	200		12/04/12 13:12
53	P2.120412.131900	L12120034-01	8798-W0003	50/50	1		12/04/12 13:19
54	P2.120412.132556	L12120039-01	10234-W0001	50/50	1		12/04/12 13:25
55	P2.120412.133249	L12120039-02	10234-W0002	50/50	1		12/04/12 13:32
56	P2.120412.133943	L12120039-03	2356-W0001	50/50	1		12/04/12 13:39
57	P2.120412.134638	L12120039-04	2357-W0001	50/50	1		12/04/12 13:46
58	P2.120412.135332	WG415688-21	CCV		1		12/04/12 13:53
59	P2.120412.135933	WG415688-22	CCB		1		12/04/12 13:59
60	P2.120412.140430	L12120042-01	70225-W0002	50/50	1		12/04/12 14:04
61	P2.120412.141125	L12120042-02	70306-W0001	50/50	1		12/04/12 14:11
62	P2.120412.141819	L12120042-03	70309-W0003	50/50	1		12/04/12 14:18
63	P2.120412.142514	L12120054-01	NORTH TANK	50/50	1		12/04/12 14:25
64	P2.120412.143115	L12120054-02	SOUTH TANK	50/50	1		12/04/12 14:31
65	P2.120412.143816	L12110784-04	MW-03-GW-11272012	50/50	100		12/04/12 14:38
66	P2.120412.144511	L12110784-05	MW-03-GW-11272012		5		12/04/12 14:45
67	P2.120412.145210	L12110784-05	MW-03-GW-11272012	50/50	100		12/04/12 14:52
68	P2.120412.145904	WG415688-23	CCV		1		12/04/12 14:59

Page: 2 Approved: December 05, 2012

Shari L. Bahgat



Microbac Laboratories Inc.
Instrument Run Log

Instrument: PE-ICP2 Dataset: 120412HR.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44177

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD54811 Int. Std: RGT17684
 CCV: STD54922 LLCCV: _____

415634, 415655, 415696, 415619

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	P2.120412.150504	WG415688-24	CCB		1		12/04/12 15:05
70	P2.120412.151157	WG415653-01	Reference Sample		5	L12110784-11	12/04/12 15:11
71	P2.120412.151856	WG415696-01	Post Digestion Spike		5	L12110784-11	12/04/12 15:18
72	P2.120412.152455	WG415696-02	Serial Dilution		25	L12110784-11	12/04/12 15:24
73	P2.120412.153150	WG415653-04	Matrix Spike	50/50	5	L12110784-11	12/04/12 15:31
74	P2.120412.153748	WG415653-05	Matrix Spike Duplica	50/50	5	L12110784-11	12/04/12 15:37
75	P2.120412.154347	L12110784-03	PZ-04-GW-11272012	50/50	100		12/04/12 15:43
76	P2.120412.155043	L12110784-06	PZ-06-GW-11272012	50/50	100		12/04/12 15:50
77	P2.120412.155738	L12110784-07	PZ-06-GW-11272012	50/50	100		12/04/12 15:57
78	P2.120412.160435	WG415562-01	Reference Sample		100	L12110784-10	12/04/12 16:04
79	P2.120412.161131	WG415562-04	Matrix Spike	50/50	100	L12110784-10	12/04/12 16:11
80	P2.120412.161825	WG415688-25	CCV		1		12/04/12 16:18
81	P2.120412.162426	WG415688-26	CCB		1		12/04/12 16:24
82	P2.120412.163119	WG415562-05	Matrix Spike Duplica	50/50	100	L12110784-10	12/04/12 16:31
83	P2.120412.163814	L12110784-16	BLDG4-PIT-SSP-GW-112720	50/50	100		12/04/12 16:38
84	P2.120412.164509	L12110784-17	BLDG4-PIT-SSP-GW-112720		5		12/04/12 16:45
85	P2.120412.165208	L12110784-17	BLDG4-PIT-SSP-GW-112720	50/50	100		12/04/12 16:52
86	P2.120412.165902	L12110784-20	MW-22-GW-11272012	50/50	100		12/04/12 16:59
87	P2.120412.170602	L12110784-21	MW-22-GW-11272012	50/50	100		12/04/12 17:06
88	P2.120412.171257	L12110784-22	DUP-GW-11272012-01	50/50	100		12/04/12 17:12
89	P2.120412.171952	WG415688-27	CCV		1		12/04/12 17:19
90	P2.120412.172553	WG415688-28	CCB		1		12/04/12 17:25
91	P2.120412.173246	WG415695-02	Method/Prep Blank		1		12/04/12 17:32
92	P2.120412.173942	WG415695-03	Laboratory Control S		1		12/04/12 17:39
93	P2.120412.174542	WG415669-01	Fluid Blank		1		12/04/12 17:45
94	P2.120412.175242	L12110744-01	E. BASIN SLUDGE		1		12/04/12 17:52
95	P2.120412.175842	L12110744-02	WEST DRYING BED		1		12/04/12 17:58
96	P2.120412.180541	L12110755-01	ERT003:STOCKPILE1:Z1128		1		12/04/12 18:05
97	P2.120412.181240	L12110764-01	AOC 4-6-07		1		12/04/12 18:12
98	P2.120412.181939	L12110764-02	AOC 4-6-08		1		12/04/12 18:19
99	P2.120412.182638	WG415720-01	Post Digestion Spike		1	L12110764-02	12/04/12 18:26
100	P2.120412.183237	WG415720-02	Serial Dilution		5	L12110764-02	12/04/12 18:32
101	P2.120412.183932	WG415688-29	CCV		1		12/04/12 18:39
102	P2.120412.184533	WG415688-30	CCB		1		12/04/12 18:45

Page: 3 Approved: December 05, 2012

Shari L. Bahgat



Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 120512HR.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44191

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD54811 Int. Std: RGT17684
 CCV: STD54922 LLCCV: Tuning Sol: _____

415720, 415817

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.120512.073246	WG415839-01	Calibration Point		1		12/05/12 07:32
2	P2.120512.073941	WG415839-02	Calibration Point		1		12/05/12 07:39
3	P2.120512.074636	WG415839-03	Calibration Point		1		12/05/12 07:46
4	P2.120512.075331	WG415839-04	Calibration Point		1		12/05/12 07:53
5	P2.120512.075930	WG415839-05	Calibration Point		1		12/05/12 07:59
6	P2.120512.080534	WG415839-06	ICV 2nd Vendor		1		12/05/12 08:05
7	P2.120512.081325	WG415839-07	Initial Calibration Verification		1		12/05/12 08:13
8	P2.120512.081922	WG415839-08	Initial Calib Blank		1		12/05/12 08:19
9	P2.120512.082616	WG415839-09	Interference Check		1		12/05/12 08:26
10	P2.120512.083212	WG415839-10	Interference Check		1		12/05/12 08:32
11	P2.120512.083809	WG415839-11	CCV		1		12/05/12 08:38
12	P2.120512.084410	WG415839-12	CCB		1		12/05/12 08:44
13	P2.120512.085547	WG415695-02	Method/Prep Blank	5/50	1		12/05/12 08:55
14	P2.120512.090241	WG415695-03	Laboratory Control S	5/50	1		12/05/12 09:02
15	P2.120512.090840	WG415669-01	Fluid Blank		1		12/05/12 09:08
16	P2.120512.091539	L12110744-01	E. BASIN SLUDGE	5/50	1		12/05/12 09:15
17	P2.120512.092139	L12110744-02	WEST DRYING BED	5/50	1		12/05/12 09:21
18	P2.120512.092839	L12110755-01	ERT003:STOCKPILE1:Z1128	5/50	1		12/05/12 09:28
19	P2.120512.093540	L12110764-02	AOC 4-6-08	5/50	1		12/05/12 09:35
20	P2.120512.094240	L12110764-01	AOC 4-6-07	5/50	1		12/05/12 09:42
21	P2.120512.094941	WG415720-01	Post Digestion Spike		1	L12110764-01	12/05/12 09:49
22	P2.120512.095542	WG415720-02	Serial Dilution		5	L12110764-01	12/05/12 09:55
23	P2.120512.100236	WG415839-13	CCV		1		12/05/12 10:02
24	P2.120512.100837	WG415839-14	CCB		1		12/05/12 10:08
25	P2.120512.101530	L12110764-03	AOC 4-6-09	5/50	1		12/05/12 10:15
26	P2.120512.102128	L12110764-04	AOC 4-6-10	5/50	1		12/05/12 10:21
27	P2.120512.102826	L12110764-05	AOC 4-6-11	5/50	1		12/05/12 10:28
28	P2.120512.103525	L12110764-06	AOC 4-4-01	5/50	1		12/05/12 10:35
29	P2.120512.104223	L12110764-07	AOC 4-4-02	5/50	1		12/05/12 10:42
30	P2.120512.104921	L12110764-08	AOC 4-4-03	5/50	1		12/05/12 10:49
31	P2.120512.105619	L12110764-09	AOC 6-01	5/50	1		12/05/12 10:56
32	P2.120512.110218	L12110764-10	AOC 6-02	5/50	1		12/05/12 11:02
33	P2.120512.111027	WG415695-01	Reference Sample		1	L12110764-11	12/05/12 11:10
34	P2.120512.111726	WG415839-15	CCV		1		12/05/12 11:17

Page: 1 Approved: December 06, 2012

Shari L. Bahgat

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 120512HR.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44191

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD54811 Int. Std: RGT17684
 CCV: STD54922 LLCCV: Tuning Sol: _____

415720, 415817

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	P2.120512.151011	WG415839-25	CCV		1		12/05/12 15:10
70	P2.120512.151612	WG415839-26	CCB		1		12/05/12 15:16
71	P2.120512.152305	L12120043-09	14967-W0001	50/50	1		12/05/12 15:23
72	P2.120512.153002	L12120063-01	FTGWEF334		1	WG415755-01	12/05/12 15:30
73	P2.120512.153657	L12120063-02	FTGWEF334MS	50/50	1	WG415755-04	12/05/12 15:36
74	P2.120512.154255	L12120063-03	FTGWEF334MSD	50/50	1	WG415755-05	12/05/12 15:42
75	P2.120512.154853	WG415839-27	CCV		1		12/05/12 15:48
76	P2.120512.155454	WG415839-28	CCB		1		12/05/12 15:54
77	P2.120512.160147	WG415839-29	Interference Check		1		12/05/12 16:01
78	P2.120512.160744	WG415839-30	Interference Check		1		12/05/12 16:07
79	P2.120512.161341	WG415839-31	CCV		1		12/05/12 16:13
80	P2.120512.161942	WG415839-32	CCB		1		12/05/12 16:19

Comments

Seq.	Rerun	Dil.	Reason	Analytes
7			The ICV was reanalyzed to verify results	

Page: 3 Approved: December 06, 2012




Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 120612HR.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44199

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD55118 Int. Std: RGT17684
 CCV: STD54922 LLCCV: STD55051 Tuning Sol :
 Stannous : Hydroxylamine :

Workgroups: 415815, 415816, 415696, 415619, 415817

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	P2.120612.075123	WG415926-01	Calibration Point		1		12/06/12 07:51
2	P2.120612.075819	WG415926-02	Calibration Point		1		12/06/12 07:58
3	P2.120612.080514	WG415926-03	Calibration Point		1		12/06/12 08:05
4	P2.120612.081208	WG415926-04	Calibration Point		1		12/06/12 08:12
5	P2.120612.081807	WG415926-05	Calibration Point		1		12/06/12 08:18
6	P2.120612.082407	WG415926-06	Initial Calibration Verification		1		12/06/12 08:24
7	P2.120612.083004	WG415926-07	Initial Calib Blank		1		12/06/12 08:30
8	P2.120612.083659	WG415926-08	Low Level Initial Calibration V		1		12/06/12 08:36
9	P2.120612.084354	WG415926-09	Interference Check		1		12/06/12 08:43
10	P2.120612.084951	WG415926-10	Interference Check		1		12/06/12 08:49
11	P2.120612.085548	WG415926-11	CCV		1		12/06/12 08:55
12	P2.120612.090149	WG415926-12	CCB		1		12/06/12 09:01
13	P2.120612.091407	WG415751-03	Method/Prep Blank	50/50	1		12/06/12 09:14
14	P2.120612.092102	WG415751-04	Laboratory Control S	50/50	1		12/06/12 09:21
15	P2.120612.092701	WG415751-01	Reference Sample		1	L12120033-01	12/06/12 09:27
16	P2.120612.093259	L12120033-02	STORMWATER OUTLET 00	50/50	1		12/06/12 09:32
17	P2.120612.093858	WG415751-05	Matrix Spike	50/50	1	L12120033-01	12/06/12 09:38
18	P2.120612.094458	WG415751-06	Matrix Spike Duplica	50/50	1	L12120033-01	12/06/12 09:44
19	P2.120612.095058	L12120033-05	DUP	50/50	1		12/06/12 09:50
20	P2.120612.095657	L12120033-06	FIELD BLANK	50/50	1		12/06/12 09:56
21	P2.120612.100353	WG415815-01	Post Digestion Spike		1	L12120033-06	12/06/12 10:03
22	P2.120612.100950	WG415815-02	Serial Dilution		5	L12120033-06	12/06/12 10:09
23	P2.120612.101643	WG415926-13	CCV		1		12/06/12 10:16
24	P2.120612.102244	WG415926-14	CCB		1		12/06/12 10:22
25	P2.120612.102939	L12120037-01	001	50/50	1		12/06/12 10:29
26	P2.120612.103538	WG415751-02	Reference Sample		1	L12120074-01	12/06/12 10:35
27	P2.120612.104233	WG415751-07	Duplicate	50/50	1	L12120074-01	12/06/12 10:42
28	P2.120612.104928	L12120075-01	NM 005 OUTFALL E012679	50/50	1		12/06/12 10:49
29	P2.120612.105627	L12120076-01	OUTFALL 002/COMP	50/50	1		12/06/12 10:56
30	P2.120612.110226	L12120079-04	OUTFALL 003/COMP	50/50	1		12/06/12 11:02
31	P2.120612.110922	L12120083-01	NMEFF001/E0126798	50/50	1		12/06/12 11:09
32	P2.120612.111622	L12120086-01	DRL-Z-SS-1	50/50	1		12/06/12 11:16
33	P2.120612.112221	L12120086-02	DRL-Z-SS-2	50/50	1		12/06/12 11:22
34	P2.120612.112918	WG415926-15	CCV		1		12/06/12 11:29

Page: 1 Approved: December 07, 2012

Maren Beery

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 120612HR.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44199

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD55118 Int. Std: RGT17684
 CCV: STD54922 LLCCV: STD55051 Tuning Sol :
 Stannous : Hydroxylamine :

Workgroups: 415815, 415816, 415696, 415619, 415817

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	P2.120612.113518	WG415926-16	CCB		1		12/06/12 11:35
36	P2.120612.114211	WG415926-17	Linear Range Check		1		12/06/12 11:42
37	P2.120612.114937	WG415926-17	Linear Range Check		1		12/06/12 11:49
38	P2.120612.121122	WG415926-18	CCV		1		12/06/12 12:11
39	P2.120612.121723	WG415926-19	CCB		1		12/06/12 12:17
40	P2.120612.122416	WG415752-02	Method/Prep Blank	50/50	1		12/06/12 12:24
41	P2.120612.123109	WG415752-03	Laboratory Control S	50/50	1		12/06/12 12:31
42	P2.120612.123708	L12120061-01	LH18/24-SP650-6032-GRAB	50/50	1		12/06/12 12:37
43	P2.120612.124312	L12120061-02	LH18/24-SP650-6032-COMP	50/50	1		12/06/12 12:43
44	P2.120612.125012	L12120065-01	IA N&S	50/50	1		12/06/12 12:50
45	P2.120612.125611	L12120077-03	OUTFALL 003	50/50	1		12/06/12 12:56
46	P2.120612.130307	L12120082-01	MW-3-01	50/50	1		12/06/12 13:03
47	P2.120612.130907	L12120082-01	MW-3-01	50/50	100		12/06/12 13:09
48	P2.120612.131602	L12120082-02	MW-2-01	50/50	1		12/06/12 13:16
49	P2.120612.132307	L12120082-02	MW-2-01	50/50	100		12/06/12 13:23
50	P2.120612.133003	WG415926-20	CCV		1		12/06/12 13:30
51	P2.120612.133603	WG415926-21	CCB		1		12/06/12 13:36
52	P2.120612.134257	L12120082-03	MW-1-01	50/50	1		12/06/12 13:42
53	P2.120612.134854	L12120082-03	MW-1-01	50/50	100		12/06/12 13:48
54	P2.120612.135548	L12120082-04	MW-1-02	50/50	1		12/06/12 13:55
55	P2.120612.140146	L12120082-04	MW-1-02	50/50	100		12/06/12 14:01
56	P2.120612.140841	WG415752-01	Reference Sample		1	L12120082-05	12/06/12 14:08
57	P2.120612.141544	WG415752-01	Reference Sample		100	L12120082-05	12/06/12 14:15
58	P2.120612.142238	WG415752-04	Matrix Spike	50/50	1	L12120082-05	12/06/12 14:22
59	P2.120612.142840	WG415752-04	Matrix Spike	50/50	100	L12120082-05	12/06/12 14:28
60	P2.120612.143540	WG415752-05	Matrix Spike Duplica	50/50	1	L12120082-05	12/06/12 14:35
61	P2.120612.144140	WG415752-05	Matrix Spike Duplica	50/50	100	L12120082-05	12/06/12 14:41
62	P2.120612.144836	WG415926-22	CCV		1		12/06/12 14:48
63	P2.120612.145438	WG415926-23	CCB		1		12/06/12 14:54
64	P2.120612.150131	L12120087-01	2401-MW1A	50/50	1		12/06/12 15:01
65	P2.120612.150828	L12120087-02	2401-MW2A	50/50	1		12/06/12 15:08
66	P2.120612.151427	L12120087-03	2401-MW3A	50/50	1		12/06/12 15:14
67	P2.120612.152025	L12120087-04	2401-MW5A	50/50	1		12/06/12 15:20
68	P2.120612.152623	L12120087-05	2401-MW7	50/50	1		12/06/12 15:26

Page: 2 Approved: December 07, 2012

Maren Beery

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 120612HR.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44199

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD55118 Int. Std: RGT17684
 CCV: STD54922 LLCCV: STD55051 Tuning Sol :
 Stannous : Hydroxylamine :

Workgroups: 415815, 415816, 415696, 415619, 415817

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	P2.120612.153221	L12120087-06	2401-MW11	50/50	1		12/06/12 15:32
70	P2.120612.153819	L12120087-07	2401-MW12	50/50	1		12/06/12 15:38
71	P2.120612.154417	L12120087-08	2401-CD4	50/50	1		12/06/12 15:44
72	P2.120612.155015	WG415816-01	Post Digestion Spike		1	L12120087-08	12/06/12 15:50
73	P2.120612.155614	WG415816-02	Serial Dilution		5	L12120087-08	12/06/12 15:56
74	P2.120612.160309	WG415926-24	CCV		1		12/06/12 16:03
75	P2.120612.160910	WG415926-25	CCB		1		12/06/12 16:09
76	P2.120612.161603	L12120087-09	2401-CD4D	50/50	1		12/06/12 16:16
77	P2.120612.162202	L12120087-10	2401-US1	50/50	1		12/06/12 16:22
78	P2.120612.162801	L12120087-11	2401-DS1	50/50	1		12/06/12 16:28
79	P2.120612.163402	WG415926-26	CCV		1		12/06/12 16:34
80	P2.120612.164002	WG415926-27	CCB		1		12/06/12 16:40
81	P2.120612.164655	WG415926-28	Low Level Continuing Calibra		1		12/06/12 16:46
82	P2.120612.165245	L12110784-04	MW-03-GW-11272012	50/50	10		12/06/12 16:52
83	P2.120612.170026	L12110784-05	MW-03-GW-11272012	50/50	10		12/06/12 17:00
84	P2.120612.170726	L12120039-03	2356-W0001	50/50	1		12/06/12 17:07
85	P2.120612.171420	L12120042-02	70306-W0001	50/50	1		12/06/12 17:14
86	P2.120612.172114	L12120054-01	NORTH TANK	50/50	100		12/06/12 17:21
87	P2.120612.172808	L12120054-02	SOUTH TANK	50/50	100		12/06/12 17:28
88	P2.120612.173502	L12110784-16	BLDG4-PIT-SSP-GW-112720	50/50	10		12/06/12 17:35
89	P2.120612.174201	L12110784-17	BLDG4-PIT-SSP-GW-112720	50/50	10		12/06/12 17:42
90	P2.120612.174900	L12110784-22	DUP-GW-11272012-01	50/50	10		12/06/12 17:49
91	P2.120612.175559	L12110784-23	DUP-GW-11272012-01	50/50	50		12/06/12 17:55
92	P2.120612.180255	WG415926-29	CCV		1		12/06/12 18:02
93	P2.120612.180856	WG415926-30	CCB		1		12/06/12 18:08
94	P2.120612.181549	L12110784-24	MW-32-GW-11272012	50/50	100		12/06/12 18:15
95	P2.120612.182246	L12110784-25	MW-32-GW-11272012	50/50	100		12/06/12 18:22
96	P2.120612.182942	L12110784-26	MW-02-GW-11282012	50/50	100		12/06/12 18:29
97	P2.120612.183636	L12110784-27	MW-02-GW-11282012	50/50	100		12/06/12 18:36
98	P2.120612.184331	L12110784-28	MW-23-GW-11282012	50/50	100		12/06/12 18:43
99	P2.120612.185026	L12110784-29	MW-23-GW-11282012	50/50	100		12/06/12 18:50
100	P2.120612.185721	WG415926-31	CCV		1		12/06/12 18:57
101	P2.120612.190322	WG415926-32	CCB		1		12/06/12 19:03
102	P2.120612.191015	WG415926-33	Interference Check		1		12/06/12 19:10

Page: 3 Approved: December 07, 2012

Maren Beery

Microbac Laboratories Inc.

Instrument Run Log

Instrument: PE-ICP2 Dataset: 120612HR.CSV
 Analyst1: KHR Analyst2: N/A
 Method: 6010B/6010C/200.7 SOP: ME600E Rev: 12
 Maintenance Log ID: 44199

Calibration Std: STD54901 ICV Std: STD54812 Post Spike: STD53996
 ICSA: STD55094 ICSAB: STD55118 Int. Std: RGT17684
 CCV: STD54922 LLCCV: STD55051 Tuning Sol : _____
 Stannous : _____ Hydroxylamine : _____

Workgroups: 415815, 415816, 415696, 415619, 415817

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	P2.120612.191612	WG415926-34	Interference Check		1		12/06/12 19:16
104	P2.120612.192209	WG415926-35	CCV		1		12/06/12 19:22
105	P2.120612.192810	WG415926-36	CCB		1		12/06/12 19:28

Page: 4 Approved: December 07, 2012

Maren Beery



Microbac Laboratories Inc.

Data Checklist

Date: 03-DEC-2012
 Analyst: KHR
 Analyst: NA
 Method: 6010
 Instrument: PE-ICP2
 Curve Workgroup: 415629
 Runlog ID: 50305
 Analytical Workgroups: 415570, 415619

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	
Level 3	
Level 4	784
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KHR
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
04-DEC-2012

Kim H. Rhodes

Secondary Reviewer:
04-DEC-2012

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 04-DEC-2012
 Analyst: KHR
 Analyst: NA
 Method: 6010B/6010C/200.7
 Instrument: PE-ICP2
 Curve Workgroup: 415688
 Runlog ID: 50321
 Analytical Workgroups: 415634, 415655, 415696, 415619

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	054
Level 3	
Level 4	784, 034, 039, 042
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KHR
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
05-DEC-2012

Kim H. Rhodes

Secondary Reviewer:
05-DEC-2012

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 05-DEC-2012
 Analyst: KHR
 Analyst: NA
 Method: 6010B/6010C/200.7
 Instrument: PE-ICP2
 Curve Workgroup: 415839
 Runlog ID: 50347
 Analytical Workgroups: 415720, 415817

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	
Case Narrative	X
Client Forms	X
Level X	
Level 3	063
Level 4	767, 011, 784, 043
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KHR
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
06-DEC-2012

Kim H. Rhodes

Secondary Reviewer:
06-DEC-2012

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 06-DEC-2012
 Analyst: KHR
 Analyst: NA
 Method: 6010B/6010C/200.7
 Instrument: PE-ICP2
 Curve Workgroup: 415926
 Runlog ID: 50359
 Analytical Workgroups: 415815, 415816, 415696, 415619, 415817

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	054
Level 3	065
Level 4	061, 082, 784, 039, 042
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KHR
Secondary Reviewer	MMB
Comments	

Primary Reviewer:
07-DEC-2012

Secondary Reviewer:
07-DEC-2012

Kim H. Rhodes

Maren Beery



Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method:6010B

AAB#:WG415619

Login Number:L12110784

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
EB-GW-11272012	01	11/27/12					12/03/2012	6	180		12/03/12	6.2	180	
PZ-04-GW-11272012	02	11/27/12					12/03/2012	5.9	180		12/03/12	6.3	180	
PZ-04-GW-11272012	02	11/27/12					12/03/2012	5.9	180		12/03/12	6.2	180	
PZ-04-GW-11272012	03	11/27/12					12/03/2012	5.9	180		12/04/12	7.3	180	
PZ-04-GW-11272012	03	11/27/12					12/03/2012	5.9	180		12/03/12	6.2	180	
PZ-06-GW-11272012	06	11/27/12					12/03/2012	5.9	180		12/04/12	7.2	180	
PZ-06-GW-11272012	06	11/27/12					12/03/2012	5.9	180		12/03/12	6.2	180	
PZ-06-GW-11272012	07	11/27/12					12/03/2012	5.9	180		12/04/12	7.2	180	
PZ-06-GW-11272012	07	11/27/12					12/03/2012	5.9	180		12/03/12	6.2	180	
PZ-01-GW-11272012	08	11/27/12					12/03/2012	5.9	180		12/03/12	6.2	180	
PZ-01-GW-11272012	09	11/27/12					12/03/2012	5.9	180		12/03/12	6.2	180	
MW-33-GW-11272012	10	11/27/12					12/03/2012	5.8	180		12/03/12	6.2	180	
MW-33-GW-11272012	10	11/27/12					12/03/2012	5.8	180		12/04/12	7.2	180	
MW-33-GW-11272012-MS	12	11/27/12					12/03/2012	5.8	180		12/04/12	7.2	180	
MW-33-GW-11272012-MS	12	11/27/12					12/03/2012	5.8	180		12/03/12	6.2	180	
MW-33-GW-11272012-MSD	14	11/27/12					12/03/2012	5.8	180		12/04/12	7.2	180	
MW-33-GW-11272012-MSD	14	11/27/12					12/03/2012	5.8	180		12/03/12	6.2	180	
BLDG4-PIT-SSP-GW-1127201	16	11/27/12					12/03/2012	5.8	180		12/03/12	6.1	180	
BLDG4-PIT-SSP-GW-1127201	16	11/27/12					12/03/2012	5.8	180		12/04/12	7.2	180	
BLDG4-PIT-SSP-GW-1127201	16	11/27/12					12/03/2012	5.8	180		12/06/12	9.2	180	
BLDG4-PIT-SSP-GW-1127201	17	11/27/12					12/03/2012	5.8	180		12/06/12	9.3	180	
BLDG4-PIT-SSP-GW-1127201	17	11/27/12					12/03/2012	5.8	180		12/03/12	6.2	180	
BLDG4-PIT-SSP-GW-1127201	17	11/27/12					12/03/2012	5.8	180		12/04/12	7.2	180	
MW-34-GW-11272012	18	11/27/12					12/03/2012	5.8	180		12/03/12	6.1	180	
MW-34-GW-11272012	19	11/27/12					12/03/2012	5.8	180		12/03/12	6.1	180	
MW-22-GW-11272012	20	11/27/12					12/03/2012	5.7	180		12/03/12	6	180	
MW-22-GW-11272012	20	11/27/12					12/03/2012	5.7	180		12/04/12	7.1	180	
MW-22-GW-11272012	21	11/27/12					12/03/2012	5.7	180		12/03/12	6	180	
MW-22-GW-11272012	21	11/27/12					12/03/2012	5.7	180		12/04/12	7.1	180	
DUP-GW-11272012-01	22	11/27/12					12/03/2012	5.8	180		12/03/12	6.2	180	
DUP-GW-11272012-01	22	11/27/12					12/03/2012	5.8	180		12/04/12	7.2	180	
DUP-GW-11272012-01	22	11/27/12					12/03/2012	5.8	180		12/06/12	9.2	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
 PDF File ID: 2684598
 Report generated 12/07/2012 09:09



Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method:6010B
 Login Number:L12110784

AAB#:WG415696

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW-03-GW-11272012	04	11/27/12					12/04/2012	6.9	180		12/04/12	7.2	180	
MW-03-GW-11272012	04	11/27/12					12/04/2012	6.9	180		12/04/12	7.1	180	
MW-03-GW-11272012	04	11/27/12					12/04/2012	6.9	180		12/06/12	9.3	180	
MW-03-GW-11272012	05	11/27/12					12/04/2012	6.9	180		12/06/12	9.3	180	
MW-03-GW-11272012	05	11/27/12					12/04/2012	6.9	180		12/04/12	7.2	180	
MW-03-GW-11272012	05	11/27/12					12/04/2012	6.9	180		12/04/12	7.1	180	
MW-33-GW-11272012	11	11/27/12					12/04/2012	6.8	180		12/04/12	7	180	
MW-33-GW-11272012	11	11/27/12					12/04/2012	6.8	180		12/04/12	7.2	180	
MW-33-GW-11272012-MS	13	11/27/12					12/04/2012	6.8	180		12/04/12	7.2	180	
MW-33-GW-11272012-MS	13	11/27/12					12/04/2012	6.8	180		12/04/12	7.1	180	
MW-33-GW-11272012-MSD	15	11/27/12					12/04/2012	6.8	180		12/04/12	7.2	180	
MW-33-GW-11272012-MSD	15	11/27/12					12/04/2012	6.8	180		12/04/12	7.1	180	

* = SEE PROJECT QAPP REQUIREMENTS



Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method:6010B
 Login Number:L12110784

AAB#:WG415817

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
DUP-GW-11272012-01	23	11/27/12					12/05/2012	7.8	180		12/05/12	8.1	180	
DUP-GW-11272012-01	23	11/27/12					12/05/2012	7.8	180		12/06/12	9.3	180	
MW-32-GW-11272012	24	11/27/12					12/05/2012	7.7	180		12/06/12	9.1	180	
MW-32-GW-11272012	24	11/27/12					12/05/2012	7.7	180		12/05/12	7.9	180	
MW-32-GW-11272012	25	11/27/12					12/05/2012	7.7	180		12/06/12	9.1	180	
MW-32-GW-11272012	25	11/27/12					12/05/2012	7.7	180		12/05/12	7.9	180	
MW-02-GW-11282012	26	11/28/12					12/05/2012	6.9	180		12/06/12	8.3	180	
MW-02-GW-11282012	26	11/28/12					12/05/2012	6.9	180		12/05/12	7.1	180	
MW-02-GW-11282012	27	11/28/12					12/05/2012	6.9	180		12/06/12	8.3	180	
MW-02-GW-11282012	27	11/28/12					12/05/2012	6.9	180		12/05/12	7.1	180	
MW-23-GW-11282012	28	11/28/12					12/05/2012	6.9	180		12/06/12	8.4	180	
MW-23-GW-11282012	28	11/28/12					12/05/2012	6.9	180		12/05/12	7.2	180	
MW-23-GW-11282012	29	11/28/12					12/05/2012	6.9	180		12/05/12	7.2	180	
MW-23-GW-11282012	29	11/28/12					12/05/2012	6.9	180		12/06/12	8.4	180	

* = SEE PROJECT QAPP REQUIREMENTS



METHOD BLANK SUMMARY

Login Number: L12110784
 Blank File ID: P2.120312.130146
 Prep Date: 12/03/12 07:23
 Analyzed Date: 12/03/12 13:01
 Analyst: KHR

Work Group: WG415619
 Blank Sample ID: WG415562-02
 Instrument ID: PE-ICP2
 Method: 6010B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG415562-03	P2.120312.130841	12/03/12 13:08	01
PZ-04-GW-11272012	L12110784-02	P2.120312.134128	12/03/12 13:41	01
EB-GW-11272012	L12110784-01	P2.120312.134725	12/03/12 13:47	01
PZ-04-GW-11272012	L12110784-03	P2.120312.141839	12/03/12 14:18	01
PZ-06-GW-11272012	L12110784-06	P2.120312.142538	12/03/12 14:25	01
PZ-06-GW-11272012	L12110784-07	P2.120312.143136	12/03/12 14:31	01
PZ-01-GW-11272012	L12110784-08	P2.120312.143831	12/03/12 14:38	01
PZ-01-GW-11272012	L12110784-09	P2.120312.144430	12/03/12 14:44	01
MW-33-GW-11272012	L12110784-10	P2.120312.145029	12/03/12 14:50	01
MW-33-GW-11272012-MS	L12110784-12	P2.120312.145634	12/03/12 14:56	01
MW-33-GW-11272012-MSD	L12110784-14	P2.120312.150237	12/03/12 15:02	01
BLDG4-PIT-SSP-GW-11272012	L12110784-16	P2.120312.150839	12/03/12 15:08	01
BLDG4-PIT-SSP-GW-11272012	L12110784-17	P2.120312.152831	12/03/12 15:28	01
MW-34-GW-11272012	L12110784-18	P2.120312.153530	12/03/12 15:35	01
MW-34-GW-11272012	L12110784-19	P2.120312.154126	12/03/12 15:41	01
MW-22-GW-11272012	L12110784-20	P2.120312.154724	12/03/12 15:47	01
MW-22-GW-11272012	L12110784-21	P2.120312.155424	12/03/12 15:54	01
DUP-GW-11272012-01	L12110784-22	P2.120312.160127	12/03/12 16:01	01
PZ-04-GW-11272012	L12110784-02	P2.120312.161522	12/03/12 16:15	DL01
PZ-04-GW-11272012	L12110784-03	P2.120412.154347	12/04/12 15:43	DL01
PZ-06-GW-11272012	L12110784-06	P2.120412.155043	12/04/12 15:50	DL01
PZ-06-GW-11272012	L12110784-07	P2.120412.155738	12/04/12 15:57	DL01
MW-33-GW-11272012	L12110784-10	P2.120412.160435	12/04/12 16:04	DL01
MW-33-GW-11272012-MS	L12110784-12	P2.120412.161131	12/04/12 16:11	DL01
MW-33-GW-11272012-MSD	L12110784-14	P2.120412.163119	12/04/12 16:31	DL01
BLDG4-PIT-SSP-GW-11272012	L12110784-16	P2.120412.163814	12/04/12 16:38	DL01
BLDG4-PIT-SSP-GW-11272012	L12110784-17	P2.120412.165208	12/04/12 16:52	DL01
MW-22-GW-11272012	L12110784-20	P2.120412.165902	12/04/12 16:59	DL01
MW-22-GW-11272012	L12110784-21	P2.120412.170602	12/04/12 17:06	DL01
DUP-GW-11272012-01	L12110784-22	P2.120412.171257	12/04/12 17:12	DL01
BLDG4-PIT-SSP-GW-11272012	L12110784-16	P2.120612.173502	12/06/12 17:35	DL02
BLDG4-PIT-SSP-GW-11272012	L12110784-17	P2.120612.174201	12/06/12 17:42	DL02
DUP-GW-11272012-01	L12110784-22	P2.120612.174900	12/06/12 17:49	DL02

Report Name: BLANK_SUMMARY
 PDF File ID: 2684599
 Report generated 12/07/2012 09:34



METHOD BLANK SUMMARY

Login Number: L12110784 Work Group: WG415696
 Blank File ID: P2.120412.113857 Blank Sample ID: WG415653-02
 Prep Date: 12/04/12 06:42 Instrument ID: PE-ICP2
 Analyzed Date: 12/04/12 11:38 Method: 6010B
 Analyst: KHR

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG415653-03	P2.120412.114553	12/04/12 11:45	01
MW-03-GW-11272012	L12110784-04	P2.120412.120539	12/04/12 12:05	01
MW-03-GW-11272012	L12110784-05	P2.120412.121139	12/04/12 12:11	01
MW-33-GW-11272012	L12110784-11	P2.120412.121838	12/04/12 12:18	01
MW-33-GW-11272012-MS	L12110784-13	P2.120412.125326	12/04/12 12:53	01
MW-33-GW-11272012-MSD	L12110784-15	P2.120412.125927	12/04/12 12:59	01
MW-03-GW-11272012	L12110784-04	P2.120412.143816	12/04/12 14:38	DL01
MW-03-GW-11272012	L12110784-05	P2.120412.145210	12/04/12 14:52	DL01
MW-33-GW-11272012	L12110784-11	P2.120412.151157	12/04/12 15:11	DL01
MW-33-GW-11272012-MS	L12110784-13	P2.120412.153150	12/04/12 15:31	DL01
MW-33-GW-11272012-MSD	L12110784-15	P2.120412.153748	12/04/12 15:37	DL01
MW-03-GW-11272012	L12110784-04	P2.120612.165245	12/06/12 16:52	DL02
MW-03-GW-11272012	L12110784-05	P2.120612.170026	12/06/12 17:00	DL02

Report Name: BLANK_SUMMARY
 PDF File ID: 2684599
 Report generated 12/07/2012 09:34



METHOD BLANK SUMMARY

Login Number: L12110784 Work Group: WG415817
 Blank File ID: P2.120512.125132 Blank Sample ID: WG415755-02
 Prep Date: 12/05/12 07:10 Instrument ID: PE-ICP2
 Analyzed Date: 12/05/12 12:51 Method: 6010B
 Analyst: KHR

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG415755-03	P2.120512.125827	12/05/12 12:58	01
DUP-GW-11272012-01	L12110784-23	P2.120512.130425	12/05/12 13:04	01
MW-32-GW-11272012	L12110784-24	P2.120512.131125	12/05/12 13:11	01
MW-32-GW-11272012	L12110784-25	P2.120512.131728	12/05/12 13:17	01
MW-02-GW-11282012	L12110784-26	P2.120512.132331	12/05/12 13:23	01
MW-02-GW-11282012	L12110784-27	P2.120512.133031	12/05/12 13:30	01
MW-23-GW-11282012	L12110784-28	P2.120512.140749	12/05/12 14:07	01
MW-23-GW-11282012	L12110784-29	P2.120512.141444	12/05/12 14:14	01
DUP-GW-11272012-01	L12110784-23	P2.120612.175559	12/06/12 17:55	DL01
MW-32-GW-11272012	L12110784-24	P2.120612.181549	12/06/12 18:15	DL01
MW-32-GW-11272012	L12110784-25	P2.120612.182246	12/06/12 18:22	DL01
MW-02-GW-11282012	L12110784-26	P2.120612.182942	12/06/12 18:29	DL01
MW-02-GW-11282012	L12110784-27	P2.120612.183636	12/06/12 18:36	DL01
MW-23-GW-11282012	L12110784-28	P2.120612.184331	12/06/12 18:43	DL01
MW-23-GW-11282012	L12110784-29	P2.120612.185026	12/06/12 18:50	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 2684599
 Report generated 12/07/2012 09:34



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/03/12 07:23 Sample ID: WG415562-02
Instrument ID: PE-ICP2 Run Date: 12/03/12 13:01 Prep Method: 3005A
File ID: P2.120312.130146 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG415619 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: PE-ICP-03-DEC-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Barium, Total	0.00500	0.0100	0.00500	1	U
Beryllium, Total	0.00100	0.00200	0.00100	1	U
Cadmium, Total	0.000250	0.000500	-0.000475	1	U
Calcium, Total	0.100	0.200	0.100	1	U
Chromium, Total	0.00250	0.00500	-0.00261	1	U
Cobalt, Total	0.0100	0.0200	0.0100	1	U
Copper, Total	0.0100	0.0200	0.0100	1	U
Iron, Total	0.0500	0.100	0.0500	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Manganese, Total	0.00500	0.0100	0.00500	1	U
Nickel, Total	0.0200	0.0400	0.0200	1	U
Potassium, Total	0.500	1.00	0.500	1	U
Silica, Calculated as SiO2	1.07	2.14	1.07	1	U
Silver, Total	0.00500	0.0100	0.00500	1	U
Sodium, Total	0.250	0.500	0.250	1	U
Vanadium, Total	0.00500	0.0100	0.00500	1	U
Zinc, Total	0.0100	0.0200	0.0100	1	U

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 2684600
18-DEC-2012 19:05



METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/04/12 06:42 Sample ID: WG415653-02
Instrument ID: PE-ICP2 Run Date: 12/04/12 11:38 Prep Method: 3005A
File ID: P2.120412.113857 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG415696 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: PE-ICP-04-DEC-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Barium, Total	0.00500	0.0100	0.00500	1	U
Beryllium, Total	0.00100	0.00200	0.00100	1	U
Cadmium, Total	0.000250	0.000500	-0.000423	1	U
Calcium, Total	0.100	0.200	0.100	1	U
Chromium, Total	0.00250	0.00500	0.00250	1	U
Cobalt, Total	0.0100	0.0200	0.0100	1	U
Copper, Total	0.0100	0.0200	0.0100	1	U
Iron, Total	0.0500	0.100	0.0500	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Manganese, Total	0.00500	0.0100	-0.00626	1	U
Nickel, Total	0.0200	0.0400	0.0200	1	U
Potassium, Total	0.500	1.00	0.500	1	U
Silica, Calculated as SiO2	1.07	2.14	1.07	1	U
Silver, Total	0.00500	0.0100	0.00500	1	U
Sodium, Total	0.250	0.500	0.250	1	U
Vanadium, Total	0.00500	0.0100	0.00500	1	U
Zinc, Total	0.0100	0.0200	0.0100	1	U

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 2684600
18-DEC-2012 19:05



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/05/12 07:10 Sample ID: WG415755-02
Instrument ID: PE-ICP2 Run Date: 12/05/12 12:51 Prep Method: 3005A
File ID: P2.120512.125132 Analyst: KHR Method: 6010B
Workgroup (AAB#): WG415817 Matrix: Water Units: mg/L
Contract #: Cal ID: PE-ICP-05-DEC-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Aluminum, Total	0.0500	0.100	0.0500	1	U
Barium, Total	0.00500	0.0100	0.00500	1	U
Beryllium, Total	0.00100	0.00200	0.00100	1	U
Cadmium, Total	0.000250	0.000500	0.000250	1	U
Calcium, Total	0.100	0.200	0.100	1	U
Chromium, Total	0.00250	0.00500	0.00250	1	U
Cobalt, Total	0.0100	0.0200	0.0100	1	U
Copper, Total	0.0100	0.0200	0.0100	1	U
Iron, Total	0.0500	0.100	0.0500	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Manganese, Total	0.00500	0.0100	0.00500	1	U
Nickel, Total	0.0200	0.0400	0.0200	1	U
Potassium, Total	0.500	1.00	0.500	1	U
Silica, Calculated as SiO2	1.07	2.14	1.07	1	U
Silver, Total	0.00500	0.0100	0.00500	1	U
Sodium, Total	0.250	0.500	0.250	1	U
Vanadium, Total	0.00500	0.0100	0.00548	1	J
Zinc, Total	0.0100	0.0200	0.0100	1	U

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 2684600
18-DEC-2012 19:05



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415562-03
 Instrument ID: PE-ICP2 Run Time: 13:08 Prep Method: 3005A
 File ID: P2.120312.130841 Analyst: KHR Method: 6010B
 Workgroup (AAB#): WG415619 Matrix: Water Units: mg/L
 QC Key: WATERLOO Lot#: STD54722 Cal ID: PE-ICP-03-DEC-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Aluminum, Total	5.00	5.11	102	85 - 115	
Barium, Total	0.500	0.513	103	85 - 115	
Beryllium, Total	0.0250	0.0242	96.8	85 - 115	
Cadmium, Total	0.0250	0.0233	93.3	85 - 115	
Calcium, Total	5.00	5.06	101	85 - 115	
Chromium, Total	0.250	0.257	103	85 - 115	
Cobalt, Total	0.100	0.101	101	85 - 115	
Copper, Total	0.250	0.249	99.6	85 - 115	
Iron, Total	2.00	2.04	102	85 - 115	
Magnesium, Total	5.00	5.08	102	85 - 115	
Manganese, Total	0.250	0.262	105	85 - 115	
Nickel, Total	0.250	0.269	107	85 - 115	
Potassium, Total	25.0	24.6	98.6	85 - 115	
Silver, Total	0.200	0.202	101	85 - 115	
Sodium, Total	25.0	25.0	100	85 - 115	
Vanadium, Total	0.500	0.515	103	85 - 115	
Zinc, Total	0.500	0.503	101	85 - 115	

LCS - Modified 03/06/2008
 PDF File ID: 2684601
 Report generated: 12/18/2012 19:06



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415653-03
 Instrument ID: PE-ICP2 Run Time: 11:45 Prep Method: 3005A
 File ID: P2.120412.114553 Analyst: KHR Method: 6010B
 Workgroup (AAB#): WG415696 Matrix: Water Units: mg/L
 QC Key: WATERLOO Lot#: STD54722 Cal ID: PE-ICP-04-DEC-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Aluminum, Total	5.00	4.78	95.7	85 - 115	
Barium, Total	0.500	0.470	94.1	85 - 115	
Beryllium, Total	0.0250	0.0226	90.5	85 - 115	
Cadmium, Total	0.0250	0.0220	88.0	85 - 115	
Calcium, Total	5.00	4.78	95.6	85 - 115	
Chromium, Total	0.250	0.237	94.7	85 - 115	
Cobalt, Total	0.100	0.0951	95.1	85 - 115	
Copper, Total	0.250	0.231	92.4	85 - 115	
Iron, Total	2.00	1.96	98.0	85 - 115	
Magnesium, Total	5.00	4.83	96.6	85 - 115	
Manganese, Total	0.250	0.237	94.9	85 - 115	
Nickel, Total	0.250	0.241	96.5	85 - 115	
Potassium, Total	25.0	24.4	97.5	85 - 115	
Silver, Total	0.200	0.187	93.5	85 - 115	
Sodium, Total	25.0	23.7	94.6	85 - 115	
Vanadium, Total	0.500	0.472	94.5	85 - 115	
Zinc, Total	0.500	0.465	93.1	85 - 115	

LCS - Modified 03/06/2008
 PDF File ID: 2684601
 Report generated: 12/18/2012 19:06



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415755-03
 Instrument ID: PE-ICP2 Run Time: 12:58 Prep Method: 3005A
 File ID: P2.120512.125827 Analyst: KHR Method: 6010B
 Workgroup (AAB#): WG415817 Matrix: Water Units: mg/L
 QC Key: WATERLOO Lot#: STD54722 Cal ID: PE-ICP-05-DEC-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Aluminum, Total	5.00	4.90	98.0	85 - 115	
Barium, Total	0.500	0.492	98.5	85 - 115	
Beryllium, Total	0.0250	0.0245	97.8	85 - 115	
Cadmium, Total	0.0250	0.0241	96.6	85 - 115	
Calcium, Total	5.00	5.02	100	85 - 115	
Chromium, Total	0.250	0.248	99.2	85 - 115	
Cobalt, Total	0.100	0.0979	97.9	85 - 115	
Copper, Total	0.250	0.247	98.8	85 - 115	
Iron, Total	2.00	1.98	99.1	85 - 115	
Magnesium, Total	5.00	4.90	98.0	85 - 115	
Manganese, Total	0.250	0.249	99.6	85 - 115	
Nickel, Total	0.250	0.260	104	85 - 115	
Potassium, Total	25.0	25.2	101	85 - 115	
Silver, Total	0.200	0.202	101	85 - 115	
Sodium, Total	25.0	25.9	104	85 - 115	
Vanadium, Total	0.500	0.492	98.3	85 - 115	
Zinc, Total	0.500	0.499	99.8	85 - 115	

LCS - Modified 03/06/2008
 PDF File ID: 2684601
 Report generated: 12/18/2012 19:06



MS/MSD REPORT

Loginum: L12110784 Cal ID: PE-ICP2- 03-DEC-12 Worknum: WG415619
 Instrument ID: PE-ICP2 Contract #: _____ Prep Method: 3005A
 Parent ID: L12110784-10 File ID: P2.120312.145029 Dil: 1 Method: 6010B
 Sample ID: L12110784-12 MS File ID: P2.120312.145634 Dil: 1 Matrix: Water
 Sample ID: L12110784-14 MSD File ID: P2.120312.150237 Dil: 1 Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Total	0.316	5.00	5.48	103	5.00	5.43	102	0.935	85 - 115	20	
Barium, Total	0.611	0.500	1.08	93.9	0.500	1.09	96.5	1.19	85 - 115	20	
Beryllium, Total	U	0.0250	0.0236	94.5	0.0250	0.0235	94.2	0.323	85 - 115	20	
Cadmium, Total	U	0.0250	0.0219	87.8	0.0250	0.0219	87.5	0.375	85 - 115	20	
Calcium, Total	352	5.00	350	-29.3	5.00	356	94.8	1.76	85 - 115	20	*
Chromium, Total	8.34	0.250	8.39	22.4	0.250	8.60	104	2.40	85 - 115	20	*
Cobalt, Total	U	0.100	0.0994	99.4	0.100	0.0990	99	0.387	85 - 115	20	
Copper, Total	U	0.250	0.239	95.8	0.250	0.235	94.1	1.77	85 - 115	20	
Iron, Total	1.02	2.00	2.87	92.4	2.00	2.91	94.8	1.66	85 - 115	20	
Magnesium, Total	77.1	5.00	79.0	39	5.00	81.2	81.9	2.68	85 - 115	20	*
Manganese, Total	0.527	0.250	0.757	92.3	0.250	0.766	95.8	1.14	85 - 115	20	
Nickel, Total	U	0.250	0.263	105	0.250	0.261	104	0.694	85 - 115	20	
Potassium, Total	12.3	25.0	36.6	97.1	25.0	36.8	97.8	0.482	85 - 115	20	
Silver, Total	U	0.200	0.200	100	0.200	0.198	99.2	0.824	85 - 115	20	
Vanadium, Total	0.0386	0.500	0.551	103	0.500	0.548	102	0.580	85 - 115	20	
Zinc, Total	U	0.500	0.463	92.6	0.500	0.465	93	0.425	85 - 115	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT



MS/MSD REPORT

Loginum: L12110784 Cal ID: PE-ICP2- 04-DEC-12 Worknum: WG415619
 Instrument ID: PE-ICP2 Contract #: _____ Prep Method: 3005A
 Parent ID: L12110784-10 File ID: P2.120412.160435 Dil: 100 Method: 6010B
 Sample ID: L12110784-12 MS File ID: P2.120412.161131 Dil: 100 Matrix: Water
 Sample ID: L12110784-14 MSD File ID: P2.120412.163119 Dil: 100 Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Sodium, Total	290	25.0	302	49.8	25.0	313	93.6	3.56	85 - 115	20	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
 PDF File ID: 2684602
 Report generated 12/05/2012 10:04



MS/MSD REPORT

Loginum: L12110784 Cal ID: PE-ICP2- 04-DEC-12 Worknum: WG415696
 Instrument ID: PE-ICP2 Contract #: _____ Prep Method: 3005A
 Parent ID: L12110784-11 File ID: P2.120412.121838 Dil: 1 Method: 6010B
 Sample ID: L12110784-13 MS File ID: P2.120412.125326 Dil: 1 Matrix: Water
 Sample ID: L12110784-15 MSD File ID: P2.120412.125927 Dil: 1 Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Dissolved	U	5.00	4.87	97.5	5.00	4.87	97.3	0.160	85 - 115	20	
Barium, Dissolved	0.561	0.500	1.03	94.9	0.500	1.05	97.7	1.38	85 - 115	20	
Beryllium, Dissolved	U	0.0250	0.0227	90.9	0.0250	0.0229	91.5	0.639	85 - 115	20	
Calcium, Dissolved	317	5.00	341	482	5.00	352	698	3.11	85 - 115	20	*
Chromium, Dissolved	8.11	0.250	8.69	233	0.250	8.47	144	2.58	85 - 115	20	*
Cobalt, Dissolved	U	0.100	0.0957	95.7	0.100	0.0952	95.2	0.510	85 - 115	20	
Copper, Dissolved	U	0.250	0.228	91.1	0.250	0.230	91.9	0.905	85 - 115	20	
Iron, Dissolved	0.116	2.00	2.01	94.5	2.00	2.00	94.2	0.278	85 - 115	20	
Magnesium, Dissolved	73.1	5.00	77.9	96.9	5.00	79.2	122	1.58	85 - 115	20	*
Manganese, Dissolved	0.497	0.250	0.732	94.2	0.250	0.725	91.4	0.979	85 - 115	20	
Nickel, Dissolved	U	0.250	0.243	97.1	0.250	0.244	97.6	0.512	85 - 115	20	
Potassium, Dissolved	12.1	25.0	37.0	99.3	25.0	37.0	99.4	0.0411	85 - 115	20	
Silver, Dissolved	U	0.200	0.191	95.4	0.200	0.194	96.9	1.50	85 - 115	20	
Vanadium, Dissolved	0.0341	0.500	0.524	98	0.500	0.525	98.1	0.136	85 - 115	20	
Zinc, Dissolved	U	0.500	0.446	89.2	0.500	0.442	88.3	1.02	85 - 115	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT



MS/MSD REPORT

Loginum: L12110784 Cal ID: PE-ICP2- 04-DEC-12 Worknum: WG415696
 Instrument ID: PE-ICP2 Contract #: _____ Prep Method: 3005A
 Parent ID: L12110784-11 File ID: P2.120412.151157 Dil: 5 Method: 6010B
 Sample ID: L12110784-13 MS File ID: P2.120412.153150 Dil: 5 Matrix: Water
 Sample ID: L12110784-15 MSD File ID: P2.120412.153748 Dil: 5 Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Cadmium, Dissolved	U	0.0250	0.0208	83.3	0.0250	0.0203	81	2.74	85 - 115	20	*
Sodium, Dissolved	286	25.0	326	160	25.0	331	181	1.62	85 - 115	20	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
 PDF File ID: 2684602
 Report generated 12/05/2012 10:04



MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12110784 Cal ID: PE-ICP2- Worknum: WG415619
 Instrument ID: PE-ICP2 Contract #: _____ Method: 6010B
 Parent ID: WG415562-01 File ID: P2.120312.145029 Dil: 1 Matrix: WATER
 Sample ID: WG415562-04 MS File ID: P2.120312.145634 Dil: 1 Units: mg/L
 Sample ID: WG415562-05 MSD File ID: P2.120312.150237 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Total	0.316	5.00	5.48	103	5.00	5.43	102	0.935	85 - 115	20	
Barium, Total	0.611	0.500	1.08	93.9	0.500	1.09	96.5	1.19	85 - 115	20	
Beryllium, Total	ND	0.0250	0.0236	94.5	0.0250	0.0235	94.2	0.323	85 - 115	20	
Cadmium, Total	ND	0.0250	0.0219	87.8	0.0250	0.0219	87.5	0.375	85 - 115	20	
Calcium, Total	352	5.00	350	-29.3	5.00	356	94.8	1.76	85 - 115	20	*
Chromium, Total	8.34	0.250	8.39	22.4	0.250	8.60	104	2.40	85 - 115	20	*
Cobalt, Total	ND	0.100	0.0994	99.4	0.100	0.0990	99.0	0.387	85 - 115	20	
Copper, Total	ND	0.250	0.239	95.8	0.250	0.235	94.1	1.77	85 - 115	20	
Iron, Total	1.02	2.00	2.87	92.4	2.00	2.91	94.8	1.66	85 - 115	20	
Magnesium, Total	77.1	5.00	79.0	39.0	5.00	81.2	81.9	2.68	85 - 115	20	*
Manganese, Total	0.527	0.250	0.757	92.3	0.250	0.766	95.8	1.14	85 - 115	20	
Nickel, Total	ND	0.250	0.263	105	0.250	0.261	104	0.694	85 - 115	20	
Potassium, Total	12.3	25.0	36.6	97.1	25.0	36.8	97.8	0.482	85 - 115	20	
Silver, Total	ND	0.200	0.200	100	0.200	0.198	99.2	0.824	85 - 115	20	
Vanadium, Total	0.0386	0.500	0.551	103	0.500	0.548	102	0.580	85 - 115	20	
Zinc, Total	ND	0.500	0.463	92.6	0.500	0.465	93.0	0.425	85 - 115	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12110784 Cal ID: PE-ICP2- Worknum: WG415619
 Instrument ID: PE-ICP2 Contract #: _____ Method: 6010B
 Parent ID: WG415562-01 File ID: P2.120412.160435 Dil: 100 Matrix: WATER
 Sample ID: WG415562-04 MS File ID: P2.120412.161131 Dil: 100 Units: mg/L
 Sample ID: WG415562-05 MSD File ID: P2.120412.163119 Dil: 100

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Sodium, Total	290	25.0	302	49.8	25.0	313	93.6	3.56	85 - 115	20	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12110784 Cal ID: PE-ICP2- Worknum: WG415817
 Instrument ID: PE-ICP2 Contract #: _____ Method: 6010B
 Parent ID: WG415755-01 File ID: P2.120512.153002 Dil: 1 Matrix: WATER
 Sample ID: WG415755-04 MS File ID: P2.120512.153657 Dil: 1 Units: mg/L
 Sample ID: WG415755-05 MSD File ID: P2.120512.154255 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum	ND	5.00	4.93	98.7	5.00	4.82	96.4	2.33	85 - 115	20	
Barium	0.0105	0.500	0.494	96.7	0.500	0.493	96.5	0.190	85 - 115	20	
Beryllium	ND	0.0250	0.0247	98.8	0.0250	0.0250	100	1.41	85 - 115	20	
Cadmium	ND	0.0250	0.0234	93.8	0.0250	0.0236	94.3	0.505	85 - 115	20	
Calcium	62.2	5.00	70.6	169	5.00	72.7	210	2.85	85 - 115	20	*
Chromium	ND	0.250	0.246	98.3	0.250	0.247	99.0	0.662	85 - 115	20	
Cobalt	ND	0.100	0.0958	95.8	0.100	0.0948	94.8	0.986	85 - 115	20	
Copper	ND	0.250	0.243	97.1	0.250	0.245	98.0	0.957	85 - 115	20	
Iron	0.187	2.00	2.11	96.1	2.00	2.06	93.9	2.09	85 - 115	20	
Magnesium	19.0	5.00	23.8	95.4	5.00	23.6	90.7	0.983	85 - 115	20	
Manganese	0.111	0.250	0.362	100	0.250	0.355	97.6	1.85	85 - 115	20	
Nickel	ND	0.250	0.251	101	0.250	0.249	99.7	0.840	85 - 115	20	
Potassium	1.66	25.0	27.0	101	25.0	26.5	99.2	2.00	85 - 115	20	
Silver	ND	0.200	0.202	101	0.200	0.203	102	0.913	85 - 115	20	
Sodium	17.4	25.0	43.7	105	25.0	43.1	103	1.40	85 - 115	20	
Vanadium	ND	0.500	0.498	99.5	0.500	0.498	99.5	0.00874	85 - 115	20	
Zinc	ND	0.500	0.486	97.1	0.500	0.485	96.9	0.229	85 - 115	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12110784 Cal ID: PE-ICP2- Worknum: WG415696
 Instrument ID: PE-ICP2 Contract #: _____ Method: 6010B
 Parent ID: WG415653-01 File ID: P2.120412.121838 Dil: 1 Matrix: WATER
 Sample ID: WG415653-04 MS File ID: P2.120412.125326 Dil: 1 Units: mg/L
 Sample ID: WG415653-05 MSD File ID: P2.120412.125927 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, Dissolved	ND	5.00	4.87	97.5	5.00	4.87	97.3	0.160	85 - 115	20	
Barium, Dissolved	0.561	0.500	1.03	94.9	0.500	1.05	97.7	1.38	85 - 115	20	
Beryllium, Dissolved	ND	0.0250	0.0227	90.9	0.0250	0.0229	91.5	0.639	85 - 115	20	
Calcium, Dissolved	317	5.00	341	482	5.00	352	698	3.11	85 - 115	20	*
Chromium, Dissolved	8.11	0.250	8.69	233	0.250	8.47	144	2.58	85 - 115	20	*
Cobalt, Dissolved	ND	0.100	0.0957	95.7	0.100	0.0952	95.2	0.510	85 - 115	20	
Copper, Dissolved	ND	0.250	0.228	91.1	0.250	0.230	91.9	0.905	85 - 115	20	
Iron, Dissolved	0.116	2.00	2.01	94.5	2.00	2.00	94.2	0.278	85 - 115	20	
Magnesium, Dissolved	73.1	5.00	77.9	96.9	5.00	79.2	122	1.58	85 - 115	20	*
Manganese, Dissolved	0.497	0.250	0.732	94.2	0.250	0.725	91.4	0.979	85 - 115	20	
Nickel, Dissolved	ND	0.250	0.243	97.1	0.250	0.244	97.6	0.512	85 - 115	20	
Potassium, Dissolved	12.1	25.0	37.0	99.3	25.0	37.0	99.4	0.0411	85 - 115	20	
Silver, Dissolved	ND	0.200	0.191	95.4	0.200	0.194	96.9	1.50	85 - 115	20	
Vanadium, Dissolved	0.0341	0.500	0.524	98.0	0.500	0.525	98.1	0.136	85 - 115	20	
Zinc, Dissolved	ND	0.500	0.446	89.2	0.500	0.442	88.3	1.02	85 - 115	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12110784 Cal ID: PE-ICP2- Worknum: WG415696
 Instrument ID: PE-ICP2 Contract #: _____ Method: 6010B
 Parent ID: WG415653-01 File ID: P2.120412.151157 Dil: 5 Matrix: WATER
 Sample ID: WG415653-04 MS File ID: P2.120412.153150 Dil: 5 Units: mg/L
 Sample ID: WG415653-05 MSD File ID: P2.120412.153748 Dil: 5

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Cadmium, Dissolved	ND	0.0250	0.0208	83.3	0.0250	0.0203	81.0	2.74	85 - 115	20	*
Sodium, Dissolved	286	25.0	326	160	25.0	331	181	1.62	85 - 115	20	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

Login: L12110784 **Worknum:** WG415619
Instrument: PE-ICP2 **Method:** 6010B
Serial Dil: WG415619-02 **File ID:** P2.120312.140016 **Dil:** 5 **Units:** mg/L
Sample: L12110784-01 **File ID:** P2.120312.134725 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Aluminum	ND	U	ND	U		
Barium	ND	U	ND	U		
Beryllium	ND	U	ND	U		
Cadmium	ND	U	ND	U		
Calcium	ND	U	ND	U		
Chromium	ND	U	ND	U		
Cobalt	ND	U	ND	U		
Copper	ND	U	ND	U		
Iron	ND	U	ND	U		
Magnesium	ND	U	ND	U		
Manganese	ND	U	ND	U		
Nickel	ND	U	ND	U		
Potassium	ND	U	ND	U		
Silver	ND	U	ND	U		
Sodium	0.370	F	ND	U		
Vanadium	ND	U	ND	U		
Zinc	ND	U	ND	U		

U = Result is below MDL.
 F = Result is greater than or equal to MDL and less than the RL.
 X = Result is greater than or equal to RL and less than 50 times the MDL.
 E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008
 PDF File ID: 2684596
 12/06/2012 07:08



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12110784 **Worknum:** WG415696
Instrument: PE-ICP2 **Method:** 6010B
Serial Dil: WG415696-02 **File ID:** P2.120412.123138 **Dil:** 5 **Units:** mg/L
Sample: L12110784-11 **File ID:** P2.120412.121838 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Aluminum	ND	U	ND	U		
Barium	0.561		0.574		2.45	
Beryllium	ND	U	ND	U		
Cadmium	ND	U	ND	U		
Calcium	317		312		1.67	
Chromium	8.11		8.56		5.56	
Cobalt	ND	U	ND	U		
Copper	ND	U	ND	U		
Iron	0.116	X	ND	U		
Magnesium	73.1		74.1		1.41	
Manganese	0.497		0.490		1.33	
Nickel	ND	U	ND	U		
Potassium	12.1	X	12.2	X	0.66	
Silver	ND	U	ND	U		
Sodium	339		291		14.20	E
Vanadium	0.0341	X	ND	U		
Zinc	ND	U	ND	U		

U = Result is below MDL.
F = Result is greater than or equal to MDL and less than the RL.
X = Result is greater than or equal to RL and less than 50 times the MDL.
E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008
PDF File ID: 2684596
12/06/2012 07:08



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12110784 **Worknum:** WG415696
Instrument: PE-ICP2 **Method:** 6010B
Serial Dil: WG415696-02 **File ID:** P2.120412.152455 **Dil:** 25 **Units:** mg/L
Sample: L12110784-11 **File ID:** P2.120412.151157 **Dil:** 5

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Aluminum	ND	U	ND	U		
Barium	0.557	X	0.472	X	15.30	
Beryllium	ND	U	ND	U		
Cadmium	ND	U	ND	U		
Calcium	307		313		2.11	
Chromium	8.38		8.47		1.14	
Cobalt	ND	U	ND	U		
Copper	ND	U	ND	U		
Iron	ND	U	ND	U		
Magnesium	73.2		75.5		3.07	
Manganese	0.475	X	0.356	X	25.10	
Nickel	ND	U	ND	U		
Potassium	12.0	X	13.8	F	14.70	
Silver	ND	U	ND	U		
Sodium	286		286		0.06	
Vanadium	ND	U	ND	U		
Zinc	ND	U	ND	U		

U = Result is below MDL.
F = Result is greater than or equal to MDL and less than the RL.
X = Result is greater than or equal to RL and less than 50 times the MDL.
E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008
PDF File ID: 2684596
12/06/2012 07:08



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12110784 **Worknum:** WG415817
Instrument: PE-ICP2 **Method:** 6010B
Serial Dil: WG415817-02 **File ID:** P2.120512.135025 **Dil:** 5 **Units:** mg/L
Sample: L12120043-01 **File ID:** P2.120512.133732 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Aluminum	0.0601	F	ND	U		
Barium	ND	U	ND	U		
Beryllium	ND	U	ND	U		
Cadmium	0.000336	F	ND	U		
Calcium	0.362	X	0.702	F	94.10	
Chromium	ND	U	ND	U		
Cobalt	ND	U	ND	U		
Copper	0.0208	X	ND	U		
Iron	ND	U	ND	U		
Magnesium	ND	U	ND	U		
Manganese	ND	U	ND	U		
Nickel	ND	U	ND	U		
Potassium	ND	U	ND	U		
Silver	ND	U	ND	U		
Sodium	0.315	F	ND	U		
Vanadium	0.0121	X	0.0291	F	141.00	
Zinc	ND	U	ND	U		

U = Result is below MDL.
F = Result is greater than or equal to MDL and less than the RL.
X = Result is greater than or equal to RL and less than 50 times the MDL.
E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 50 times the MDL.

SERIAL_DIL - Modified 09/22/2008
PDF File ID: 2684596
12/06/2012 07:08



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784
Instrument ID: PE-ICP2
Post Spike ID: WG415619-01
Sample ID: L12110784-01

Worknum: WG415619
Method: 6010B
Units: mg/L
Matrix: Water

File ID: P2.120312.135418 Dil: 1
File ID: P2.120312.134725 Dil: 1

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ALUMINUM	5.06		0	U	5	101.3	75 - 125	
BARIUM	0.505		0	U	.5	101.0	75 - 125	
BERYLLIUM	0.0235		0	U	.025	94.1	75 - 125	
CADMIUM	0.0227		0	U	.025	90.9	75 - 125	
CALCIUM	5.00		0	U	5	100.0	75 - 125	
CHROMIUM	0.251		0	U	.25	100.4	75 - 125	
COBALT	0.100		0	U	.1	100.3	75 - 125	
COPPER	0.242		0	U	.25	96.8	75 - 125	
IRON	1.97		0	U	2	98.4	75 - 125	
MAGNESIUM	4.94		0	U	5	98.9	75 - 125	
MANGANESE	0.257		0	U	.25	103.0	75 - 125	
NICKEL	0.265		0	U	.25	106.1	75 - 125	
POTASSIUM	24.3		0	U	25	97.2	75 - 125	
SILVER	0.196		0	U	.2	98.0	75 - 125	
SODIUM	25.0		0.370	F	25	98.5	75 - 125	
VANADIUM	0.506		0	U	.5	101.2	75 - 125	
ZINC	0.493		0	U	.5	98.7	75 - 125	

N = % Recovery exceeds control limits
F = Result is between MDL and RL
U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2684597
Report generated: 12/06/2012 07:08



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784
Instrument ID: PE-ICP2
Post Spike ID: WG415696-01
Sample ID: L12110784-11

Worknum: WG415696
Method: 6010B
Units: mg/L
Matrix: Water

File ID: P2.120412.122538 Dil: 1
File ID: P2.120412.121838 Dil: 1

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ALUMINUM	4.87		0	U	5	97.5	75 - 125	
BARIUM	0.988		0.561		.5	96.7	75 - 125	
BERYLLIUM	0.0230		0	U	.025	91.8	75 - 125	
CADMIUM	0.0215		0	U	.025	86.0	75 - 125	
CALCIUM	307		317		5	441.0	75 - 125	N
CHROMIUM	7.60		8.11		.25	119.7	75 - 125	
COBALT	0.0960		0	U	.1	96.0	75 - 125	
COPPER	0.231		0	U	.25	92.2	75 - 125	
IRON	1.99		0.116		2	94.5	75 - 125	
MAGNESIUM	70.1		73.1		5	85.9	75 - 125	
MANGANESE	0.673		0.497		.25	90.5	75 - 125	
NICKEL	0.244		0	U	.25	97.7	75 - 125	
POTASSIUM	35.3		12.1		25	97.6	75 - 125	
SILVER	0.194		0	U	.2	97.2	75 - 125	
SODIUM	340		339		25	141.0	75 - 125	N
VANADIUM	0.526		0.0341		.5	99.0	75 - 125	
ZINC	0.454		0	U	.5	90.7	75 - 125	

N = % Recovery exceeds control limits
F = Result is between MDL and RL
U = Sample result is below MDL. A value of zero is used in the calculation



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784
Instrument ID: PE-ICP2
Post Spike ID: WG415696-01
Sample ID: L12110784-11

Worknum: WG415696
Method: 6010B
Units: mg/L
Matrix: Water

File ID: P2.120412.151856 Dil: 5
File ID: P2.120412.151157 Dil: 5

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ALUMINUM	4.83		0	U	5	96.6	75 - 125	
BARIUM	0.588		0.111		.5	95.3	75 - 125	
BERYLLIUM	0.0229		0	U	.025	91.4	75 - 125	
CADMIUM	0.0216		0	U	.025	86.4	75 - 125	
CALCIUM	69.6		61.4		5	164.1	75 - 125	N
CHROMIUM	1.93		1.68		.25	103.6	75 - 125	
COBALT	0.0951		0	U	.1	95.1	75 - 125	
COPPER	0.228		0	U	.25	91.1	75 - 125	
IRON	1.95		0	U	2	97.7	75 - 125	
MAGNESIUM	19.5		14.6		5	97.5	75 - 125	
MANGANESE	0.344		0.0950		.25	99.4	75 - 125	
NICKEL	0.241		0	U	.25	96.4	75 - 125	
POTASSIUM	27.0		2.40		25	98.4	75 - 125	
SILVER	0.188		0	U	.2	94.2	75 - 125	
SODIUM	85.3		57.2		25	112.3	75 - 125	
VANADIUM	0.488		0	U	.5	97.6	75 - 125	
ZINC	0.462		0	U	.5	92.5	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2684597
Report generated: 12/06/2012 07:08



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784
Instrument ID: PE-ICP2
Post Spike ID: WG415817-01
Sample ID: L12120043-01

Worknum: WG415817
Method: 6010B
Units: mg/L
Matrix: Water

File ID: P2.120512.134428 Dil: 1
File ID: P2.120512.133732 Dil: 1

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ALUMINUM	4.89		0.0601	F	5	96.8	75 - 125	
BARIUM	0.499		0	U	.5	99.9	75 - 125	
BERYLLIUM	0.0253		0	U	.025	101.2	75 - 125	
CADMIUM	0.0245		0.000336	F	.025	96.7	75 - 125	
CALCIUM	5.39		0.362		5	101.3	75 - 125	
CHROMIUM	0.251		0	U	.25	100.2	75 - 125	
COBALT	0.0984		0	U	.1	98.4	75 - 125	
COPPER	0.273		0.0208		.25	101.7	75 - 125	
IRON	2.02		0	U	2	100.8	75 - 125	
MAGNESIUM	5.02		0	U	5	100.5	75 - 125	
MANGANESE	0.254		0	U	.25	101.7	75 - 125	
NICKEL	0.262		0	U	.25	104.9	75 - 125	
POTASSIUM	25.2		0	U	25	100.9	75 - 125	
SILVER	0.208		0	U	.2	104.2	75 - 125	
SODIUM	25.8		0.315	F	25	102.1	75 - 125	
VANADIUM	0.499		0.0121		.5	97.6	75 - 125	
ZINC	0.513		0	U	.5	102.6	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2684597
Report generated: 12/06/2012 07:08



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12110784</u>	Workgroup (AAB#):	<u>WG415619</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>PE-ICP2</u>
ICAL Worknum:	<u>WG415629</u>	Initial Calibration Date:	<u>03-DEC-2012 09:08</u>

	WG415629-01		WG415629-02		WG415629-03		WG415629-04		WG415629-05		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
ALUMINUM	0	-35.8	.1	485	.2	999	10	47500	20	92100	.999889	
BARIUM	0	-256	.01	1360	.02	2930	1	137000	2	265000	.999873	
BERYLLIUM	0	-2210	.0005	553	.001	1020	.05	51300	.1	100000	.999917	
CADMIUM	0	47.6	.0005	15.7	.001	44.9	.05	2080	.1	3990	.999803	
CALCIUM	0	-92.1	NA	NA	.2	56.5	10	2840	20	5550	.999919	
CHROMIUM	0	233	.005	630	.01	1370	5	61600	1	119000	.999873	
COBALT	0	7.11	.002	60.6	.004	131	.1	6860	.4	13200	.99979	
COPPER	0	-195	.005	896	.01	2010	.5	109000	1	209000	.999814	
IRON	0	-4.25	.04	285	.08	591	4	29300	8	57200	.999933	
MAGNESIUM	0	33.5	.1	227	.2	461	10	22600	20	44100	.999929	
MANGANESE	0	1170	.005	3860	.01	8080	.5	391000	1	743000	.999674	
NICKEL	0	-217	.005	292	.01	623	.5	28200	1	54400	.999836	
POTASSIUM	0	-332	.5	1150	1	2720	50	112000	100	217000	.999999	
SILVER	0	-186	.004	1170	.008	2320	.4	117000	.8	225000	.999814	
SODIUM	0	1220	.5	6680	1	13800	50	671000	100	1290000	1	
VANADIUM	0	7290	.01	1820	.02	4340	1	201000	2	389000	.999863	
ZINC	0	124	.01	460	.02	976	1	46700	2	90600	.999899	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12110784</u>	Workgroup (AAB#):	<u>WG415619</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>PE-ICP2</u>
ICAL Worknum:	<u>WG415688</u>	Initial Calibration Date:	<u>04-DEC-2012 07:58</u>

	WG415688-01		WG415688-02		WG415688-03		WG415688-04		WG415688-05		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
ALUMINUM	0	-44.7	.1	607	.2	1190	10	56200	20	112000	1	
BARIUM	0	-74.5	.01	1530	.02	3100	1	152000	2	295000	.999895	
BERYLLIUM	0	-2260	.0005	560	.001	1130	.05	55500	.1	109000	.999943	
CADMIUM	0	55.5	.0005	15.3	.001	39.7	.05	2170	.1	4240	.999926	
CALCIUM	0	-84.9	NA	NA	.2	61.6	10	3140	20	6200	.999977	
CHROMIUM	0	255	.005	700	.01	1430	5	67900	1	132000	.999887	
COBALT	0	-10.2	.002	81.0	.004	158	.1	7470	.4	14500	.999911	
COPPER	0	120	.005	1150	.01	2220	.5	122000	1	237000	.999867	
IRON	0	30.6	.04	329	.08	663	4	33900	8	67900	1	
MAGNESIUM	0	42.4	.1	278	.2	521	10	25900	20	52000	.999999	
MANGANESE	0	4050	.005	4440	.01	8350	.5	440000	1	838000	.999972	
NICKEL	0	-222	.005	335	.01	659	.5	31000	1	60000	.999866	
POTASSIUM	0	-275	.5	1390	1	2710	50	135000	100	270000	1	
SILVER	0	-307	.004	1410	.008	2680	.4	129000	.8	247000	.999812	
SODIUM	0	2220	.5	8120	1	16300	50	818000	100	1590000	1	
VANADIUM	0	8280	.01	2120	.02	4320	1	228000	2	442000	.999866	
ZINC	0	153	.01	486	.02	984	1	49200	2	95900	.999921	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

Login: L12110784 Workgroup (AAB#): WG415696
Analytical Method: 6010B Instrument ID: PE-ICP2
ICAL Worknum: WG415688 Initial Calibration Date: 04-DEC-2012 07:58

	WG415688-01		WG415688-02		WG415688-03		WG415688-04		WG415688-05		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
ALUMINUM	0	-44.7	.1	607	.2	1190	10	56200	20	112000	1	
BARIUM	0	-74.5	.01	1530	.02	3100	1	152000	2	295000	.999895	
BERYLLIUM	0	-2260	.0005	560	.001	1130	.05	55500	.1	109000	.999943	
CADMIUM	0	55.5	.0005	15.3	.001	39.7	.05	2170	.1	4240	.999926	
CALCIUM	0	-84.9	NA	NA	.2	61.6	10	3140	20	6200	.999977	
CHROMIUM	0	255	.005	700	.01	1430	5	67900	1	132000	.999887	
COBALT	0	-10.2	.002	81.0	.004	158	.1	7470	.4	14500	.999911	
COPPER	0	120	.005	1150	.01	2220	.5	122000	1	237000	.999867	
IRON	0	30.6	.04	329	.08	663	4	33900	8	67900	1	
MAGNESIUM	0	42.4	.1	278	.2	521	10	25900	20	52000	.999999	
MANGANESE	0	4050	.005	4440	.01	8350	.5	440000	1	838000	.999972	
NICKEL	0	-222	.005	335	.01	659	.5	31000	1	60000	.999866	
POTASSIUM	0	-275	.5	1390	1	2710	50	135000	100	270000	1	
SILVER	0	-307	.004	1410	.008	2680	.4	129000	.8	247000	.999812	
SODIUM	0	2220	.5	8120	1	16300	50	818000	100	1590000	1	
VANADIUM	0	8280	.01	2120	.02	4320	1	228000	2	442000	.999866	
ZINC	0	153	.01	486	.02	984	1	49200	2	95900	.999921	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12110784</u>	Workgroup (AAB#):	<u>WG415817</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>PE-ICP2</u>
ICAL Worknum:	<u>WG415839</u>	Initial Calibration Date:	<u>05-DEC-2012 07:59</u>

	WG415839-01		WG415839-02		WG415839-03		WG415839-04		WG415839-05		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
ALUMINUM	0	-19.4	.1	545	.2	1110	10	54800	20	112000	.999937	
BARIUM	0	-233	.01	1460	.02	2950	1	142000	2	292000	.999926	
BERYLLIUM	0	-2220	.0005	533	.001	1070	.05	52000	.1	107000	.99992	
CADMIUM	0	50.1	.0005	22.7	.001	44.9	.05	2090	.1	4200	.999998	
CALCIUM	0	-98.2	NA	NA	.2	57.7	10	3030	20	6260	.999878	
CHROMIUM	0	227	.005	674	.01	1370	5	64200	1	132000	.999926	
COBALT	0	-0.656	.002	74.7	.004	142	.1	7090	.4	14300	.999984	
COPPER	0	-381	.005	1220	.01	2450	.5	118000	1	239000	.999968	
IRON	0	12.6	.04	325	.08	658	4	33200	8	67800	.999947	
MAGNESIUM	0	32.7	.1	252	.2	512	10	25200	20	51800	.999917	
MANGANESE	0	799	.005	4290	.01	8410	.5	415000	1	837000	.99999	
NICKEL	0	-213	.005	308	.01	605	.5	29100	1	59400	.999947	
POTASSIUM	0	-254	.5	1350	1	2550	50	130000	100	266000	1	
SILVER	0	-203	.004	1210	.008	2440	.4	122000	.8	247000	.999983	
SODIUM	0	4670	.5	5670	1	12600	50	783000	100	1580000	1	
VANADIUM	0	7990	.01	2330	.02	4420	1	217000	2	442000	.999966	
ZINC	0	13.6	.01	459	.02	930	1	45200	2	93400	.99987	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

Login: L12110784 Workgroup (AAB#): WG415619
Analytical Method: 6010B Instrument ID: PE-ICP2
ICAL Worknum: WG415926 Initial Calibration Date: 06-DEC-2012 08:18

	WG415926-01		WG415926-02		WG415926-03		WG415926-04		WG415926-05		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
ALUMINUM	0	-29.4	.1	569	.2	1140	10	55500	20	113000	.999966	
BARIUM	0	-243	.01	1460	.02	2930	1	144000	2	281000	.999952	
BERYLLIUM	0	-2250	.0005	573	.001	1070	.05	52800	.1	105000	.999998	
CADMIUM	0	57.2	.0005	14.0	.001	38.0	.05	2060	.1	4130	.999998	
CALCIUM	0	-93.9	NA	NA	.2	57.8	10	3030	20	6160	.999997	
CHROMIUM	0	245	.005	646	.01	1350	5	64500	1	127000	.999965	
COBALT	0	0.947	.002	74.1	.004	132	.1	7010	.4	13800	.999973	
COPPER	0	-492	.005	1360	.01	2440	.5	120000	1	236000	.999961	
IRON	0	10.0	.04	333	.08	664	4	32700	8	67100	.999932	
MAGNESIUM	0	39.2	.1	254	.2	508	10	24900	20	51300	.999911	
MANGANESE	0	621	.005	4490	.01	8210	.5	419000	1	807000	.999823	
NICKEL	0	-215	.005	307	.01	620	.5	29300	1	57400	.999944	
POTASSIUM	0	-327	.5	1400	1	2620	50	131000	100	265000	1	
SILVER	0	-105	.004	1190	.008	2270	.4	124000	.8	243000	.999969	
SODIUM	0	1150	.5	8110	1	16100	50	797000	100	1600000	1	
VANADIUM	0	8070	.01	1890	.02	4280	1	219000	2	426000	.999911	
ZINC	0	-4.28	.01	487	.02	930	1	45800	2	90700	.999989	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12110784</u>	Workgroup (AAB#):	<u>WG415696</u>
Analytical Method:	<u>6010B</u>	Instrument ID:	<u>PE-ICP2</u>
ICAL Worknum:	<u>WG415926</u>	Initial Calibration Date:	<u>06-DEC-2012 08:18</u>

	WG415926-01		WG415926-02		WG415926-03		WG415926-04		WG415926-05		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
ALUMINUM	0	-29.4	.1	569	.2	1140	10	55500	20	113000	.999966	
BARIUM	0	-243	.01	1460	.02	2930	1	144000	2	281000	.999952	
BERYLLIUM	0	-2250	.0005	573	.001	1070	.05	52800	.1	105000	.999998	
CADMIUM	0	57.2	.0005	14.0	.001	38.0	.05	2060	.1	4130	.999998	
CALCIUM	0	-93.9	NA	NA	.2	57.8	10	3030	20	6160	.999997	
CHROMIUM	0	245	.005	646	.01	1350	5	64500	1	127000	.999965	
COBALT	0	0.947	.002	74.1	.004	132	.1	7010	.4	13800	.999973	
COPPER	0	-492	.005	1360	.01	2440	.5	120000	1	236000	.999961	
IRON	0	10.0	.04	333	.08	664	4	32700	8	67100	.999932	
MAGNESIUM	0	39.2	.1	254	.2	508	10	24900	20	51300	.999911	
MANGANESE	0	621	.005	4490	.01	8210	.5	419000	1	807000	.999823	
NICKEL	0	-215	.005	307	.01	620	.5	29300	1	57400	.999944	
POTASSIUM	0	-327	.5	1400	1	2620	50	131000	100	265000	1	
SILVER	0	-105	.004	1190	.008	2270	.4	124000	.8	243000	.999969	
SODIUM	0	1150	.5	8110	1	16100	50	797000	100	1600000	1	
VANADIUM	0	8070	.01	1890	.02	4280	1	219000	2	426000	.999911	
ZINC	0	-4.28	.01	487	.02	930	1	45800	2	90700	.999989	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

Login: L12110784 Workgroup (AAB#): WG415817
Analytical Method: 6010B Instrument ID: PE-ICP2
ICAL Worknum: WG415926 Initial Calibration Date: 06-DEC-2012 08:18

	WG415926-01		WG415926-02		WG415926-03		WG415926-04		WG415926-05		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
ALUMINUM	0	-29.4	.1	569	.2	1140	10	55500	20	113000	.999966	
BARIUM	0	-243	.01	1460	.02	2930	1	144000	2	281000	.999952	
BERYLLIUM	0	-2250	.0005	573	.001	1070	.05	52800	.1	105000	.999998	
CADMIUM	0	57.2	.0005	14.0	.001	38.0	.05	2060	.1	4130	.999998	
CALCIUM	0	-93.9	NA	NA	.2	57.8	10	3030	20	6160	.999997	
CHROMIUM	0	245	.005	646	.01	1350	5	64500	1	127000	.999965	
COBALT	0	0.947	.002	74.1	.004	132	.1	7010	.4	13800	.999973	
COPPER	0	-492	.005	1360	.01	2440	.5	120000	1	236000	.999961	
IRON	0	10.0	.04	333	.08	664	4	32700	8	67100	.999932	
MAGNESIUM	0	39.2	.1	254	.2	508	10	24900	20	51300	.999911	
MANGANESE	0	621	.005	4490	.01	8210	.5	419000	1	807000	.999823	
NICKEL	0	-215	.005	307	.01	620	.5	29300	1	57400	.999944	
POTASSIUM	0	-327	.5	1400	1	2620	50	131000	100	265000	1	
SILVER	0	-105	.004	1190	.008	2270	.4	124000	.8	243000	.999969	
SODIUM	0	1150	.5	8110	1	16100	50	797000	100	1600000	1	
VANADIUM	0	8070	.01	1890	.02	4280	1	219000	2	426000	.999911	
ZINC	0	-4.28	.01	487	.02	930	1	45800	2	90700	.999989	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-07
 Instrument ID: PE-ICP2 Run Time: 09:20 Method: 6010B
 File ID: P2.120312.092031 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP2 - 03-DEC-12
 Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BARIUM	.005	.01	.005	U
BERYLLIUM	.001	.002	.001	U
CADMIUM	.00025	.0005	.00025	U
CALCIUM	.1	.2	.1	U
CHROMIUM	.0025	.005	.0025	U
COBALT	.01	.02	.01	U
COPPER	.01	.02	.01	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
MANGANESE	.005	.01	.005	U
NICKEL	.02	.04	.02	U
POTASSIUM	.5	1	.5	U
SILVER	.005	.01	.005	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

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Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-08
 Instrument ID: PE-ICP2 Run Time: 08:16 Method: 6010B
 File ID: P2.120412.081643 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP2 - 04-DEC-12
 Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BARIIUM	.005	.01	.005	U
BERYLLIUM	.001	.002	.001	U
CADMIUM	.00025	.0005	.00025	U
CALCIUM	.1	.2	.1	U
CHROMIUM	.0025	.005	.0025	U
COBALT	.01	.02	.01	U
COPPER	.01	.02	.01	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
MANGANESE	.005	.01	.005	U
NICKEL	.02	.04	.02	U
POTASSIUM	.5	1	.5	U
SILVER	.005	.01	.005	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

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Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-07
 Instrument ID: PE-ICP2 Run Time: 08:30 Method: 6010B
 File ID: P2.120612.083004 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP2 - 06-DEC-12
 Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BARIUM	.005	.01	.005	U
BERYLLIUM	.001	.002	.001	U
CADMIUM	.00025	.0005	.00025	U
CALCIUM	.1	.2	.1	U
CHROMIUM	.0025	.005	.0025	U
COBALT	.01	.02	.01	U
COPPER	.01	.02	.01	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
MANGANESE	.005	.01	.005	U
NICKEL	.02	.04	.02	U
POTASSIUM	.5	1	.5	U
SILVER	.005	.01	.005	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

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 PDF File ID: 2684607
 Report generated 12/07/2012 09:09



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-08
 Instrument ID: PE-ICP2 Run Time: 08:16 Method: 6010B
 File ID: P2.120412.081643 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP2 - 04-DEC-12
 Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BARIUM	.005	.01	.005	U
BERYLLIUM	.001	.002	.001	U
CADMIUM	.00025	.0005	.00025	U
CALCIUM	.1	.2	.1	U
CHROMIUM	.0025	.005	.0025	U
COBALT	.01	.02	.01	U
COPPER	.01	.02	.01	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
MANGANESE	.005	.01	.005	U
NICKEL	.02	.04	.02	U
POTASSIUM	.5	1	.5	U
SILVER	.005	.01	.005	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

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Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-07
 Instrument ID: PE-ICP2 Run Time: 08:30 Method: 6010B
 File ID: P2.120612.083004 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP2 - 06-DEC-12
 Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BARIUM	.005	.01	.005	U
BERYLLIUM	.001	.002	.001	U
CADMIUM	.00025	.0005	.00025	U
CALCIUM	.1	.2	.1	U
CHROMIUM	.0025	.005	.0025	U
COBALT	.01	.02	.01	U
COPPER	.01	.02	.01	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
MANGANESE	.005	.01	.005	U
NICKEL	.02	.04	.02	U
POTASSIUM	.5	1	.5	U
SILVER	.005	.01	.005	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

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Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-08
 Instrument ID: PE-ICP2 Run Time: 08:19 Method: 6010B
 File ID: P2.120512.081922 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP2 - 05-DEC-12
 Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BARIUM	.005	.01	.005	U
BERYLLIUM	.001	.002	.001	U
CADMIUM	.00025	.0005	.00025	U
CALCIUM	.1	.2	.1	U
CHROMIUM	.0025	.005	.0025	U
COBALT	.01	.02	.01	U
COPPER	.01	.02	.01	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
MANGANESE	.005	.01	.005	U
NICKEL	.02	.04	.02	U
POTASSIUM	.5	1	.5	U
SILVER	.005	.01	.005	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

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 Report generated 12/07/2012 09:09



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-07
 Instrument ID: PE-ICP2 Run Time: 08:30 Method: 6010B
 File ID: P2.120612.083004 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP2 - 06-DEC-12
 Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.05	.1	.05	U
BARIUM	.005	.01	.005	U
BERYLLIUM	.001	.002	.001	U
CADMIUM	.00025	.0005	.00025	U
CALCIUM	.1	.2	.1	U
CHROMIUM	.0025	.005	.0025	U
COBALT	.01	.02	.01	U
COPPER	.01	.02	.01	U
IRON	.05	.1	.05	U
MAGNESIUM	.25	.5	.25	U
MANGANESE	.005	.01	.005	U
NICKEL	.02	.04	.02	U
POTASSIUM	.5	1	.5	U
SILVER	.005	.01	.005	U
SODIUM	.25	.5	.25	U
VANADIUM	.005	.01	.005	U
ZINC	.01	.02	.01	U

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 Report generated 12/07/2012 09:09



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-11
 Instrument ID: PE-ICP2 Run Time: 09:45 Method: 6010B
 File ID: P2.120312.094516 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000389	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	-0.00250	F
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-15
 Instrument ID: PE-ICP2 Run Time: 11:47 Method: 6010B
 File ID: P2.120312.114730 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000293	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-19
 Instrument ID: PE-ICP2 Run Time: 14:13 Method: 6010B
 File ID: P2.120312.141311 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	-0.00501	F
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	-0.00251	F
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-21
 Instrument ID: PE-ICP2 Run Time: 15:21 Method: 6010B
 File ID: P2.120312.152138 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000274	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-23
 Instrument ID: PE-ICP2 Run Time: 16:28 Method: 6010B
 File ID: P2.120312.162818 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-27
 Instrument ID: PE-ICP2 Run Time: 16:53 Method: 6010B
 File ID: P2.120312.165303 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000273	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-12
 Instrument ID: PE-ICP2 Run Time: 08:41 Method: 6010B
 File ID: P2.120412.084130 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-24
 Instrument ID: PE-ICP2 Run Time: 15:05 Method: 6010B
 File ID: P2.120412.150504 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	-0.00530	F
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000499	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00619	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-26
 Instrument ID: PE-ICP2 Run Time: 16:24 Method: 6010B
 File ID: P2.120412.162426 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	-0.00533	F
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000465	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00662	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-28
 Instrument ID: PE-ICP2 Run Time: 17:25 Method: 6010B
 File ID: P2.120412.172553 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	-0.00522	F
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000416	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00683	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-34
 Instrument ID: PE-ICP2 Run Time: 20:52 Method: 6010B
 File ID: P2.120412.205201 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	-0.00529	F
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000368	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00683	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-38
 Instrument ID: PE-ICP2 Run Time: 21:16 Method: 6010B
 File ID: P2.120412.211651 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	-0.00512	F
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000295	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00672	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-12
 Instrument ID: PE-ICP2 Run Time: 09:01 Method: 6010B
 File ID: P2.120612.090149 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-16
 Instrument ID: PE-ICP2 Run Time: 11:35 Method: 6010B
 File ID: P2.120612.113518 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-19
 Instrument ID: PE-ICP2 Run Time: 12:17 Method: 6010B
 File ID: P2.120612.121723 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-27
 Instrument ID: PE-ICP2 Run Time: 16:40 Method: 6010B
 File ID: P2.120612.164002 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-30
 Instrument ID: PE-ICP2 Run Time: 18:08 Method: 6010B
 File ID: P2.120612.180856 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-32
 Instrument ID: PE-ICP2 Run Time: 19:03 Method: 6010B
 File ID: P2.120612.190322 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-36
 Instrument ID: PE-ICP2 Run Time: 19:28 Method: 6010B
 File ID: P2.120612.192810 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-12
 Instrument ID: PE-ICP2 Run Time: 08:41 Method: 6010B
 File ID: P2.120412.084130 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-18
 Instrument ID: PE-ICP2 Run Time: 11:33 Method: 6010B
 File ID: P2.120412.113344 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000462	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00569	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-20
 Instrument ID: PE-ICP2 Run Time: 12:44 Method: 6010B
 File ID: P2.120412.124438 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00570	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-22
 Instrument ID: PE-ICP2 Run Time: 13:59 Method: 6010B
 File ID: P2.120412.135933 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000432	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00617	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-24
 Instrument ID: PE-ICP2 Run Time: 15:05 Method: 6010B
 File ID: P2.120412.150504 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	-0.00530	F
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000499	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00619	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-26
 Instrument ID: PE-ICP2 Run Time: 16:24 Method: 6010B
 File ID: P2.120412.162426 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	-0.00533	F
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000465	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00662	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-34
 Instrument ID: PE-ICP2 Run Time: 20:52 Method: 6010B
 File ID: P2.120412.205201 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	-0.00529	F
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000368	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00683	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-38
 Instrument ID: PE-ICP2 Run Time: 21:16 Method: 6010B
 File ID: P2.120412.211651 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	-0.00512	F
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	-0.000295	F
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	-0.00672	F
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-12
 Instrument ID: PE-ICP2 Run Time: 09:01 Method: 6010B
 File ID: P2.120612.090149 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-16
 Instrument ID: PE-ICP2 Run Time: 11:35 Method: 6010B
 File ID: P2.120612.113518 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-19
 Instrument ID: PE-ICP2 Run Time: 12:17 Method: 6010B
 File ID: P2.120612.121723 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-27
 Instrument ID: PE-ICP2 Run Time: 16:40 Method: 6010B
 File ID: P2.120612.164002 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-30
 Instrument ID: PE-ICP2 Run Time: 18:08 Method: 6010B
 File ID: P2.120612.180856 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-32
 Instrument ID: PE-ICP2 Run Time: 19:03 Method: 6010B
 File ID: P2.120612.190322 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-36
 Instrument ID: PE-ICP2 Run Time: 19:28 Method: 6010B
 File ID: P2.120612.192810 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-12
 Instrument ID: PE-ICP2 Run Time: 08:44 Method: 6010B
 File ID: P2.120512.084410 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-18
 Instrument ID: PE-ICP2 Run Time: 12:16 Method: 6010B
 File ID: P2.120512.121615 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-22
 Instrument ID: PE-ICP2 Run Time: 12:41 Method: 6010B
 File ID: P2.120512.124102 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-24
 Instrument ID: PE-ICP2 Run Time: 14:03 Method: 6010B
 File ID: P2.120512.140321 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00521	F
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-26
 Instrument ID: PE-ICP2 Run Time: 15:16 Method: 6010B
 File ID: P2.120512.151612 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-28
 Instrument ID: PE-ICP2 Run Time: 15:54 Method: 6010B
 File ID: P2.120512.155454 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-32
 Instrument ID: PE-ICP2 Run Time: 16:19 Method: 6010B
 File ID: P2.120512.161942 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00607	F
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-12
 Instrument ID: PE-ICP2 Run Time: 09:01 Method: 6010B
 File ID: P2.120612.090149 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-16
 Instrument ID: PE-ICP2 Run Time: 11:35 Method: 6010B
 File ID: P2.120612.113518 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-19
 Instrument ID: PE-ICP2 Run Time: 12:17 Method: 6010B
 File ID: P2.120612.121723 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-27
 Instrument ID: PE-ICP2 Run Time: 16:40 Method: 6010B
 File ID: P2.120612.164002 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-30
 Instrument ID: PE-ICP2 Run Time: 18:08 Method: 6010B
 File ID: P2.120612.180856 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2684610
 Report generated 12/07/2012 09:09



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Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-32
 Instrument ID: PE-ICP2 Run Time: 19:03 Method: 6010B
 File ID: P2.120612.190322 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-36
 Instrument ID: PE-ICP2 Run Time: 19:28 Method: 6010B
 File ID: P2.120612.192810 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0500	0.100	0.0500	U
Barium	0.00500	0.0100	0.00500	U
Beryllium	0.00100	0.00200	0.00100	U
Cadmium	0.000250	0.000500	0.000250	U
Calcium	0.100	0.200	0.100	U
Chromium	0.00250	0.00500	0.00250	U
Cobalt	0.0100	0.0200	0.0100	U
Copper	0.0100	0.0200	0.0100	U
Iron	0.0500	0.100	0.0500	U
Magnesium	0.250	0.500	0.250	U
Manganese	0.00500	0.0100	0.00500	U
Nickel	0.0200	0.0400	0.0200	U
Potassium	0.500	1.00	0.500	U
Silver	0.00500	0.0100	0.00500	U
Sodium	0.250	0.500	0.250	U
Vanadium	0.00500	0.0100	0.00500	U
Zinc	0.0100	0.0200	0.0100	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-06
 Instrument ID: PE-ICP2 Run Time: 09:14 Method: 6010B
 File ID: P2.120312.091433 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
 QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	10.1	101	90 - 110	
Barium	1	1.04	104	90 - 110	
Beryllium	.05	0.0502	100	90 - 110	
Cadmium	.05	0.0494	98.9	90 - 110	
Calcium	10	10.5	105	90 - 110	
Chromium	.5	0.519	104	90 - 110	
Cobalt	.2	0.207	104	90 - 110	
Copper	.5	0.510	102	90 - 110	
Iron	4	4.04	101	90 - 110	
Magnesium	10	10.1	101	90 - 110	
Manganese	.5	0.529	106	90 - 110	
Nickel	.5	0.522	104	90 - 110	
Potassium	50	49.6	99.1	90 - 110	
Silver	.4	0.416	104	90 - 110	
Sodium	50	48.5	97.1	90 - 110	
Vanadium	1	1.02	102	90 - 110	
Zinc	1	1.06	106	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
 PDF File ID: 2684606
 Report generated 12/07/2012 09:09



Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-06
 Instrument ID: PE-ICP2 Run Time: 08:24 Method: 6010B
 File ID: P2.120612.082407 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	10.1	101	90 - 110	
Barium	1	1.01	101	90 - 110	
Beryllium	.05	0.0484	96.7	90 - 110	
Cadmium	.05	0.0475	95.0	90 - 110	
Calcium	10	10.4	104	90 - 110	
Chromium	.5	0.508	102	90 - 110	
Cobalt	.2	0.200	99.9	90 - 110	
Copper	.5	0.506	101	90 - 110	
Iron	4	4.03	101	90 - 110	
Magnesium	10	10.1	101	90 - 110	
Manganese	.5	0.520	104	90 - 110	
Nickel	.5	0.511	102	90 - 110	
Potassium	50	49.9	99.9	90 - 110	
Silver	.4	0.413	103	90 - 110	
Sodium	50	50.1	100	90 - 110	
Vanadium	1	1.01	101	90 - 110	
Zinc	1	1.02	102	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-07
 Instrument ID: PE-ICP2 Run Time: 08:10 Method: 6010B
 File ID: P2.120412.081045 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
 QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	9.82	98.2	90 - 110	
Barium	1	0.984	98.4	90 - 110	
Beryllium	.05	0.0486	97.2	90 - 110	
Cadmium	.05	0.0486	97.3	90 - 110	
Calcium	10	10.3	103	90 - 110	
Chromium	.5	0.493	98.5	90 - 110	
Cobalt	.2	0.199	99.7	90 - 110	
Copper	.5	0.493	98.6	90 - 110	
Iron	4	3.95	98.6	90 - 110	
Magnesium	10	9.82	98.2	90 - 110	
Manganese	.5	0.498	99.6	90 - 110	
Nickel	.5	0.494	98.7	90 - 110	
Potassium	50	48.9	97.7	90 - 110	
Silver	.4	0.400	99.9	90 - 110	
Sodium	50	49.2	98.4	90 - 110	
Vanadium	1	0.981	98.1	90 - 110	
Zinc	1	0.987	98.7	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-06
 Instrument ID: PE-ICP2 Run Time: 08:24 Method: 6010B
 File ID: P2.120612.082407 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	10.1	101	90 - 110	
Barium	1	1.01	101	90 - 110	
Beryllium	.05	0.0484	96.7	90 - 110	
Cadmium	.05	0.0475	95.0	90 - 110	
Calcium	10	10.4	104	90 - 110	
Chromium	.5	0.508	102	90 - 110	
Cobalt	.2	0.200	99.9	90 - 110	
Copper	.5	0.506	101	90 - 110	
Iron	4	4.03	101	90 - 110	
Magnesium	10	10.1	101	90 - 110	
Manganese	.5	0.520	104	90 - 110	
Nickel	.5	0.511	102	90 - 110	
Potassium	50	49.9	99.9	90 - 110	
Silver	.4	0.413	103	90 - 110	
Sodium	50	50.1	100	90 - 110	
Vanadium	1	1.01	101	90 - 110	
Zinc	1	1.02	102	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
 PDF File ID: 2684606
 Report generated 12/07/2012 09:09



Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-07
 Instrument ID: PE-ICP2 Run Time: 08:10 Method: 6010B
 File ID: P2.120412.081045 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	9.82	98.2	90 - 110	
Barium	1	0.984	98.4	90 - 110	
Beryllium	.05	0.0486	97.2	90 - 110	
Cadmium	.05	0.0486	97.3	90 - 110	
Calcium	10	10.3	103	90 - 110	
Chromium	.5	0.493	98.5	90 - 110	
Cobalt	.2	0.199	99.7	90 - 110	
Copper	.5	0.493	98.6	90 - 110	
Iron	4	3.95	98.6	90 - 110	
Magnesium	10	9.82	98.2	90 - 110	
Manganese	.5	0.498	99.6	90 - 110	
Nickel	.5	0.494	98.7	90 - 110	
Potassium	50	48.9	97.7	90 - 110	
Silver	.4	0.400	99.9	90 - 110	
Sodium	50	49.2	98.4	90 - 110	
Vanadium	1	0.981	98.1	90 - 110	
Zinc	1	0.987	98.7	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
 PDF File ID: 2684606
 Report generated 12/07/2012 09:09



Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-07
 Instrument ID: PE-ICP2 Run Time: 08:13 Method: 6010B
 File ID: P2.120512.081325 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
 QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	9.76	97.6	90 - 110	
Barium	1	0.984	98.4	90 - 110	
Beryllium	.05	0.0499	99.8	90 - 110	
Cadmium	.05	0.0493	98.5	90 - 110	
Calcium	10	10.3	103	90 - 110	
Chromium	.5	0.492	98.5	90 - 110	
Cobalt	.2	0.197	98.6	90 - 110	
Copper	.5	0.506	101	90 - 110	
Iron	4	3.92	98.1	90 - 110	
Magnesium	10	9.79	97.9	90 - 110	
Manganese	.5	0.498	99.5	90 - 110	
Nickel	.5	0.497	99.3	90 - 110	
Potassium	50	49.7	99.4	90 - 110	
Silver	.4	0.407	102	90 - 110	
Sodium	50	49.7	99.5	90 - 110	
Vanadium	1	0.987	98.7	90 - 110	
Zinc	1	0.992	99.2	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-06
 Instrument ID: PE-ICP2 Run Time: 08:24 Method: 6010B
 File ID: P2.120612.082407 Analyst: KHR Units: mg/L
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	10.1	101	90 - 110	
Barium	1	1.01	101	90 - 110	
Beryllium	.05	0.0484	96.7	90 - 110	
Cadmium	.05	0.0475	95.0	90 - 110	
Calcium	10	10.4	104	90 - 110	
Chromium	.5	0.508	102	90 - 110	
Cobalt	.2	0.200	99.9	90 - 110	
Copper	.5	0.506	101	90 - 110	
Iron	4	4.03	101	90 - 110	
Magnesium	10	10.1	101	90 - 110	
Manganese	.5	0.520	104	90 - 110	
Nickel	.5	0.511	102	90 - 110	
Potassium	50	49.9	99.9	90 - 110	
Silver	.4	0.413	103	90 - 110	
Sodium	50	50.1	100	90 - 110	
Vanadium	1	1.01	101	90 - 110	
Zinc	1	1.02	102	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
 PDF File ID: 2684606
 Report generated 12/07/2012 09:09



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-10
Instrument ID: PE-ICP2 Run Time: 09:39 Method: 6010B
File ID: P2.120312.093916 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.86	mg/L	98.6	90 - 110	
Barium	1.00	0.992	mg/L	99.2	90 - 110	
Beryllium	0.0500	0.0486	mg/L	97.3	90 - 110	
Cadmium	0.0500	0.0483	mg/L	96.5	90 - 110	
Calcium	10.0	10.2	mg/L	102	90 - 110	
Chromium	0.500	0.493	mg/L	98.6	90 - 110	
Cobalt	0.200	0.198	mg/L	99.2	90 - 110	
Copper	0.500	0.496	mg/L	99.1	90 - 110	
Iron	4.00	3.96	mg/L	99.1	90 - 110	
Magnesium	10.0	9.92	mg/L	99.2	90 - 110	
Manganese	0.500	0.503	mg/L	101	90 - 110	
Nickel	0.500	0.496	mg/L	99.1	90 - 110	
Potassium	50.0	48.4	mg/L	96.9	90 - 110	
Silver	0.400	0.400	mg/L	100	90 - 110	
Sodium	50.0	48.4	mg/L	96.7	90 - 110	
Vanadium	1.00	0.992	mg/L	99.2	90 - 110	
Zinc	1.00	0.991	mg/L	99.1	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2684609
Report generated 12/07/2012 09:09



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-14
Instrument ID: PE-ICP2 Run Time: 11:41 Method: 6010B
File ID: P2.120312.114129 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.1	mg/L	101	90 - 110	
Barium	1.00	1.02	mg/L	102	90 - 110	
Beryllium	0.0500	0.0498	mg/L	99.7	90 - 110	
Cadmium	0.0500	0.0486	mg/L	97.1	90 - 110	
Calcium	10.0	10.4	mg/L	104	90 - 110	
Chromium	0.500	0.509	mg/L	102	90 - 110	
Cobalt	0.200	0.203	mg/L	101	90 - 110	
Copper	0.500	0.511	mg/L	102	90 - 110	
Iron	4.00	4.03	mg/L	101	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Manganese	0.500	0.521	mg/L	104	90 - 110	
Nickel	0.500	0.513	mg/L	103	90 - 110	
Potassium	50.0	49.5	mg/L	99.1	90 - 110	
Silver	0.400	0.409	mg/L	102	90 - 110	
Sodium	50.0	49.4	mg/L	98.8	90 - 110	
Vanadium	1.00	1.03	mg/L	103	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-18
Instrument ID: PE-ICP2 Run Time: 14:07 Method: 6010B
File ID: P2.120312.140711 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.3	mg/L	103	90 - 110	
Barium	1.00	1.03	mg/L	103	90 - 110	
Beryllium	0.0500	0.0495	mg/L	99.0	90 - 110	
Cadmium	0.0500	0.0488	mg/L	97.6	90 - 110	
Calcium	10.0	10.6	mg/L	106	90 - 110	
Chromium	0.500	0.514	mg/L	103	90 - 110	
Cobalt	0.200	0.208	mg/L	104	90 - 110	
Copper	0.500	0.509	mg/L	102	90 - 110	
Iron	4.00	4.05	mg/L	101	90 - 110	
Magnesium	10.0	10.3	mg/L	103	90 - 110	
Manganese	0.500	0.527	mg/L	105	90 - 110	
Nickel	0.500	0.518	mg/L	104	90 - 110	
Potassium	50.0	50.4	mg/L	101	90 - 110	
Silver	0.400	0.409	mg/L	102	90 - 110	
Sodium	50.0	50.1	mg/L	100	90 - 110	
Vanadium	1.00	1.04	mg/L	104	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-20
 Instrument ID: PE-ICP2 Run Time: 15:15 Method: 6010B
 File ID: P2.120312.151537 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.2	mg/L	102	90 - 110	
Barium	1.00	1.03	mg/L	103	90 - 110	
Beryllium	0.0500	0.0497	mg/L	99.4	90 - 110	
Cadmium	0.0500	0.0482	mg/L	96.4	90 - 110	
Calcium	10.0	10.4	mg/L	104	90 - 110	
Chromium	0.500	0.515	mg/L	103	90 - 110	
Cobalt	0.200	0.205	mg/L	102	90 - 110	
Copper	0.500	0.511	mg/L	102	90 - 110	
Iron	4.00	3.97	mg/L	99.4	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Manganese	0.500	0.528	mg/L	106	90 - 110	
Nickel	0.500	0.517	mg/L	103	90 - 110	
Potassium	50.0	49.8	mg/L	99.5	90 - 110	
Silver	0.400	0.409	mg/L	102	90 - 110	
Sodium	50.0	50.1	mg/L	100	90 - 110	
Vanadium	1.00	1.04	mg/L	104	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-22
Instrument ID: PE-ICP2 Run Time: 16:22 Method: 6010B
File ID: P2.120312.162217 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.3	mg/L	103	90 - 110	
Barium	1.00	1.05	mg/L	105	90 - 110	
Beryllium	0.0500	0.0507	mg/L	101	90 - 110	
Cadmium	0.0500	0.0495	mg/L	99.1	90 - 110	
Calcium	10.0	10.6	mg/L	106	90 - 110	
Chromium	0.500	0.524	mg/L	105	90 - 110	
Cobalt	0.200	0.208	mg/L	104	90 - 110	
Copper	0.500	0.521	mg/L	104	90 - 110	
Iron	4.00	3.99	mg/L	99.8	90 - 110	
Magnesium	10.0	10.2	mg/L	102	90 - 110	
Manganese	0.500	0.534	mg/L	107	90 - 110	
Nickel	0.500	0.524	mg/L	105	90 - 110	
Potassium	50.0	50.5	mg/L	101	90 - 110	
Silver	0.400	0.419	mg/L	105	90 - 110	
Sodium	50.0	50.3	mg/L	101	90 - 110	
Vanadium	1.00	1.06	mg/L	106	90 - 110	
Zinc	1.00	1.02	mg/L	102	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/03/2012 Sample ID: WG415629-26
 Instrument ID: PE-ICP2 Run Time: 16:47 Method: 6010B
 File ID: P2.120312.164703 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 03-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.3	mg/L	103	90 - 110	
Barium	1.00	1.05	mg/L	105	90 - 110	
Beryllium	0.0500	0.0506	mg/L	101	90 - 110	
Cadmium	0.0500	0.0492	mg/L	98.5	90 - 110	
Calcium	10.0	10.6	mg/L	106	90 - 110	
Chromium	0.500	0.526	mg/L	105	90 - 110	
Cobalt	0.200	0.209	mg/L	104	90 - 110	
Copper	0.500	0.515	mg/L	103	90 - 110	
Iron	4.00	4.01	mg/L	100	90 - 110	
Magnesium	10.0	10.3	mg/L	103	90 - 110	
Manganese	0.500	0.536	mg/L	107	90 - 110	
Nickel	0.500	0.526	mg/L	105	90 - 110	
Potassium	50.0	50.5	mg/L	101	90 - 110	
Silver	0.400	0.416	mg/L	104	90 - 110	
Sodium	50.0	50.1	mg/L	100	90 - 110	
Vanadium	1.00	1.06	mg/L	106	90 - 110	
Zinc	1.00	1.03	mg/L	103	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-11
Instrument ID: PE-ICP2 Run Time: 08:35 Method: 6010B
File ID: P2.120412.083529 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.76	mg/L	97.6	90 - 110	
Barium	1.00	0.987	mg/L	98.7	90 - 110	
Beryllium	0.0500	0.0485	mg/L	97.1	90 - 110	
Cadmium	0.0500	0.0478	mg/L	95.5	90 - 110	
Calcium	10.0	10.1	mg/L	101	90 - 110	
Chromium	0.500	0.491	mg/L	98.3	90 - 110	
Cobalt	0.200	0.197	mg/L	98.4	90 - 110	
Copper	0.500	0.490	mg/L	98.0	90 - 110	
Iron	4.00	3.90	mg/L	97.6	90 - 110	
Magnesium	10.0	9.71	mg/L	97.1	90 - 110	
Manganese	0.500	0.498	mg/L	99.6	90 - 110	
Nickel	0.500	0.494	mg/L	98.8	90 - 110	
Potassium	50.0	49.0	mg/L	97.9	90 - 110	
Silver	0.400	0.397	mg/L	99.3	90 - 110	
Sodium	50.0	47.8	mg/L	95.5	90 - 110	
Vanadium	1.00	0.986	mg/L	98.6	90 - 110	
Zinc	1.00	0.991	mg/L	99.1	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2684609
Report generated 12/07/2012 09:09



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-23
Instrument ID: PE-ICP2 Run Time: 14:59 Method: 6010B
File ID: P2.120412.145904 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.67	mg/L	96.7	90 - 110	
Barium	1.00	0.978	mg/L	97.8	90 - 110	
Beryllium	0.0500	0.0474	mg/L	94.8	90 - 110	
Cadmium	0.0500	0.0460	mg/L	92.0	90 - 110	
Calcium	10.0	10.0	mg/L	100	90 - 110	
Chromium	0.500	0.489	mg/L	97.8	90 - 110	
Cobalt	0.200	0.195	mg/L	97.6	90 - 110	
Copper	0.500	0.486	mg/L	97.3	90 - 110	
Iron	4.00	3.90	mg/L	97.5	90 - 110	
Magnesium	10.0	9.73	mg/L	97.3	90 - 110	
Manganese	0.500	0.498	mg/L	99.5	90 - 110	
Nickel	0.500	0.493	mg/L	98.5	90 - 110	
Potassium	50.0	49.2	mg/L	98.5	90 - 110	
Silver	0.400	0.392	mg/L	97.9	90 - 110	
Sodium	50.0	46.9	mg/L	93.9	90 - 110	
Vanadium	1.00	0.979	mg/L	97.9	90 - 110	
Zinc	1.00	0.958	mg/L	95.8	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-25
Instrument ID: PE-ICP2 Run Time: 16:18 Method: 6010B
File ID: P2.120412.161825 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.65	mg/L	96.5	90 - 110	
Barium	1.00	0.983	mg/L	98.3	90 - 110	
Beryllium	0.0500	0.0478	mg/L	95.6	90 - 110	
Cadmium	0.0500	0.0467	mg/L	93.3	90 - 110	
Calcium	10.0	10.1	mg/L	101	90 - 110	
Chromium	0.500	0.493	mg/L	98.6	90 - 110	
Cobalt	0.200	0.197	mg/L	98.5	90 - 110	
Copper	0.500	0.490	mg/L	98.0	90 - 110	
Iron	4.00	3.91	mg/L	97.8	90 - 110	
Magnesium	10.0	9.71	mg/L	97.1	90 - 110	
Manganese	0.500	0.499	mg/L	99.9	90 - 110	
Nickel	0.500	0.494	mg/L	98.8	90 - 110	
Potassium	50.0	49.2	mg/L	98.5	90 - 110	
Silver	0.400	0.394	mg/L	98.6	90 - 110	
Sodium	50.0	47.8	mg/L	95.5	90 - 110	
Vanadium	1.00	0.990	mg/L	99.0	90 - 110	
Zinc	1.00	0.971	mg/L	97.1	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-27
 Instrument ID: PE-ICP2 Run Time: 17:19 Method: 6010B
 File ID: P2.120412.171952 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.54	mg/L	95.4	90 - 110	
Barium	1.00	0.971	mg/L	97.1	90 - 110	
Beryllium	0.0500	0.0467	mg/L	93.5	90 - 110	
Cadmium	0.0500	0.0453	mg/L	90.5	90 - 110	
Calcium	10.0	9.86	mg/L	98.6	90 - 110	
Chromium	0.500	0.484	mg/L	96.8	90 - 110	
Cobalt	0.200	0.193	mg/L	96.6	90 - 110	
Copper	0.500	0.481	mg/L	96.3	90 - 110	
Iron	4.00	3.84	mg/L	96.1	90 - 110	
Magnesium	10.0	9.62	mg/L	96.2	90 - 110	
Manganese	0.500	0.494	mg/L	98.8	90 - 110	
Nickel	0.500	0.485	mg/L	97.0	90 - 110	
Potassium	50.0	48.8	mg/L	97.5	90 - 110	
Silver	0.400	0.386	mg/L	96.6	90 - 110	
Sodium	50.0	47.4	mg/L	94.8	90 - 110	
Vanadium	1.00	0.978	mg/L	97.8	90 - 110	
Zinc	1.00	0.952	mg/L	95.2	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-33
Instrument ID: PE-ICP2 Run Time: 20:46 Method: 6010B
File ID: P2.120412.204600 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.51	mg/L	95.1	90 - 110	
Barium	1.00	0.957	mg/L	95.7	90 - 110	
Beryllium	0.0500	0.0466	mg/L	93.2	90 - 110	
Cadmium	0.0500	0.0450	mg/L	90.0	90 - 110	
Calcium	10.0	9.80	mg/L	98.0	90 - 110	
Chromium	0.500	0.479	mg/L	95.8	90 - 110	
Cobalt	0.200	0.190	mg/L	95.1	90 - 110	
Copper	0.500	0.478	mg/L	95.7	90 - 110	
Iron	4.00	3.87	mg/L	96.8	90 - 110	
Magnesium	10.0	9.66	mg/L	96.6	90 - 110	
Manganese	0.500	0.487	mg/L	97.3	90 - 110	
Nickel	0.500	0.480	mg/L	95.9	90 - 110	
Potassium	50.0	48.5	mg/L	97.0	90 - 110	
Silver	0.400	0.385	mg/L	96.4	90 - 110	
Sodium	50.0	47.5	mg/L	95.0	90 - 110	
Vanadium	1.00	0.959	mg/L	95.9	90 - 110	
Zinc	1.00	0.937	mg/L	93.7	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-37
Instrument ID: PE-ICP2 Run Time: 21:10 Method: 6010B
File ID: P2.120412.211051 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.45	mg/L	94.5	90 - 110	
Barium	1.00	0.933	mg/L	93.3	90 - 110	
Beryllium	0.0500	0.0453	mg/L	90.6	90 - 110	
Cadmium	0.0500	0.0447	mg/L	89.4	90 - 110	*
Calcium	10.0	9.67	mg/L	96.7	90 - 110	
Chromium	0.500	0.466	mg/L	93.3	90 - 110	
Cobalt	0.200	0.188	mg/L	93.9	90 - 110	
Copper	0.500	0.463	mg/L	92.7	90 - 110	
Iron	4.00	3.83	mg/L	95.8	90 - 110	
Magnesium	10.0	9.60	mg/L	96.0	90 - 110	
Manganese	0.500	0.473	mg/L	94.6	90 - 110	
Nickel	0.500	0.466	mg/L	93.2	90 - 110	
Potassium	50.0	47.9	mg/L	95.7	90 - 110	
Silver	0.400	0.375	mg/L	93.6	90 - 110	
Sodium	50.0	47.8	mg/L	95.6	90 - 110	
Vanadium	1.00	0.933	mg/L	93.3	90 - 110	
Zinc	1.00	0.915	mg/L	91.5	90 - 110	

* Exceeds LIMITS Criteria

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-11
 Instrument ID: PE-ICP2 Run Time: 08:55 Method: 6010B
 File ID: P2.120612.085548 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.0	mg/L	100	90 - 110	
Barium	1.00	1.02	mg/L	102	90 - 110	
Beryllium	0.0500	0.0504	mg/L	101	90 - 110	
Cadmium	0.0500	0.0498	mg/L	99.6	90 - 110	
Calcium	10.0	10.6	mg/L	106	90 - 110	
Chromium	0.500	0.512	mg/L	102	90 - 110	
Cobalt	0.200	0.206	mg/L	103	90 - 110	
Copper	0.500	0.510	mg/L	102	90 - 110	
Iron	4.00	4.01	mg/L	100	90 - 110	
Magnesium	10.0	10.0	mg/L	100	90 - 110	
Manganese	0.500	0.519	mg/L	104	90 - 110	
Nickel	0.500	0.513	mg/L	103	90 - 110	
Potassium	50.0	51.0	mg/L	102	90 - 110	
Silver	0.400	0.413	mg/L	103	90 - 110	
Sodium	50.0	51.1	mg/L	102	90 - 110	
Vanadium	1.00	1.03	mg/L	103	90 - 110	
Zinc	1.00	1.03	mg/L	103	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-15
 Instrument ID: PE-ICP2 Run Time: 11:29 Method: 6010B
 File ID: P2.120612.112918 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.95	mg/L	99.5	90 - 110	
Barium	1.00	1.01	mg/L	101	90 - 110	
Beryllium	0.0500	0.0499	mg/L	99.8	90 - 110	
Cadmium	0.0500	0.0494	mg/L	98.7	90 - 110	
Calcium	10.0	10.5	mg/L	105	90 - 110	
Chromium	0.500	0.507	mg/L	101	90 - 110	
Cobalt	0.200	0.205	mg/L	102	90 - 110	
Copper	0.500	0.506	mg/L	101	90 - 110	
Iron	4.00	4.04	mg/L	101	90 - 110	
Magnesium	10.0	10.2	mg/L	102	90 - 110	
Manganese	0.500	0.514	mg/L	103	90 - 110	
Nickel	0.500	0.509	mg/L	102	90 - 110	
Potassium	50.0	51.4	mg/L	103	90 - 110	
Silver	0.400	0.409	mg/L	102	90 - 110	
Sodium	50.0	51.6	mg/L	103	90 - 110	
Vanadium	1.00	1.02	mg/L	102	90 - 110	
Zinc	1.00	1.02	mg/L	102	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-18
Instrument ID: PE-ICP2 Run Time: 12:11 Method: 6010B
File ID: P2.120612.121122 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.76	mg/L	97.6	90 - 110	
Barium	1.00	1.00	mg/L	100	90 - 110	
Beryllium	0.0500	0.0497	mg/L	99.4	90 - 110	
Cadmium	0.0500	0.0489	mg/L	97.9	90 - 110	
Calcium	10.0	10.3	mg/L	103	90 - 110	
Chromium	0.500	0.502	mg/L	100	90 - 110	
Cobalt	0.200	0.202	mg/L	101	90 - 110	
Copper	0.500	0.504	mg/L	101	90 - 110	
Iron	4.00	3.99	mg/L	99.8	90 - 110	
Magnesium	10.0	9.97	mg/L	99.7	90 - 110	
Manganese	0.500	0.509	mg/L	102	90 - 110	
Nickel	0.500	0.503	mg/L	101	90 - 110	
Potassium	50.0	50.5	mg/L	101	90 - 110	
Silver	0.400	0.407	mg/L	102	90 - 110	
Sodium	50.0	50.7	mg/L	101	90 - 110	
Vanadium	1.00	1.01	mg/L	101	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-26
 Instrument ID: PE-ICP2 Run Time: 16:34 Method: 6010B
 File ID: P2.120612.163402 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.73	mg/L	97.3	90 - 110	
Barium	1.00	1.01	mg/L	101	90 - 110	
Beryllium	0.0500	0.0486	mg/L	97.3	90 - 110	
Cadmium	0.0500	0.0476	mg/L	95.2	90 - 110	
Calcium	10.0	10.2	mg/L	102	90 - 110	
Chromium	0.500	0.500	mg/L	99.9	90 - 110	
Cobalt	0.200	0.204	mg/L	102	90 - 110	
Copper	0.500	0.489	mg/L	97.8	90 - 110	
Iron	4.00	3.98	mg/L	99.5	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Manganese	0.500	0.513	mg/L	103	90 - 110	
Nickel	0.500	0.504	mg/L	101	90 - 110	
Potassium	50.0	51.2	mg/L	102	90 - 110	
Silver	0.400	0.397	mg/L	99.2	90 - 110	
Sodium	50.0	49.7	mg/L	99.4	90 - 110	
Vanadium	1.00	1.00	mg/L	100	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-29
Instrument ID: PE-ICP2 Run Time: 18:02 Method: 6010B
File ID: P2.120612.180255 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.74	mg/L	97.4	90 - 110	
Barium	1.00	1.02	mg/L	102	90 - 110	
Beryllium	0.0500	0.0479	mg/L	95.8	90 - 110	
Cadmium	0.0500	0.0464	mg/L	92.8	90 - 110	
Calcium	10.0	10.0	mg/L	100	90 - 110	
Chromium	0.500	0.503	mg/L	101	90 - 110	
Cobalt	0.200	0.203	mg/L	102	90 - 110	
Copper	0.500	0.487	mg/L	97.5	90 - 110	
Iron	4.00	3.98	mg/L	99.5	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Manganese	0.500	0.517	mg/L	103	90 - 110	
Nickel	0.500	0.508	mg/L	102	90 - 110	
Potassium	50.0	50.8	mg/L	102	90 - 110	
Silver	0.400	0.393	mg/L	98.2	90 - 110	
Sodium	50.0	49.9	mg/L	99.9	90 - 110	
Vanadium	1.00	1.01	mg/L	101	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-31
Instrument ID: PE-ICP2 Run Time: 18:57 Method: 6010B
File ID: P2.120612.185721 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.61	mg/L	96.1	90 - 110	
Barium	1.00	0.988	mg/L	98.8	90 - 110	
Beryllium	0.0500	0.0478	mg/L	95.7	90 - 110	
Cadmium	0.0500	0.0460	mg/L	92.1	90 - 110	
Calcium	10.0	9.95	mg/L	99.5	90 - 110	
Chromium	0.500	0.491	mg/L	98.2	90 - 110	
Cobalt	0.200	0.197	mg/L	98.7	90 - 110	
Copper	0.500	0.482	mg/L	96.4	90 - 110	
Iron	4.00	3.89	mg/L	97.3	90 - 110	
Magnesium	10.0	9.79	mg/L	97.9	90 - 110	
Manganese	0.500	0.502	mg/L	100	90 - 110	
Nickel	0.500	0.496	mg/L	99.2	90 - 110	
Potassium	50.0	50.1	mg/L	100	90 - 110	
Silver	0.400	0.390	mg/L	97.4	90 - 110	
Sodium	50.0	49.1	mg/L	98.2	90 - 110	
Vanadium	1.00	0.983	mg/L	98.3	90 - 110	
Zinc	1.00	0.981	mg/L	98.1	90 - 110	

* Exceeds LIMITS Criteria

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-35
 Instrument ID: PE-ICP2 Run Time: 19:22 Method: 6010B
 File ID: P2.120612.192209 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415619 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.80	mg/L	98.0	90 - 110	
Barium	1.00	1.00	mg/L	100	90 - 110	
Beryllium	0.0500	0.0487	mg/L	97.4	90 - 110	
Cadmium	0.0500	0.0474	mg/L	94.8	90 - 110	
Calcium	10.0	10.2	mg/L	102	90 - 110	
Chromium	0.500	0.497	mg/L	99.3	90 - 110	
Cobalt	0.200	0.202	mg/L	101	90 - 110	
Copper	0.500	0.491	mg/L	98.3	90 - 110	
Iron	4.00	3.98	mg/L	99.6	90 - 110	
Magnesium	10.0	10.0	mg/L	100	90 - 110	
Manganese	0.500	0.509	mg/L	102	90 - 110	
Nickel	0.500	0.501	mg/L	100	90 - 110	
Potassium	50.0	50.8	mg/L	102	90 - 110	
Silver	0.400	0.397	mg/L	99.3	90 - 110	
Sodium	50.0	49.6	mg/L	99.3	90 - 110	
Vanadium	1.00	0.998	mg/L	99.8	90 - 110	
Zinc	1.00	0.994	mg/L	99.4	90 - 110	

* Exceeds LIMITS Criteria

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-11
Instrument ID: PE-ICP2 Run Time: 08:35 Method: 6010B
File ID: P2.120412.083529 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.76	mg/L	97.6	90 - 110	
Barium	1.00	0.987	mg/L	98.7	90 - 110	
Beryllium	0.0500	0.0485	mg/L	97.1	90 - 110	
Cadmium	0.0500	0.0478	mg/L	95.5	90 - 110	
Calcium	10.0	10.1	mg/L	101	90 - 110	
Chromium	0.500	0.491	mg/L	98.3	90 - 110	
Cobalt	0.200	0.197	mg/L	98.4	90 - 110	
Copper	0.500	0.490	mg/L	98.0	90 - 110	
Iron	4.00	3.90	mg/L	97.6	90 - 110	
Magnesium	10.0	9.71	mg/L	97.1	90 - 110	
Manganese	0.500	0.498	mg/L	99.6	90 - 110	
Nickel	0.500	0.494	mg/L	98.8	90 - 110	
Potassium	50.0	49.0	mg/L	97.9	90 - 110	
Silver	0.400	0.397	mg/L	99.3	90 - 110	
Sodium	50.0	47.8	mg/L	95.5	90 - 110	
Vanadium	1.00	0.986	mg/L	98.6	90 - 110	
Zinc	1.00	0.991	mg/L	99.1	90 - 110	

* Exceeds LIMITS Criteria

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-17
 Instrument ID: PE-ICP2 Run Time: 11:27 Method: 6010B
 File ID: P2.120412.112743 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.78	mg/L	97.8	90 - 110	
Barium	1.00	0.987	mg/L	98.7	90 - 110	
Beryllium	0.0500	0.0480	mg/L	95.9	90 - 110	
Cadmium	0.0500	0.0475	mg/L	95.1	90 - 110	
Calcium	10.0	10.3	mg/L	103	90 - 110	
Chromium	0.500	0.494	mg/L	98.8	90 - 110	
Cobalt	0.200	0.198	mg/L	99.0	90 - 110	
Copper	0.500	0.489	mg/L	97.9	90 - 110	
Iron	4.00	3.97	mg/L	99.4	90 - 110	
Magnesium	10.0	9.84	mg/L	98.4	90 - 110	
Manganese	0.500	0.499	mg/L	99.9	90 - 110	
Nickel	0.500	0.497	mg/L	99.4	90 - 110	
Potassium	50.0	49.5	mg/L	99.1	90 - 110	
Silver	0.400	0.396	mg/L	99.0	90 - 110	
Sodium	50.0	49.4	mg/L	98.7	90 - 110	
Vanadium	1.00	0.989	mg/L	98.9	90 - 110	
Zinc	1.00	0.984	mg/L	98.4	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-19
Instrument ID: PE-ICP2 Run Time: 12:38 Method: 6010B
File ID: P2.120412.123837 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.60	mg/L	96.0	90 - 110	
Barium	1.00	0.974	mg/L	97.4	90 - 110	
Beryllium	0.0500	0.0464	mg/L	92.8	90 - 110	
Cadmium	0.0500	0.0458	mg/L	91.6	90 - 110	
Calcium	10.0	9.99	mg/L	99.9	90 - 110	
Chromium	0.500	0.486	mg/L	97.3	90 - 110	
Cobalt	0.200	0.196	mg/L	98.0	90 - 110	
Copper	0.500	0.477	mg/L	95.5	90 - 110	
Iron	4.00	3.89	mg/L	97.3	90 - 110	
Magnesium	10.0	9.70	mg/L	97.0	90 - 110	
Manganese	0.500	0.494	mg/L	98.7	90 - 110	
Nickel	0.500	0.486	mg/L	97.1	90 - 110	
Potassium	50.0	49.1	mg/L	98.3	90 - 110	
Silver	0.400	0.384	mg/L	96.0	90 - 110	
Sodium	50.0	48.0	mg/L	95.9	90 - 110	
Vanadium	1.00	0.976	mg/L	97.6	90 - 110	
Zinc	1.00	0.962	mg/L	96.2	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-21
 Instrument ID: PE-ICP2 Run Time: 13:53 Method: 6010B
 File ID: P2.120412.135332 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.63	mg/L	96.3	90 - 110	
Barium	1.00	0.973	mg/L	97.3	90 - 110	
Beryllium	0.0500	0.0473	mg/L	94.5	90 - 110	
Cadmium	0.0500	0.0459	mg/L	91.8	90 - 110	
Calcium	10.0	9.95	mg/L	99.5	90 - 110	
Chromium	0.500	0.486	mg/L	97.2	90 - 110	
Cobalt	0.200	0.194	mg/L	97.0	90 - 110	
Copper	0.500	0.486	mg/L	97.2	90 - 110	
Iron	4.00	3.88	mg/L	97.1	90 - 110	
Magnesium	10.0	9.62	mg/L	96.2	90 - 110	
Manganese	0.500	0.494	mg/L	98.8	90 - 110	
Nickel	0.500	0.487	mg/L	97.4	90 - 110	
Potassium	50.0	49.4	mg/L	98.7	90 - 110	
Silver	0.400	0.389	mg/L	97.4	90 - 110	
Sodium	50.0	48.1	mg/L	96.2	90 - 110	
Vanadium	1.00	0.977	mg/L	97.7	90 - 110	
Zinc	1.00	0.957	mg/L	95.7	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-23
 Instrument ID: PE-ICP2 Run Time: 14:59 Method: 6010B
 File ID: P2.120412.145904 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.67	mg/L	96.7	90 - 110	
Barium	1.00	0.978	mg/L	97.8	90 - 110	
Beryllium	0.0500	0.0474	mg/L	94.8	90 - 110	
Cadmium	0.0500	0.0460	mg/L	92.0	90 - 110	
Calcium	10.0	10.0	mg/L	100	90 - 110	
Chromium	0.500	0.489	mg/L	97.8	90 - 110	
Cobalt	0.200	0.195	mg/L	97.6	90 - 110	
Copper	0.500	0.486	mg/L	97.3	90 - 110	
Iron	4.00	3.90	mg/L	97.5	90 - 110	
Magnesium	10.0	9.73	mg/L	97.3	90 - 110	
Manganese	0.500	0.498	mg/L	99.5	90 - 110	
Nickel	0.500	0.493	mg/L	98.5	90 - 110	
Potassium	50.0	49.2	mg/L	98.5	90 - 110	
Silver	0.400	0.392	mg/L	97.9	90 - 110	
Sodium	50.0	46.9	mg/L	93.9	90 - 110	
Vanadium	1.00	0.979	mg/L	97.9	90 - 110	
Zinc	1.00	0.958	mg/L	95.8	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2684609
 Report generated 12/07/2012 09:09



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-25
Instrument ID: PE-ICP2 Run Time: 16:18 Method: 6010B
File ID: P2.120412.161825 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.65	mg/L	96.5	90 - 110	
Barium	1.00	0.983	mg/L	98.3	90 - 110	
Beryllium	0.0500	0.0478	mg/L	95.6	90 - 110	
Cadmium	0.0500	0.0467	mg/L	93.3	90 - 110	
Calcium	10.0	10.1	mg/L	101	90 - 110	
Chromium	0.500	0.493	mg/L	98.6	90 - 110	
Cobalt	0.200	0.197	mg/L	98.5	90 - 110	
Copper	0.500	0.490	mg/L	98.0	90 - 110	
Iron	4.00	3.91	mg/L	97.8	90 - 110	
Magnesium	10.0	9.71	mg/L	97.1	90 - 110	
Manganese	0.500	0.499	mg/L	99.9	90 - 110	
Nickel	0.500	0.494	mg/L	98.8	90 - 110	
Potassium	50.0	49.2	mg/L	98.5	90 - 110	
Silver	0.400	0.394	mg/L	98.6	90 - 110	
Sodium	50.0	47.8	mg/L	95.5	90 - 110	
Vanadium	1.00	0.990	mg/L	99.0	90 - 110	
Zinc	1.00	0.971	mg/L	97.1	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-33
Instrument ID: PE-ICP2 Run Time: 20:46 Method: 6010B
File ID: P2.120412.204600 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.51	mg/L	95.1	90 - 110	
Barium	1.00	0.957	mg/L	95.7	90 - 110	
Beryllium	0.0500	0.0466	mg/L	93.2	90 - 110	
Cadmium	0.0500	0.0450	mg/L	90.0	90 - 110	
Calcium	10.0	9.80	mg/L	98.0	90 - 110	
Chromium	0.500	0.479	mg/L	95.8	90 - 110	
Cobalt	0.200	0.190	mg/L	95.1	90 - 110	
Copper	0.500	0.478	mg/L	95.7	90 - 110	
Iron	4.00	3.87	mg/L	96.8	90 - 110	
Magnesium	10.0	9.66	mg/L	96.6	90 - 110	
Manganese	0.500	0.487	mg/L	97.3	90 - 110	
Nickel	0.500	0.480	mg/L	95.9	90 - 110	
Potassium	50.0	48.5	mg/L	97.0	90 - 110	
Silver	0.400	0.385	mg/L	96.4	90 - 110	
Sodium	50.0	47.5	mg/L	95.0	90 - 110	
Vanadium	1.00	0.959	mg/L	95.9	90 - 110	
Zinc	1.00	0.937	mg/L	93.7	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2684609
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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415688-37
Instrument ID: PE-ICP2 Run Time: 21:10 Method: 6010B
File ID: P2.120412.211051 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.45	mg/L	94.5	90 - 110	
Barium	1.00	0.933	mg/L	93.3	90 - 110	
Beryllium	0.0500	0.0453	mg/L	90.6	90 - 110	
Cadmium	0.0500	0.0447	mg/L	89.4	90 - 110	*
Calcium	10.0	9.67	mg/L	96.7	90 - 110	
Chromium	0.500	0.466	mg/L	93.3	90 - 110	
Cobalt	0.200	0.188	mg/L	93.9	90 - 110	
Copper	0.500	0.463	mg/L	92.7	90 - 110	
Iron	4.00	3.83	mg/L	95.8	90 - 110	
Magnesium	10.0	9.60	mg/L	96.0	90 - 110	
Manganese	0.500	0.473	mg/L	94.6	90 - 110	
Nickel	0.500	0.466	mg/L	93.2	90 - 110	
Potassium	50.0	47.9	mg/L	95.7	90 - 110	
Silver	0.400	0.375	mg/L	93.6	90 - 110	
Sodium	50.0	47.8	mg/L	95.6	90 - 110	
Vanadium	1.00	0.933	mg/L	93.3	90 - 110	
Zinc	1.00	0.915	mg/L	91.5	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-11
 Instrument ID: PE-ICP2 Run Time: 08:55 Method: 6010B
 File ID: P2.120612.085548 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.0	mg/L	100	90 - 110	
Barium	1.00	1.02	mg/L	102	90 - 110	
Beryllium	0.0500	0.0504	mg/L	101	90 - 110	
Cadmium	0.0500	0.0498	mg/L	99.6	90 - 110	
Calcium	10.0	10.6	mg/L	106	90 - 110	
Chromium	0.500	0.512	mg/L	102	90 - 110	
Cobalt	0.200	0.206	mg/L	103	90 - 110	
Copper	0.500	0.510	mg/L	102	90 - 110	
Iron	4.00	4.01	mg/L	100	90 - 110	
Magnesium	10.0	10.0	mg/L	100	90 - 110	
Manganese	0.500	0.519	mg/L	104	90 - 110	
Nickel	0.500	0.513	mg/L	103	90 - 110	
Potassium	50.0	51.0	mg/L	102	90 - 110	
Silver	0.400	0.413	mg/L	103	90 - 110	
Sodium	50.0	51.1	mg/L	102	90 - 110	
Vanadium	1.00	1.03	mg/L	103	90 - 110	
Zinc	1.00	1.03	mg/L	103	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-15
 Instrument ID: PE-ICP2 Run Time: 11:29 Method: 6010B
 File ID: P2.120612.112918 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.95	mg/L	99.5	90 - 110	
Barium	1.00	1.01	mg/L	101	90 - 110	
Beryllium	0.0500	0.0499	mg/L	99.8	90 - 110	
Cadmium	0.0500	0.0494	mg/L	98.7	90 - 110	
Calcium	10.0	10.5	mg/L	105	90 - 110	
Chromium	0.500	0.507	mg/L	101	90 - 110	
Cobalt	0.200	0.205	mg/L	102	90 - 110	
Copper	0.500	0.506	mg/L	101	90 - 110	
Iron	4.00	4.04	mg/L	101	90 - 110	
Magnesium	10.0	10.2	mg/L	102	90 - 110	
Manganese	0.500	0.514	mg/L	103	90 - 110	
Nickel	0.500	0.509	mg/L	102	90 - 110	
Potassium	50.0	51.4	mg/L	103	90 - 110	
Silver	0.400	0.409	mg/L	102	90 - 110	
Sodium	50.0	51.6	mg/L	103	90 - 110	
Vanadium	1.00	1.02	mg/L	102	90 - 110	
Zinc	1.00	1.02	mg/L	102	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-18
 Instrument ID: PE-ICP2 Run Time: 12:11 Method: 6010B
 File ID: P2.120612.121122 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.76	mg/L	97.6	90 - 110	
Barium	1.00	1.00	mg/L	100	90 - 110	
Beryllium	0.0500	0.0497	mg/L	99.4	90 - 110	
Cadmium	0.0500	0.0489	mg/L	97.9	90 - 110	
Calcium	10.0	10.3	mg/L	103	90 - 110	
Chromium	0.500	0.502	mg/L	100	90 - 110	
Cobalt	0.200	0.202	mg/L	101	90 - 110	
Copper	0.500	0.504	mg/L	101	90 - 110	
Iron	4.00	3.99	mg/L	99.8	90 - 110	
Magnesium	10.0	9.97	mg/L	99.7	90 - 110	
Manganese	0.500	0.509	mg/L	102	90 - 110	
Nickel	0.500	0.503	mg/L	101	90 - 110	
Potassium	50.0	50.5	mg/L	101	90 - 110	
Silver	0.400	0.407	mg/L	102	90 - 110	
Sodium	50.0	50.7	mg/L	101	90 - 110	
Vanadium	1.00	1.01	mg/L	101	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-26
 Instrument ID: PE-ICP2 Run Time: 16:34 Method: 6010B
 File ID: P2.120612.163402 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.73	mg/L	97.3	90 - 110	
Barium	1.00	1.01	mg/L	101	90 - 110	
Beryllium	0.0500	0.0486	mg/L	97.3	90 - 110	
Cadmium	0.0500	0.0476	mg/L	95.2	90 - 110	
Calcium	10.0	10.2	mg/L	102	90 - 110	
Chromium	0.500	0.500	mg/L	99.9	90 - 110	
Cobalt	0.200	0.204	mg/L	102	90 - 110	
Copper	0.500	0.489	mg/L	97.8	90 - 110	
Iron	4.00	3.98	mg/L	99.5	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Manganese	0.500	0.513	mg/L	103	90 - 110	
Nickel	0.500	0.504	mg/L	101	90 - 110	
Potassium	50.0	51.2	mg/L	102	90 - 110	
Silver	0.400	0.397	mg/L	99.2	90 - 110	
Sodium	50.0	49.7	mg/L	99.4	90 - 110	
Vanadium	1.00	1.00	mg/L	100	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-29
Instrument ID: PE-ICP2 Run Time: 18:02 Method: 6010B
File ID: P2.120612.180255 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.74	mg/L	97.4	90 - 110	
Barium	1.00	1.02	mg/L	102	90 - 110	
Beryllium	0.0500	0.0479	mg/L	95.8	90 - 110	
Cadmium	0.0500	0.0464	mg/L	92.8	90 - 110	
Calcium	10.0	10.0	mg/L	100	90 - 110	
Chromium	0.500	0.503	mg/L	101	90 - 110	
Cobalt	0.200	0.203	mg/L	102	90 - 110	
Copper	0.500	0.487	mg/L	97.5	90 - 110	
Iron	4.00	3.98	mg/L	99.5	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Manganese	0.500	0.517	mg/L	103	90 - 110	
Nickel	0.500	0.508	mg/L	102	90 - 110	
Potassium	50.0	50.8	mg/L	102	90 - 110	
Silver	0.400	0.393	mg/L	98.2	90 - 110	
Sodium	50.0	49.9	mg/L	99.9	90 - 110	
Vanadium	1.00	1.01	mg/L	101	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-31
Instrument ID: PE-ICP2 Run Time: 18:57 Method: 6010B
File ID: P2.120612.185721 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.61	mg/L	96.1	90 - 110	
Barium	1.00	0.988	mg/L	98.8	90 - 110	
Beryllium	0.0500	0.0478	mg/L	95.7	90 - 110	
Cadmium	0.0500	0.0460	mg/L	92.1	90 - 110	
Calcium	10.0	9.95	mg/L	99.5	90 - 110	
Chromium	0.500	0.491	mg/L	98.2	90 - 110	
Cobalt	0.200	0.197	mg/L	98.7	90 - 110	
Copper	0.500	0.482	mg/L	96.4	90 - 110	
Iron	4.00	3.89	mg/L	97.3	90 - 110	
Magnesium	10.0	9.79	mg/L	97.9	90 - 110	
Manganese	0.500	0.502	mg/L	100	90 - 110	
Nickel	0.500	0.496	mg/L	99.2	90 - 110	
Potassium	50.0	50.1	mg/L	100	90 - 110	
Silver	0.400	0.390	mg/L	97.4	90 - 110	
Sodium	50.0	49.1	mg/L	98.2	90 - 110	
Vanadium	1.00	0.983	mg/L	98.3	90 - 110	
Zinc	1.00	0.981	mg/L	98.1	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-35
 Instrument ID: PE-ICP2 Run Time: 19:22 Method: 6010B
 File ID: P2.120612.192209 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415696 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.80	mg/L	98.0	90 - 110	
Barium	1.00	1.00	mg/L	100	90 - 110	
Beryllium	0.0500	0.0487	mg/L	97.4	90 - 110	
Cadmium	0.0500	0.0474	mg/L	94.8	90 - 110	
Calcium	10.0	10.2	mg/L	102	90 - 110	
Chromium	0.500	0.497	mg/L	99.3	90 - 110	
Cobalt	0.200	0.202	mg/L	101	90 - 110	
Copper	0.500	0.491	mg/L	98.3	90 - 110	
Iron	4.00	3.98	mg/L	99.6	90 - 110	
Magnesium	10.0	10.0	mg/L	100	90 - 110	
Manganese	0.500	0.509	mg/L	102	90 - 110	
Nickel	0.500	0.501	mg/L	100	90 - 110	
Potassium	50.0	50.8	mg/L	102	90 - 110	
Silver	0.400	0.397	mg/L	99.3	90 - 110	
Sodium	50.0	49.6	mg/L	99.3	90 - 110	
Vanadium	1.00	0.998	mg/L	99.8	90 - 110	
Zinc	1.00	0.994	mg/L	99.4	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-11
Instrument ID: PE-ICP2 Run Time: 08:38 Method: 6010B
File ID: P2.120512.083809 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.89	mg/L	98.9	90 - 110	
Barium	1.00	0.989	mg/L	98.9	90 - 110	
Beryllium	0.0500	0.0504	mg/L	101	90 - 110	
Cadmium	0.0500	0.0496	mg/L	99.1	90 - 110	
Calcium	10.0	10.5	mg/L	105	90 - 110	
Chromium	0.500	0.494	mg/L	98.7	90 - 110	
Cobalt	0.200	0.198	mg/L	99.2	90 - 110	
Copper	0.500	0.513	mg/L	103	90 - 110	
Iron	4.00	3.97	mg/L	99.2	90 - 110	
Magnesium	10.0	9.85	mg/L	98.5	90 - 110	
Manganese	0.500	0.501	mg/L	100	90 - 110	
Nickel	0.500	0.496	mg/L	99.2	90 - 110	
Potassium	50.0	50.4	mg/L	101	90 - 110	
Silver	0.400	0.414	mg/L	104	90 - 110	
Sodium	50.0	51.4	mg/L	103	90 - 110	
Vanadium	1.00	0.993	mg/L	99.3	90 - 110	
Zinc	1.00	0.989	mg/L	98.9	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-17
 Instrument ID: PE-ICP2 Run Time: 12:10 Method: 6010B
 File ID: P2.120512.121014 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.95	mg/L	99.5	90 - 110	
Barium	1.00	1.02	mg/L	102	90 - 110	
Beryllium	0.0500	0.0513	mg/L	103	90 - 110	
Cadmium	0.0500	0.0512	mg/L	102	90 - 110	
Calcium	10.0	10.6	mg/L	106	90 - 110	
Chromium	0.500	0.509	mg/L	102	90 - 110	
Cobalt	0.200	0.204	mg/L	102	90 - 110	
Copper	0.500	0.515	mg/L	103	90 - 110	
Iron	4.00	4.01	mg/L	100	90 - 110	
Magnesium	10.0	9.99	mg/L	99.9	90 - 110	
Manganese	0.500	0.514	mg/L	103	90 - 110	
Nickel	0.500	0.511	mg/L	102	90 - 110	
Potassium	50.0	51.1	mg/L	102	90 - 110	
Silver	0.400	0.419	mg/L	105	90 - 110	
Sodium	50.0	52.0	mg/L	104	90 - 110	
Vanadium	1.00	1.02	mg/L	102	90 - 110	
Zinc	1.00	1.03	mg/L	103	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-21
Instrument ID: PE-ICP2 Run Time: 12:35 Method: 6010B
File ID: P2.120512.123501 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.84	mg/L	98.4	90 - 110	
Barium	1.00	1.01	mg/L	101	90 - 110	
Beryllium	0.0500	0.0511	mg/L	102	90 - 110	
Cadmium	0.0500	0.0505	mg/L	101	90 - 110	
Calcium	10.0	10.5	mg/L	105	90 - 110	
Chromium	0.500	0.505	mg/L	101	90 - 110	
Cobalt	0.200	0.201	mg/L	101	90 - 110	
Copper	0.500	0.516	mg/L	103	90 - 110	
Iron	4.00	3.99	mg/L	99.8	90 - 110	
Magnesium	10.0	9.89	mg/L	98.9	90 - 110	
Manganese	0.500	0.508	mg/L	102	90 - 110	
Nickel	0.500	0.504	mg/L	101	90 - 110	
Potassium	50.0	50.5	mg/L	101	90 - 110	
Silver	0.400	0.419	mg/L	105	90 - 110	
Sodium	50.0	51.3	mg/L	103	90 - 110	
Vanadium	1.00	1.01	mg/L	101	90 - 110	
Zinc	1.00	1.02	mg/L	102	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-23
 Instrument ID: PE-ICP2 Run Time: 13:57 Method: 6010B
 File ID: P2.120512.135719 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.98	mg/L	99.8	90 - 110	
Barium	1.00	1.03	mg/L	103	90 - 110	
Beryllium	0.0500	0.0532	mg/L	106	90 - 110	
Cadmium	0.0500	0.0524	mg/L	105	90 - 110	
Calcium	10.0	10.9	mg/L	109	90 - 110	
Chromium	0.500	0.519	mg/L	104	90 - 110	
Cobalt	0.200	0.206	mg/L	103	90 - 110	
Copper	0.500	0.532	mg/L	106	90 - 110	
Iron	4.00	4.01	mg/L	100	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Manganese	0.500	0.521	mg/L	104	90 - 110	
Nickel	0.500	0.519	mg/L	104	90 - 110	
Potassium	50.0	51.6	mg/L	103	90 - 110	
Silver	0.400	0.434	mg/L	108	90 - 110	
Sodium	50.0	51.6	mg/L	103	90 - 110	
Vanadium	1.00	1.03	mg/L	103	90 - 110	
Zinc	1.00	1.05	mg/L	105	90 - 110	

* Exceeds LIMITS Criteria

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-25
Instrument ID: PE-ICP2 Run Time: 15:10 Method: 6010B
File ID: P2.120512.151011 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.93	mg/L	99.3	90 - 110	
Barium	1.00	1.02	mg/L	102	90 - 110	
Beryllium	0.0500	0.0526	mg/L	105	90 - 110	
Cadmium	0.0500	0.0516	mg/L	103	90 - 110	
Calcium	10.0	10.7	mg/L	107	90 - 110	
Chromium	0.500	0.508	mg/L	102	90 - 110	
Cobalt	0.200	0.203	mg/L	102	90 - 110	
Copper	0.500	0.529	mg/L	106	90 - 110	
Iron	4.00	3.96	mg/L	98.9	90 - 110	
Magnesium	10.0	9.96	mg/L	99.6	90 - 110	
Manganese	0.500	0.516	mg/L	103	90 - 110	
Nickel	0.500	0.511	mg/L	102	90 - 110	
Potassium	50.0	51.4	mg/L	103	90 - 110	
Silver	0.400	0.429	mg/L	107	90 - 110	
Sodium	50.0	50.9	mg/L	102	90 - 110	
Vanadium	1.00	1.02	mg/L	102	90 - 110	
Zinc	1.00	1.03	mg/L	103	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-27
Instrument ID: PE-ICP2 Run Time: 15:48 Method: 6010B
File ID: P2.120512.154853 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.1	mg/L	101	90 - 110	
Barium	1.00	1.03	mg/L	103	90 - 110	
Beryllium	0.0500	0.0529	mg/L	106	90 - 110	
Cadmium	0.0500	0.0519	mg/L	104	90 - 110	
Calcium	10.0	10.9	mg/L	109	90 - 110	
Chromium	0.500	0.515	mg/L	103	90 - 110	
Cobalt	0.200	0.206	mg/L	103	90 - 110	
Copper	0.500	0.530	mg/L	106	90 - 110	
Iron	4.00	4.02	mg/L	101	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Manganese	0.500	0.523	mg/L	105	90 - 110	
Nickel	0.500	0.519	mg/L	104	90 - 110	
Potassium	50.0	51.6	mg/L	103	90 - 110	
Silver	0.400	0.430	mg/L	108	90 - 110	
Sodium	50.0	52.0	mg/L	104	90 - 110	
Vanadium	1.00	1.03	mg/L	103	90 - 110	
Zinc	1.00	1.04	mg/L	104	90 - 110	

* Exceeds LIMITS Criteria



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415839-31
 Instrument ID: PE-ICP2 Run Time: 16:13 Method: 6010B
 File ID: P2.120512.161341 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 05-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.86	mg/L	98.6	90 - 110	
Barium	1.00	1.02	mg/L	102	90 - 110	
Beryllium	0.0500	0.0525	mg/L	105	90 - 110	
Cadmium	0.0500	0.0514	mg/L	103	90 - 110	
Calcium	10.0	10.7	mg/L	107	90 - 110	
Chromium	0.500	0.510	mg/L	102	90 - 110	
Cobalt	0.200	0.203	mg/L	102	90 - 110	
Copper	0.500	0.526	mg/L	105	90 - 110	
Iron	4.00	3.92	mg/L	98.0	90 - 110	
Magnesium	10.0	9.93	mg/L	99.3	90 - 110	
Manganese	0.500	0.517	mg/L	103	90 - 110	
Nickel	0.500	0.510	mg/L	102	90 - 110	
Potassium	50.0	50.8	mg/L	102	90 - 110	
Silver	0.400	0.428	mg/L	107	90 - 110	
Sodium	50.0	50.6	mg/L	101	90 - 110	
Vanadium	1.00	1.02	mg/L	102	90 - 110	
Zinc	1.00	1.04	mg/L	104	90 - 110	

* Exceeds LIMITS Criteria

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-11
 Instrument ID: PE-ICP2 Run Time: 08:55 Method: 6010B
 File ID: P2.120612.085548 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	10.0	mg/L	100	90 - 110	
Barium	1.00	1.02	mg/L	102	90 - 110	
Beryllium	0.0500	0.0504	mg/L	101	90 - 110	
Cadmium	0.0500	0.0498	mg/L	99.6	90 - 110	
Calcium	10.0	10.6	mg/L	106	90 - 110	
Chromium	0.500	0.512	mg/L	102	90 - 110	
Cobalt	0.200	0.206	mg/L	103	90 - 110	
Copper	0.500	0.510	mg/L	102	90 - 110	
Iron	4.00	4.01	mg/L	100	90 - 110	
Magnesium	10.0	10.0	mg/L	100	90 - 110	
Manganese	0.500	0.519	mg/L	104	90 - 110	
Nickel	0.500	0.513	mg/L	103	90 - 110	
Potassium	50.0	51.0	mg/L	102	90 - 110	
Silver	0.400	0.413	mg/L	103	90 - 110	
Sodium	50.0	51.1	mg/L	102	90 - 110	
Vanadium	1.00	1.03	mg/L	103	90 - 110	
Zinc	1.00	1.03	mg/L	103	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-15
 Instrument ID: PE-ICP2 Run Time: 11:29 Method: 6010B
 File ID: P2.120612.112918 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.95	mg/L	99.5	90 - 110	
Barium	1.00	1.01	mg/L	101	90 - 110	
Beryllium	0.0500	0.0499	mg/L	99.8	90 - 110	
Cadmium	0.0500	0.0494	mg/L	98.7	90 - 110	
Calcium	10.0	10.5	mg/L	105	90 - 110	
Chromium	0.500	0.507	mg/L	101	90 - 110	
Cobalt	0.200	0.205	mg/L	102	90 - 110	
Copper	0.500	0.506	mg/L	101	90 - 110	
Iron	4.00	4.04	mg/L	101	90 - 110	
Magnesium	10.0	10.2	mg/L	102	90 - 110	
Manganese	0.500	0.514	mg/L	103	90 - 110	
Nickel	0.500	0.509	mg/L	102	90 - 110	
Potassium	50.0	51.4	mg/L	103	90 - 110	
Silver	0.400	0.409	mg/L	102	90 - 110	
Sodium	50.0	51.6	mg/L	103	90 - 110	
Vanadium	1.00	1.02	mg/L	102	90 - 110	
Zinc	1.00	1.02	mg/L	102	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-18
Instrument ID: PE-ICP2 Run Time: 12:11 Method: 6010B
File ID: P2.120612.121122 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.76	mg/L	97.6	90 - 110	
Barium	1.00	1.00	mg/L	100	90 - 110	
Beryllium	0.0500	0.0497	mg/L	99.4	90 - 110	
Cadmium	0.0500	0.0489	mg/L	97.9	90 - 110	
Calcium	10.0	10.3	mg/L	103	90 - 110	
Chromium	0.500	0.502	mg/L	100	90 - 110	
Cobalt	0.200	0.202	mg/L	101	90 - 110	
Copper	0.500	0.504	mg/L	101	90 - 110	
Iron	4.00	3.99	mg/L	99.8	90 - 110	
Magnesium	10.0	9.97	mg/L	99.7	90 - 110	
Manganese	0.500	0.509	mg/L	102	90 - 110	
Nickel	0.500	0.503	mg/L	101	90 - 110	
Potassium	50.0	50.5	mg/L	101	90 - 110	
Silver	0.400	0.407	mg/L	102	90 - 110	
Sodium	50.0	50.7	mg/L	101	90 - 110	
Vanadium	1.00	1.01	mg/L	101	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-26
 Instrument ID: PE-ICP2 Run Time: 16:34 Method: 6010B
 File ID: P2.120612.163402 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.73	mg/L	97.3	90 - 110	
Barium	1.00	1.01	mg/L	101	90 - 110	
Beryllium	0.0500	0.0486	mg/L	97.3	90 - 110	
Cadmium	0.0500	0.0476	mg/L	95.2	90 - 110	
Calcium	10.0	10.2	mg/L	102	90 - 110	
Chromium	0.500	0.500	mg/L	99.9	90 - 110	
Cobalt	0.200	0.204	mg/L	102	90 - 110	
Copper	0.500	0.489	mg/L	97.8	90 - 110	
Iron	4.00	3.98	mg/L	99.5	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Manganese	0.500	0.513	mg/L	103	90 - 110	
Nickel	0.500	0.504	mg/L	101	90 - 110	
Potassium	50.0	51.2	mg/L	102	90 - 110	
Silver	0.400	0.397	mg/L	99.2	90 - 110	
Sodium	50.0	49.7	mg/L	99.4	90 - 110	
Vanadium	1.00	1.00	mg/L	100	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria

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CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-29
Instrument ID: PE-ICP2 Run Time: 18:02 Method: 6010B
File ID: P2.120612.180255 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.74	mg/L	97.4	90 - 110	
Barium	1.00	1.02	mg/L	102	90 - 110	
Beryllium	0.0500	0.0479	mg/L	95.8	90 - 110	
Cadmium	0.0500	0.0464	mg/L	92.8	90 - 110	
Calcium	10.0	10.0	mg/L	100	90 - 110	
Chromium	0.500	0.503	mg/L	101	90 - 110	
Cobalt	0.200	0.203	mg/L	102	90 - 110	
Copper	0.500	0.487	mg/L	97.5	90 - 110	
Iron	4.00	3.98	mg/L	99.5	90 - 110	
Magnesium	10.0	10.1	mg/L	101	90 - 110	
Manganese	0.500	0.517	mg/L	103	90 - 110	
Nickel	0.500	0.508	mg/L	102	90 - 110	
Potassium	50.0	50.8	mg/L	102	90 - 110	
Silver	0.400	0.393	mg/L	98.2	90 - 110	
Sodium	50.0	49.9	mg/L	99.9	90 - 110	
Vanadium	1.00	1.01	mg/L	101	90 - 110	
Zinc	1.00	1.01	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria

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PDF File ID: 2684609
Report generated 12/07/2012 09:09



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-31
Instrument ID: PE-ICP2 Run Time: 18:57 Method: 6010B
File ID: P2.120612.185721 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.61	mg/L	96.1	90 - 110	
Barium	1.00	0.988	mg/L	98.8	90 - 110	
Beryllium	0.0500	0.0478	mg/L	95.7	90 - 110	
Cadmium	0.0500	0.0460	mg/L	92.1	90 - 110	
Calcium	10.0	9.95	mg/L	99.5	90 - 110	
Chromium	0.500	0.491	mg/L	98.2	90 - 110	
Cobalt	0.200	0.197	mg/L	98.7	90 - 110	
Copper	0.500	0.482	mg/L	96.4	90 - 110	
Iron	4.00	3.89	mg/L	97.3	90 - 110	
Magnesium	10.0	9.79	mg/L	97.9	90 - 110	
Manganese	0.500	0.502	mg/L	100	90 - 110	
Nickel	0.500	0.496	mg/L	99.2	90 - 110	
Potassium	50.0	50.1	mg/L	100	90 - 110	
Silver	0.400	0.390	mg/L	97.4	90 - 110	
Sodium	50.0	49.1	mg/L	98.2	90 - 110	
Vanadium	1.00	0.983	mg/L	98.3	90 - 110	
Zinc	1.00	0.981	mg/L	98.1	90 - 110	

* Exceeds LIMITS Criteria



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415926-35
 Instrument ID: PE-ICP2 Run Time: 19:22 Method: 6010B
 File ID: P2.120612.192209 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415817 Cal ID: PE-ICP - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Aluminum	10.0	9.80	mg/L	98.0	90 - 110	
Barium	1.00	1.00	mg/L	100	90 - 110	
Beryllium	0.0500	0.0487	mg/L	97.4	90 - 110	
Cadmium	0.0500	0.0474	mg/L	94.8	90 - 110	
Calcium	10.0	10.2	mg/L	102	90 - 110	
Chromium	0.500	0.497	mg/L	99.3	90 - 110	
Cobalt	0.200	0.202	mg/L	101	90 - 110	
Copper	0.500	0.491	mg/L	98.3	90 - 110	
Iron	4.00	3.98	mg/L	99.6	90 - 110	
Magnesium	10.0	10.0	mg/L	100	90 - 110	
Manganese	0.500	0.509	mg/L	102	90 - 110	
Nickel	0.500	0.501	mg/L	100	90 - 110	
Potassium	50.0	50.8	mg/L	102	90 - 110	
Silver	0.400	0.397	mg/L	99.3	90 - 110	
Sodium	50.0	49.6	mg/L	99.3	90 - 110	
Vanadium	1.00	0.998	mg/L	99.8	90 - 110	
Zinc	1.00	0.994	mg/L	99.4	90 - 110	

* Exceeds LIMITS Criteria

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 PDF File ID: 2684609
 Report generated 12/07/2012 09:09



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415629-08
Sol. AB: WG415629-09

File ID: P2.120312.092724
File ID: P2.120312.093320

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	258	103	250	269	108	
Barium	NS	-0.00569	NS	0.250	0.256	102	
Beryllium	NS	0.000720	NS	0.250	0.254	102	
Cadmium	NS	-0.0000900	NS	0.500	0.476	95.2	
Calcium	250	275	110	250	280	112	
Chromium	NS	-0.00236	NS	0.250	0.260	104	
Cobalt	NS	-0.00244	NS	0.250	0.239	95.6	
Copper	NS	0.000270	NS	0.250	0.253	101	
Iron	100	97.2	97.2	100	101	101	
Magnesium	250	253	101	250	264	106	
Manganese	NS	-0.00559	NS	0.250	0.246	98.4	
Nickel	NS	-0.00195	NS	0.500	0.492	98.4	
Potassium	NS	-0.111	NS	5.00	4.76	95.2	
Silver	NS	-0.00455	NS	0.500	0.522	104	
Sodium	NS	-0.0176	NS	5.00	4.94	98.8	
Vanadium	NS	-0.00865	NS	0.250	0.247	98.8	
Zinc	NS	-0.00736	NS	0.500	0.484	96.8	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415629-24
Sol. AB: WG415629-25

File ID: P2.120312.163511
File ID: P2.120312.164107

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	268	107	250	262	105	
Barium	NS	-0.00566	NS	0.250	0.254	102	
Beryllium	NS	0.000980	NS	0.250	0.252	101	
Cadmium	NS	-0.0000300	NS	0.500	0.468	93.6	
Calcium	250	278	111	250	277	111	
Chromium	NS	-0.00171	NS	0.250	0.259	104	
Cobalt	NS	-0.00260	NS	0.250	0.236	94.4	
Copper	NS	-0.000300	NS	0.250	0.251	100	
Iron	100	97.9	97.9	100	95.4	95.4	
Magnesium	250	259	104	250	253	101	
Manganese	NS	-0.00590	NS	0.250	0.245	98.0	
Nickel	NS	-0.00186	NS	0.500	0.486	97.2	
Potassium	NS	-0.105	NS	5.00	4.74	94.8	
Silver	NS	-0.00560	NS	0.500	0.517	103	
Sodium	NS	0.0206	NS	5.00	4.92	98.4	
Vanadium	NS	-0.00646	NS	0.250	0.248	99.2	
Zinc	NS	-0.00833	NS	0.500	0.472	94.4	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-09
Sol. AB: WG415688-10

File ID: P2.120412.082336
File ID: P2.120412.082932

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	256	102	250	254	102	
Barium	NS	0	NS	0.250	0.240	96.0	
Beryllium	NS	0.000650	NS	0.250	0.244	97.6	
Cadmium	NS	-0.000190	NS	0.500	0.457	91.4	
Calcium	250	273	109	250	269	108	
Chromium	NS	-0.00204	NS	0.250	0.236	94.4	
Cobalt	NS	-0.00218	NS	0.250	0.224	89.6	
Copper	NS	0.000530	NS	0.250	0.242	96.8	
Iron	100	96.0	96.0	100	96.2	96.2	
Magnesium	250	250	100	250	250	100	
Manganese	NS	0	NS	0.250	0.236	94.4	
Nickel	NS	-0.00184	NS	0.500	0.459	91.8	
Potassium	NS	-0.0392	NS	5.00	4.87	97.4	
Silver	NS	0	NS	0.500	0.506	101	
Sodium	NS	-0.0163	NS	5.00	4.83	96.6	
Vanadium	NS	-0.00730	NS	0.250	0.231	92.4	
Zinc	NS	-0.00723	NS	0.500	0.452	90.4	

NS = Not spiked

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-09
Sol. AB: WG415688-10

File ID: P2.120412.082336
File ID: P2.120412.082932

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	256	102	250	254	102	
Barium	NS	0	NS	0.250	0.240	96.0	
Beryllium	NS	0.000650	NS	0.250	0.244	97.6	
Cadmium	NS	-0.000190	NS	0.500	0.457	91.4	
Calcium	250	273	109	250	269	108	
Chromium	NS	-0.00204	NS	0.250	0.236	94.4	
Cobalt	NS	-0.00218	NS	0.250	0.224	89.6	
Copper	NS	0.000530	NS	0.250	0.242	96.8	
Iron	100	96.0	96.0	100	96.2	96.2	
Magnesium	250	250	100	250	250	100	
Manganese	NS	0	NS	0.250	0.236	94.4	
Nickel	NS	-0.00184	NS	0.500	0.459	91.8	
Potassium	NS	-0.0392	NS	5.00	4.87	97.4	
Silver	NS	0	NS	0.500	0.506	101	
Sodium	NS	-0.0163	NS	5.00	4.83	96.6	
Vanadium	NS	-0.00730	NS	0.250	0.231	92.4	
Zinc	NS	-0.00723	NS	0.500	0.452	90.4	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-35
Sol. AB: WG415688-36

File ID: P2.120412.205854
File ID: P2.120412.210452

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	246	98.4	250	246	98.4	
Barium	NS	-0.000940	NS	0.250	0.232	92.8	
Beryllium	NS	0.000110	NS	0.250	0.230	92.0	
Cadmium	NS	-0.000370	NS	0.500	0.436	87.2	
Calcium	250	253	101	250	255	102	
Chromium	NS	-0.00216	NS	0.250	0.227	90.8	
Cobalt	NS	-0.00216	NS	0.250	0.219	87.6	
Copper	NS	-0.000450	NS	0.250	0.231	92.4	
Iron	100	92.8	92.8	100	93.4	93.4	
Magnesium	250	242	96.8	250	244	97.6	
Manganese	NS	-0.00124	NS	0.250	0.230	92.0	
Nickel	NS	-0.00195	NS	0.500	0.450	90.0	
Potassium	NS	-0.0441	NS	5.00	4.75	95.0	
Silver	NS	0.000600	NS	0.500	0.481	96.2	
Sodium	NS	-0.0489	NS	5.00	4.67	93.4	
Vanadium	NS	-0.00911	NS	0.250	0.224	89.6	
Zinc	NS	-0.00910	NS	0.500	0.434	86.8	

NS = Not spiked

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-35
Sol. AB: WG415688-36

File ID: P2.120412.205854
File ID: P2.120412.210452

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	246	98.4	250	246	98.4	
Barium	NS	-0.000940	NS	0.250	0.232	92.8	
Beryllium	NS	0.000110	NS	0.250	0.230	92.0	
Cadmium	NS	-0.000370	NS	0.500	0.436	87.2	
Calcium	250	253	101	250	255	102	
Chromium	NS	-0.00216	NS	0.250	0.227	90.8	
Cobalt	NS	-0.00216	NS	0.250	0.219	87.6	
Copper	NS	-0.000450	NS	0.250	0.231	92.4	
Iron	100	92.8	92.8	100	93.4	93.4	
Magnesium	250	242	96.8	250	244	97.6	
Manganese	NS	-0.00124	NS	0.250	0.230	92.0	
Nickel	NS	-0.00195	NS	0.500	0.450	90.0	
Potassium	NS	-0.0441	NS	5.00	4.75	95.0	
Silver	NS	0.000600	NS	0.500	0.481	96.2	
Sodium	NS	-0.0489	NS	5.00	4.67	93.4	
Vanadium	NS	-0.00911	NS	0.250	0.224	89.6	
Zinc	NS	-0.00910	NS	0.500	0.434	86.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415839-09
Sol. AB: WG415839-10

File ID: P2.120512.082616
File ID: P2.120512.083212

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	248	99.2	250	249	99.6	
Barium	NS	-0.0000100	NS	0.250	0.235	94.0	
Beryllium	NS	-0.0000400	NS	0.250	0.247	98.8	
Cadmium	NS	0.0000300	NS	0.500	0.456	91.2	
Calcium	250	270	108	250	268	107	
Chromium	NS	0.00177	NS	0.250	0.236	94.4	
Cobalt	NS	-0.000870	NS	0.250	0.222	88.8	
Copper	NS	0.00408	NS	0.250	0.249	99.6	
Iron	100	92.1	92.1	100	92.1	92.1	
Magnesium	250	241	96.4	250	242	96.8	
Manganese	NS	0	NS	0.250	0.233	93.2	
Nickel	NS	0.00234	NS	0.500	0.459	91.8	
Potassium	NS	-0.0456	NS	5.00	4.98	99.6	
Silver	NS	0.00133	NS	0.500	0.512	102	
Sodium	NS	-0.120	NS	5.00	5.00	100	
Vanadium	NS	0.00181	NS	0.250	0.239	95.6	
Zinc	NS	0.00533	NS	0.500	0.456	91.2	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415839-19
Sol. AB: WG415839-20

File ID: P2.120512.122308
File ID: P2.120512.122904

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	253	101	250	248	99.2	
Barium	NS	-0.000170	NS	0.250	0.241	96.4	
Beryllium	NS	-0.000240	NS	0.250	0.253	101	
Cadmium	NS	0.000300	NS	0.500	0.470	94.0	
Calcium	250	275	110	250	274	110	
Chromium	NS	0.00166	NS	0.250	0.241	96.4	
Cobalt	NS	-0.00103	NS	0.250	0.227	90.8	
Copper	NS	0.00405	NS	0.250	0.251	100	
Iron	100	95.6	95.6	100	94.0	94.0	
Magnesium	250	251	100	250	246	98.4	
Manganese	NS	0.000160	NS	0.250	0.237	94.8	
Nickel	NS	0.00246	NS	0.500	0.470	94.0	
Potassium	NS	-0.0720	NS	5.00	5.02	100	
Silver	NS	0.00329	NS	0.500	0.524	105	
Sodium	NS	-0.113	NS	5.00	5.12	102	
Vanadium	NS	0.000900	NS	0.250	0.244	97.6	
Zinc	NS	0.00706	NS	0.500	0.473	94.6	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415839-29
Sol. AB: WG415839-30

File ID: P2.120512.160147
File ID: P2.120512.160744

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	248	99.2	250	248	99.2	
Barium	NS	0.0000800	NS	0.250	0.240	96.0	
Beryllium	NS	0.00102	NS	0.250	0.250	100	
Cadmium	NS	0.0000700	NS	0.500	0.463	92.6	
Calcium	250	275	110	250	270	108	
Chromium	NS	0.00191	NS	0.250	0.239	95.6	
Cobalt	NS	-0.00108	NS	0.250	0.224	89.6	
Copper	NS	0.00452	NS	0.250	0.249	99.6	
Iron	100	92.3	92.3	100	92.2	92.2	
Magnesium	250	245	98.0	250	245	98.0	
Manganese	NS	-0.000180	NS	0.250	0.236	94.4	
Nickel	NS	0.00206	NS	0.500	0.464	92.8	
Potassium	NS	-0.0355	NS	5.00	5.02	100	
Silver	NS	-0.000300	NS	0.500	0.516	103	
Sodium	NS	-0.0937	NS	5.00	5.07	101	
Vanadium	NS	0.00201	NS	0.250	0.240	96.0	
Zinc	NS	0.00576	NS	0.500	0.466	93.2	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-09
Sol. AB: WG415926-10

File ID: P2.120612.084354
File ID: P2.120612.084951

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	247	98.8	250	251	100	
Barium	NS	0	NS	0.250	0.238	95.2	
Beryllium	NS	-0.000920	NS	0.250	0.240	96.0	
Cadmium	NS	0.000150	NS	0.500	0.451	90.2	
Calcium	250	265	106	250	265	106	
Chromium	NS	-0.00128	NS	0.250	0.237	94.8	
Cobalt	NS	-0.00169	NS	0.250	0.226	90.4	
Copper	NS	0.00208	NS	0.250	0.241	96.4	
Iron	100	92.7	92.7	100	94.0	94.0	
Magnesium	250	245	98.0	250	247	98.8	
Manganese	NS	-0.00297	NS	0.250	0.233	93.2	
Nickel	NS	-0.000570	NS	0.500	0.464	92.8	
Potassium	NS	-0.0383	NS	5.00	4.97	99.4	
Silver	NS	0.00199	NS	0.500	0.504	101	
Sodium	NS	-0.00450	NS	5.00	5.02	100	
Vanadium	NS	0	NS	0.250	0.241	96.4	
Zinc	NS	-0.00259	NS	0.500	0.459	91.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-09
Sol. AB: WG415926-10

File ID: P2.120612.084354
File ID: P2.120612.084951

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	247	98.8	250	251	100	
Barium	NS	0	NS	0.250	0.238	95.2	
Beryllium	NS	-0.000920	NS	0.250	0.240	96.0	
Cadmium	NS	0.000150	NS	0.500	0.451	90.2	
Calcium	250	265	106	250	265	106	
Chromium	NS	-0.00128	NS	0.250	0.237	94.8	
Cobalt	NS	-0.00169	NS	0.250	0.226	90.4	
Copper	NS	0.00208	NS	0.250	0.241	96.4	
Iron	100	92.7	92.7	100	94.0	94.0	
Magnesium	250	245	98.0	250	247	98.8	
Manganese	NS	-0.00297	NS	0.250	0.233	93.2	
Nickel	NS	-0.000570	NS	0.500	0.464	92.8	
Potassium	NS	-0.0383	NS	5.00	4.97	99.4	
Silver	NS	0.00199	NS	0.500	0.504	101	
Sodium	NS	-0.00450	NS	5.00	5.02	100	
Vanadium	NS	0	NS	0.250	0.241	96.4	
Zinc	NS	-0.00259	NS	0.500	0.459	91.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-09
Sol. AB: WG415926-10

File ID: P2.120612.084354
File ID: P2.120612.084951

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	247	98.8	250	251	100	
Barium	NS	0	NS	0.250	0.238	95.2	
Beryllium	NS	-0.000920	NS	0.250	0.240	96.0	
Cadmium	NS	0.000150	NS	0.500	0.451	90.2	
Calcium	250	265	106	250	265	106	
Chromium	NS	-0.00128	NS	0.250	0.237	94.8	
Cobalt	NS	-0.00169	NS	0.250	0.226	90.4	
Copper	NS	0.00208	NS	0.250	0.241	96.4	
Iron	100	92.7	92.7	100	94.0	94.0	
Magnesium	250	245	98.0	250	247	98.8	
Manganese	NS	-0.00297	NS	0.250	0.233	93.2	
Nickel	NS	-0.000570	NS	0.500	0.464	92.8	
Potassium	NS	-0.0383	NS	5.00	4.97	99.4	
Silver	NS	0.00199	NS	0.500	0.504	101	
Sodium	NS	-0.00450	NS	5.00	5.02	100	
Vanadium	NS	0	NS	0.250	0.241	96.4	
Zinc	NS	-0.00259	NS	0.500	0.459	91.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-33
Sol. AB: WG415926-34

File ID: P2.120612.191015
File ID: P2.120612.191612

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	238	95.2	250	241	96.4	
Barium	NS	-0.000140	NS	0.250	0.237	94.8	
Beryllium	NS	-0.000200	NS	0.250	0.234	93.6	
Cadmium	NS	-0.000210	NS	0.500	0.436	87.2	
Calcium	250	256	102	250	257	103	
Chromium	NS	-0.00110	NS	0.250	0.240	96.0	
Cobalt	NS	-0.00215	NS	0.250	0.223	89.2	
Copper	NS	0.00157	NS	0.250	0.233	93.2	
Iron	100	90.6	90.6	100	91.0	91.0	
Magnesium	250	239	95.6	250	241	96.4	
Manganese	NS	-0.00356	NS	0.250	0.231	92.4	
Nickel	NS	-0.00110	NS	0.500	0.457	91.4	
Potassium	NS	-0.00971	NS	5.00	4.95	99.0	
Silver	NS	0.000180	NS	0.500	0.483	96.6	
Sodium	NS	-0.00122	NS	5.00	4.90	98.0	
Vanadium	NS	-0.00298	NS	0.250	0.236	94.4	
Zinc	NS	-0.00272	NS	0.500	0.449	89.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-33
Sol. AB: WG415926-34

File ID: P2.120612.191015
File ID: P2.120612.191612

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	238	95.2	250	241	96.4	
Barium	NS	-0.000140	NS	0.250	0.237	94.8	
Beryllium	NS	-0.000200	NS	0.250	0.234	93.6	
Cadmium	NS	-0.000210	NS	0.500	0.436	87.2	
Calcium	250	256	102	250	257	103	
Chromium	NS	-0.00110	NS	0.250	0.240	96.0	
Cobalt	NS	-0.00215	NS	0.250	0.223	89.2	
Copper	NS	0.00157	NS	0.250	0.233	93.2	
Iron	100	90.6	90.6	100	91.0	91.0	
Magnesium	250	239	95.6	250	241	96.4	
Manganese	NS	-0.00356	NS	0.250	0.231	92.4	
Nickel	NS	-0.00110	NS	0.500	0.457	91.4	
Potassium	NS	-0.00971	NS	5.00	4.95	99.0	
Silver	NS	0.000180	NS	0.500	0.483	96.6	
Sodium	NS	-0.00122	NS	5.00	4.90	98.0	
Vanadium	NS	-0.00298	NS	0.250	0.236	94.4	
Zinc	NS	-0.00272	NS	0.500	0.449	89.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-33
Sol. AB: WG415926-34

File ID: P2.120612.191015
File ID: P2.120612.191612

Workgroup (AAB#): WG415619
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	238	95.2	250	241	96.4	
Barium	NS	-0.000140	NS	0.250	0.237	94.8	
Beryllium	NS	-0.000200	NS	0.250	0.234	93.6	
Cadmium	NS	-0.000210	NS	0.500	0.436	87.2	
Calcium	250	256	102	250	257	103	
Chromium	NS	-0.00110	NS	0.250	0.240	96.0	
Cobalt	NS	-0.00215	NS	0.250	0.223	89.2	
Copper	NS	0.00157	NS	0.250	0.233	93.2	
Iron	100	90.6	90.6	100	91.0	91.0	
Magnesium	250	239	95.6	250	241	96.4	
Manganese	NS	-0.00356	NS	0.250	0.231	92.4	
Nickel	NS	-0.00110	NS	0.500	0.457	91.4	
Potassium	NS	-0.00971	NS	5.00	4.95	99.0	
Silver	NS	0.000180	NS	0.500	0.483	96.6	
Sodium	NS	-0.00122	NS	5.00	4.90	98.0	
Vanadium	NS	-0.00298	NS	0.250	0.236	94.4	
Zinc	NS	-0.00272	NS	0.500	0.449	89.8	

NS = Not spiked

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415629-08
Sol. AB: WG415629-09

File ID: P2.120312.092724
File ID: P2.120312.093320

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	258	103	250	269	108	
Barium	NS	-0.00569	NS	0.250	0.256	102	
Beryllium	NS	0.000720	NS	0.250	0.254	102	
Cadmium	NS	-0.0000900	NS	0.500	0.476	95.2	
Calcium	250	275	110	250	280	112	
Chromium	NS	-0.00236	NS	0.250	0.260	104	
Cobalt	NS	-0.00244	NS	0.250	0.239	95.6	
Copper	NS	0.000270	NS	0.250	0.253	101	
Iron	100	97.2	97.2	100	101	101	
Magnesium	250	253	101	250	264	106	
Manganese	NS	-0.00559	NS	0.250	0.246	98.4	
Nickel	NS	-0.00195	NS	0.500	0.492	98.4	
Potassium	NS	-0.111	NS	5.00	4.76	95.2	
Silver	NS	-0.00455	NS	0.500	0.522	104	
Sodium	NS	-0.0176	NS	5.00	4.94	98.8	
Vanadium	NS	-0.00865	NS	0.250	0.247	98.8	
Zinc	NS	-0.00736	NS	0.500	0.484	96.8	

NS = Not spiked

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415629-24
Sol. AB: WG415629-25

File ID: P2.120312.163511
File ID: P2.120312.164107

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	268	107	250	262	105	
Barium	NS	-0.00566	NS	0.250	0.254	102	
Beryllium	NS	0.000980	NS	0.250	0.252	101	
Cadmium	NS	-0.0000300	NS	0.500	0.468	93.6	
Calcium	250	278	111	250	277	111	
Chromium	NS	-0.00171	NS	0.250	0.259	104	
Cobalt	NS	-0.00260	NS	0.250	0.236	94.4	
Copper	NS	-0.000300	NS	0.250	0.251	100	
Iron	100	97.9	97.9	100	95.4	95.4	
Magnesium	250	259	104	250	253	101	
Manganese	NS	-0.00590	NS	0.250	0.245	98.0	
Nickel	NS	-0.00186	NS	0.500	0.486	97.2	
Potassium	NS	-0.105	NS	5.00	4.74	94.8	
Silver	NS	-0.00560	NS	0.500	0.517	103	
Sodium	NS	0.0206	NS	5.00	4.92	98.4	
Vanadium	NS	-0.00646	NS	0.250	0.248	99.2	
Zinc	NS	-0.00833	NS	0.500	0.472	94.4	

NS = Not spiked

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-09
Sol. AB: WG415688-10

File ID: P2.120412.082336
File ID: P2.120412.082932

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	256	102	250	254	102	
Barium	NS	0	NS	0.250	0.240	96.0	
Beryllium	NS	0.000650	NS	0.250	0.244	97.6	
Cadmium	NS	-0.000190	NS	0.500	0.457	91.4	
Calcium	250	273	109	250	269	108	
Chromium	NS	-0.00204	NS	0.250	0.236	94.4	
Cobalt	NS	-0.00218	NS	0.250	0.224	89.6	
Copper	NS	0.000530	NS	0.250	0.242	96.8	
Iron	100	96.0	96.0	100	96.2	96.2	
Magnesium	250	250	100	250	250	100	
Manganese	NS	0	NS	0.250	0.236	94.4	
Nickel	NS	-0.00184	NS	0.500	0.459	91.8	
Potassium	NS	-0.0392	NS	5.00	4.87	97.4	
Silver	NS	0	NS	0.500	0.506	101	
Sodium	NS	-0.0163	NS	5.00	4.83	96.6	
Vanadium	NS	-0.00730	NS	0.250	0.231	92.4	
Zinc	NS	-0.00723	NS	0.500	0.452	90.4	

NS = Not spiked

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-09
Sol. AB: WG415688-10

File ID: P2.120412.082336
File ID: P2.120412.082932

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	256	102	250	254	102	
Barium	NS	0	NS	0.250	0.240	96.0	
Beryllium	NS	0.000650	NS	0.250	0.244	97.6	
Cadmium	NS	-0.000190	NS	0.500	0.457	91.4	
Calcium	250	273	109	250	269	108	
Chromium	NS	-0.00204	NS	0.250	0.236	94.4	
Cobalt	NS	-0.00218	NS	0.250	0.224	89.6	
Copper	NS	0.000530	NS	0.250	0.242	96.8	
Iron	100	96.0	96.0	100	96.2	96.2	
Magnesium	250	250	100	250	250	100	
Manganese	NS	0	NS	0.250	0.236	94.4	
Nickel	NS	-0.00184	NS	0.500	0.459	91.8	
Potassium	NS	-0.0392	NS	5.00	4.87	97.4	
Silver	NS	0	NS	0.500	0.506	101	
Sodium	NS	-0.0163	NS	5.00	4.83	96.6	
Vanadium	NS	-0.00730	NS	0.250	0.231	92.4	
Zinc	NS	-0.00723	NS	0.500	0.452	90.4	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-35
Sol. AB: WG415688-36

File ID: P2.120412.205854
File ID: P2.120412.210452

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	246	98.4	250	246	98.4	
Barium	NS	-0.000940	NS	0.250	0.232	92.8	
Beryllium	NS	0.000110	NS	0.250	0.230	92.0	
Cadmium	NS	-0.000370	NS	0.500	0.436	87.2	
Calcium	250	253	101	250	255	102	
Chromium	NS	-0.00216	NS	0.250	0.227	90.8	
Cobalt	NS	-0.00216	NS	0.250	0.219	87.6	
Copper	NS	-0.000450	NS	0.250	0.231	92.4	
Iron	100	92.8	92.8	100	93.4	93.4	
Magnesium	250	242	96.8	250	244	97.6	
Manganese	NS	-0.00124	NS	0.250	0.230	92.0	
Nickel	NS	-0.00195	NS	0.500	0.450	90.0	
Potassium	NS	-0.0441	NS	5.00	4.75	95.0	
Silver	NS	0.000600	NS	0.500	0.481	96.2	
Sodium	NS	-0.0489	NS	5.00	4.67	93.4	
Vanadium	NS	-0.00911	NS	0.250	0.224	89.6	
Zinc	NS	-0.00910	NS	0.500	0.434	86.8	

NS = Not spiked

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-35
Sol. AB: WG415688-36

File ID: P2.120412.205854
File ID: P2.120412.210452

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	246	98.4	250	246	98.4	
Barium	NS	-0.000940	NS	0.250	0.232	92.8	
Beryllium	NS	0.000110	NS	0.250	0.230	92.0	
Cadmium	NS	-0.000370	NS	0.500	0.436	87.2	
Calcium	250	253	101	250	255	102	
Chromium	NS	-0.00216	NS	0.250	0.227	90.8	
Cobalt	NS	-0.00216	NS	0.250	0.219	87.6	
Copper	NS	-0.000450	NS	0.250	0.231	92.4	
Iron	100	92.8	92.8	100	93.4	93.4	
Magnesium	250	242	96.8	250	244	97.6	
Manganese	NS	-0.00124	NS	0.250	0.230	92.0	
Nickel	NS	-0.00195	NS	0.500	0.450	90.0	
Potassium	NS	-0.0441	NS	5.00	4.75	95.0	
Silver	NS	0.000600	NS	0.500	0.481	96.2	
Sodium	NS	-0.0489	NS	5.00	4.67	93.4	
Vanadium	NS	-0.00911	NS	0.250	0.224	89.6	
Zinc	NS	-0.00910	NS	0.500	0.434	86.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415839-09
Sol. AB: WG415839-10

File ID: P2.120512.082616
File ID: P2.120512.083212

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	248	99.2	250	249	99.6	
Barium	NS	-0.0000100	NS	0.250	0.235	94.0	
Beryllium	NS	-0.0000400	NS	0.250	0.247	98.8	
Cadmium	NS	0.0000300	NS	0.500	0.456	91.2	
Calcium	250	270	108	250	268	107	
Chromium	NS	0.00177	NS	0.250	0.236	94.4	
Cobalt	NS	-0.000870	NS	0.250	0.222	88.8	
Copper	NS	0.00408	NS	0.250	0.249	99.6	
Iron	100	92.1	92.1	100	92.1	92.1	
Magnesium	250	241	96.4	250	242	96.8	
Manganese	NS	0	NS	0.250	0.233	93.2	
Nickel	NS	0.00234	NS	0.500	0.459	91.8	
Potassium	NS	-0.0456	NS	5.00	4.98	99.6	
Silver	NS	0.00133	NS	0.500	0.512	102	
Sodium	NS	-0.120	NS	5.00	5.00	100	
Vanadium	NS	0.00181	NS	0.250	0.239	95.6	
Zinc	NS	0.00533	NS	0.500	0.456	91.2	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415839-19
Sol. AB: WG415839-20

File ID: P2.120512.122308
File ID: P2.120512.122904

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	253	101	250	248	99.2	
Barium	NS	-0.000170	NS	0.250	0.241	96.4	
Beryllium	NS	-0.000240	NS	0.250	0.253	101	
Cadmium	NS	0.000300	NS	0.500	0.470	94.0	
Calcium	250	275	110	250	274	110	
Chromium	NS	0.00166	NS	0.250	0.241	96.4	
Cobalt	NS	-0.00103	NS	0.250	0.227	90.8	
Copper	NS	0.00405	NS	0.250	0.251	100	
Iron	100	95.6	95.6	100	94.0	94.0	
Magnesium	250	251	100	250	246	98.4	
Manganese	NS	0.000160	NS	0.250	0.237	94.8	
Nickel	NS	0.00246	NS	0.500	0.470	94.0	
Potassium	NS	-0.0720	NS	5.00	5.02	100	
Silver	NS	0.00329	NS	0.500	0.524	105	
Sodium	NS	-0.113	NS	5.00	5.12	102	
Vanadium	NS	0.000900	NS	0.250	0.244	97.6	
Zinc	NS	0.00706	NS	0.500	0.473	94.6	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415839-29
Sol. AB: WG415839-30

File ID: P2.120512.160147
File ID: P2.120512.160744

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	248	99.2	250	248	99.2	
Barium	NS	0.0000800	NS	0.250	0.240	96.0	
Beryllium	NS	0.00102	NS	0.250	0.250	100	
Cadmium	NS	0.0000700	NS	0.500	0.463	92.6	
Calcium	250	275	110	250	270	108	
Chromium	NS	0.00191	NS	0.250	0.239	95.6	
Cobalt	NS	-0.00108	NS	0.250	0.224	89.6	
Copper	NS	0.00452	NS	0.250	0.249	99.6	
Iron	100	92.3	92.3	100	92.2	92.2	
Magnesium	250	245	98.0	250	245	98.0	
Manganese	NS	-0.000180	NS	0.250	0.236	94.4	
Nickel	NS	0.00206	NS	0.500	0.464	92.8	
Potassium	NS	-0.0355	NS	5.00	5.02	100	
Silver	NS	-0.000300	NS	0.500	0.516	103	
Sodium	NS	-0.0937	NS	5.00	5.07	101	
Vanadium	NS	0.00201	NS	0.250	0.240	96.0	
Zinc	NS	0.00576	NS	0.500	0.466	93.2	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-09
Sol. AB: WG415926-10

File ID: P2.120612.084354
File ID: P2.120612.084951

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	247	98.8	250	251	100	
Barium	NS	0	NS	0.250	0.238	95.2	
Beryllium	NS	-0.000920	NS	0.250	0.240	96.0	
Cadmium	NS	0.000150	NS	0.500	0.451	90.2	
Calcium	250	265	106	250	265	106	
Chromium	NS	-0.00128	NS	0.250	0.237	94.8	
Cobalt	NS	-0.00169	NS	0.250	0.226	90.4	
Copper	NS	0.00208	NS	0.250	0.241	96.4	
Iron	100	92.7	92.7	100	94.0	94.0	
Magnesium	250	245	98.0	250	247	98.8	
Manganese	NS	-0.00297	NS	0.250	0.233	93.2	
Nickel	NS	-0.000570	NS	0.500	0.464	92.8	
Potassium	NS	-0.0383	NS	5.00	4.97	99.4	
Silver	NS	0.00199	NS	0.500	0.504	101	
Sodium	NS	-0.00450	NS	5.00	5.02	100	
Vanadium	NS	0	NS	0.250	0.241	96.4	
Zinc	NS	-0.00259	NS	0.500	0.459	91.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-09
Sol. AB: WG415926-10

File ID: P2.120612.084354
File ID: P2.120612.084951

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	247	98.8	250	251	100	
Barium	NS	0	NS	0.250	0.238	95.2	
Beryllium	NS	-0.000920	NS	0.250	0.240	96.0	
Cadmium	NS	0.000150	NS	0.500	0.451	90.2	
Calcium	250	265	106	250	265	106	
Chromium	NS	-0.00128	NS	0.250	0.237	94.8	
Cobalt	NS	-0.00169	NS	0.250	0.226	90.4	
Copper	NS	0.00208	NS	0.250	0.241	96.4	
Iron	100	92.7	92.7	100	94.0	94.0	
Magnesium	250	245	98.0	250	247	98.8	
Manganese	NS	-0.00297	NS	0.250	0.233	93.2	
Nickel	NS	-0.000570	NS	0.500	0.464	92.8	
Potassium	NS	-0.0383	NS	5.00	4.97	99.4	
Silver	NS	0.00199	NS	0.500	0.504	101	
Sodium	NS	-0.00450	NS	5.00	5.02	100	
Vanadium	NS	0	NS	0.250	0.241	96.4	
Zinc	NS	-0.00259	NS	0.500	0.459	91.8	

NS = Not spiked

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-09
Sol. AB: WG415926-10

File ID: P2.120612.084354
File ID: P2.120612.084951

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	247	98.8	250	251	100	
Barium	NS	0	NS	0.250	0.238	95.2	
Beryllium	NS	-0.000920	NS	0.250	0.240	96.0	
Cadmium	NS	0.000150	NS	0.500	0.451	90.2	
Calcium	250	265	106	250	265	106	
Chromium	NS	-0.00128	NS	0.250	0.237	94.8	
Cobalt	NS	-0.00169	NS	0.250	0.226	90.4	
Copper	NS	0.00208	NS	0.250	0.241	96.4	
Iron	100	92.7	92.7	100	94.0	94.0	
Magnesium	250	245	98.0	250	247	98.8	
Manganese	NS	-0.00297	NS	0.250	0.233	93.2	
Nickel	NS	-0.000570	NS	0.500	0.464	92.8	
Potassium	NS	-0.0383	NS	5.00	4.97	99.4	
Silver	NS	0.00199	NS	0.500	0.504	101	
Sodium	NS	-0.00450	NS	5.00	5.02	100	
Vanadium	NS	0	NS	0.250	0.241	96.4	
Zinc	NS	-0.00259	NS	0.500	0.459	91.8	

NS = Not spiked

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-33
Sol. AB: WG415926-34

File ID: P2.120612.191015
File ID: P2.120612.191612

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	238	95.2	250	241	96.4	
Barium	NS	-0.000140	NS	0.250	0.237	94.8	
Beryllium	NS	-0.000200	NS	0.250	0.234	93.6	
Cadmium	NS	-0.000210	NS	0.500	0.436	87.2	
Calcium	250	256	102	250	257	103	
Chromium	NS	-0.00110	NS	0.250	0.240	96.0	
Cobalt	NS	-0.00215	NS	0.250	0.223	89.2	
Copper	NS	0.00157	NS	0.250	0.233	93.2	
Iron	100	90.6	90.6	100	91.0	91.0	
Magnesium	250	239	95.6	250	241	96.4	
Manganese	NS	-0.00356	NS	0.250	0.231	92.4	
Nickel	NS	-0.00110	NS	0.500	0.457	91.4	
Potassium	NS	-0.00971	NS	5.00	4.95	99.0	
Silver	NS	0.000180	NS	0.500	0.483	96.6	
Sodium	NS	-0.00122	NS	5.00	4.90	98.0	
Vanadium	NS	-0.00298	NS	0.250	0.236	94.4	
Zinc	NS	-0.00272	NS	0.500	0.449	89.8	

NS = Not spiked

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-33
Sol. AB: WG415926-34

File ID: P2.120612.191015
File ID: P2.120612.191612

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	238	95.2	250	241	96.4	
Barium	NS	-0.000140	NS	0.250	0.237	94.8	
Beryllium	NS	-0.000200	NS	0.250	0.234	93.6	
Cadmium	NS	-0.000210	NS	0.500	0.436	87.2	
Calcium	250	256	102	250	257	103	
Chromium	NS	-0.00110	NS	0.250	0.240	96.0	
Cobalt	NS	-0.00215	NS	0.250	0.223	89.2	
Copper	NS	0.00157	NS	0.250	0.233	93.2	
Iron	100	90.6	90.6	100	91.0	91.0	
Magnesium	250	239	95.6	250	241	96.4	
Manganese	NS	-0.00356	NS	0.250	0.231	92.4	
Nickel	NS	-0.00110	NS	0.500	0.457	91.4	
Potassium	NS	-0.00971	NS	5.00	4.95	99.0	
Silver	NS	0.000180	NS	0.500	0.483	96.6	
Sodium	NS	-0.00122	NS	5.00	4.90	98.0	
Vanadium	NS	-0.00298	NS	0.250	0.236	94.4	
Zinc	NS	-0.00272	NS	0.500	0.449	89.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-33
Sol. AB: WG415926-34

File ID: P2.120612.191015
File ID: P2.120612.191612

Workgroup (AAB#): WG415696
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	238	95.2	250	241	96.4	
Barium	NS	-0.000140	NS	0.250	0.237	94.8	
Beryllium	NS	-0.000200	NS	0.250	0.234	93.6	
Cadmium	NS	-0.000210	NS	0.500	0.436	87.2	
Calcium	250	256	102	250	257	103	
Chromium	NS	-0.00110	NS	0.250	0.240	96.0	
Cobalt	NS	-0.00215	NS	0.250	0.223	89.2	
Copper	NS	0.00157	NS	0.250	0.233	93.2	
Iron	100	90.6	90.6	100	91.0	91.0	
Magnesium	250	239	95.6	250	241	96.4	
Manganese	NS	-0.00356	NS	0.250	0.231	92.4	
Nickel	NS	-0.00110	NS	0.500	0.457	91.4	
Potassium	NS	-0.00971	NS	5.00	4.95	99.0	
Silver	NS	0.000180	NS	0.500	0.483	96.6	
Sodium	NS	-0.00122	NS	5.00	4.90	98.0	
Vanadium	NS	-0.00298	NS	0.250	0.236	94.4	
Zinc	NS	-0.00272	NS	0.500	0.449	89.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415629-08
Sol. AB: WG415629-09

File ID: P2.120312.092724
File ID: P2.120312.093320

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	258	103	250	269	108	
Barium	NS	-0.00569	NS	0.250	0.256	102	
Beryllium	NS	0.000720	NS	0.250	0.254	102	
Cadmium	NS	-0.0000900	NS	0.500	0.476	95.2	
Calcium	250	275	110	250	280	112	
Chromium	NS	-0.00236	NS	0.250	0.260	104	
Cobalt	NS	-0.00244	NS	0.250	0.239	95.6	
Copper	NS	0.000270	NS	0.250	0.253	101	
Iron	100	97.2	97.2	100	101	101	
Magnesium	250	253	101	250	264	106	
Manganese	NS	-0.00559	NS	0.250	0.246	98.4	
Nickel	NS	-0.00195	NS	0.500	0.492	98.4	
Potassium	NS	-0.111	NS	5.00	4.76	95.2	
Silver	NS	-0.00455	NS	0.500	0.522	104	
Sodium	NS	-0.0176	NS	5.00	4.94	98.8	
Vanadium	NS	-0.00865	NS	0.250	0.247	98.8	
Zinc	NS	-0.00736	NS	0.500	0.484	96.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415629-24
Sol. AB: WG415629-25

File ID: P2.120312.163511
File ID: P2.120312.164107

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	268	107	250	262	105	
Barium	NS	-0.00566	NS	0.250	0.254	102	
Beryllium	NS	0.000980	NS	0.250	0.252	101	
Cadmium	NS	-0.0000300	NS	0.500	0.468	93.6	
Calcium	250	278	111	250	277	111	
Chromium	NS	-0.00171	NS	0.250	0.259	104	
Cobalt	NS	-0.00260	NS	0.250	0.236	94.4	
Copper	NS	-0.000300	NS	0.250	0.251	100	
Iron	100	97.9	97.9	100	95.4	95.4	
Magnesium	250	259	104	250	253	101	
Manganese	NS	-0.00590	NS	0.250	0.245	98.0	
Nickel	NS	-0.00186	NS	0.500	0.486	97.2	
Potassium	NS	-0.105	NS	5.00	4.74	94.8	
Silver	NS	-0.00560	NS	0.500	0.517	103	
Sodium	NS	0.0206	NS	5.00	4.92	98.4	
Vanadium	NS	-0.00646	NS	0.250	0.248	99.2	
Zinc	NS	-0.00833	NS	0.500	0.472	94.4	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-09
Sol. AB: WG415688-10

File ID: P2.120412.082336
File ID: P2.120412.082932

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	256	102	250	254	102	
Barium	NS	0	NS	0.250	0.240	96.0	
Beryllium	NS	0.000650	NS	0.250	0.244	97.6	
Cadmium	NS	-0.000190	NS	0.500	0.457	91.4	
Calcium	250	273	109	250	269	108	
Chromium	NS	-0.00204	NS	0.250	0.236	94.4	
Cobalt	NS	-0.00218	NS	0.250	0.224	89.6	
Copper	NS	0.000530	NS	0.250	0.242	96.8	
Iron	100	96.0	96.0	100	96.2	96.2	
Magnesium	250	250	100	250	250	100	
Manganese	NS	0	NS	0.250	0.236	94.4	
Nickel	NS	-0.00184	NS	0.500	0.459	91.8	
Potassium	NS	-0.0392	NS	5.00	4.87	97.4	
Silver	NS	0	NS	0.500	0.506	101	
Sodium	NS	-0.0163	NS	5.00	4.83	96.6	
Vanadium	NS	-0.00730	NS	0.250	0.231	92.4	
Zinc	NS	-0.00723	NS	0.500	0.452	90.4	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-09
Sol. AB: WG415688-10

File ID: P2.120412.082336
File ID: P2.120412.082932

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	256	102	250	254	102	
Barium	NS	0	NS	0.250	0.240	96.0	
Beryllium	NS	0.000650	NS	0.250	0.244	97.6	
Cadmium	NS	-0.000190	NS	0.500	0.457	91.4	
Calcium	250	273	109	250	269	108	
Chromium	NS	-0.00204	NS	0.250	0.236	94.4	
Cobalt	NS	-0.00218	NS	0.250	0.224	89.6	
Copper	NS	0.000530	NS	0.250	0.242	96.8	
Iron	100	96.0	96.0	100	96.2	96.2	
Magnesium	250	250	100	250	250	100	
Manganese	NS	0	NS	0.250	0.236	94.4	
Nickel	NS	-0.00184	NS	0.500	0.459	91.8	
Potassium	NS	-0.0392	NS	5.00	4.87	97.4	
Silver	NS	0	NS	0.500	0.506	101	
Sodium	NS	-0.0163	NS	5.00	4.83	96.6	
Vanadium	NS	-0.00730	NS	0.250	0.231	92.4	
Zinc	NS	-0.00723	NS	0.500	0.452	90.4	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-35
Sol. AB: WG415688-36

File ID: P2.120412.205854
File ID: P2.120412.210452

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	246	98.4	250	246	98.4	
Barium	NS	-0.000940	NS	0.250	0.232	92.8	
Beryllium	NS	0.000110	NS	0.250	0.230	92.0	
Cadmium	NS	-0.000370	NS	0.500	0.436	87.2	
Calcium	250	253	101	250	255	102	
Chromium	NS	-0.00216	NS	0.250	0.227	90.8	
Cobalt	NS	-0.00216	NS	0.250	0.219	87.6	
Copper	NS	-0.000450	NS	0.250	0.231	92.4	
Iron	100	92.8	92.8	100	93.4	93.4	
Magnesium	250	242	96.8	250	244	97.6	
Manganese	NS	-0.00124	NS	0.250	0.230	92.0	
Nickel	NS	-0.00195	NS	0.500	0.450	90.0	
Potassium	NS	-0.0441	NS	5.00	4.75	95.0	
Silver	NS	0.000600	NS	0.500	0.481	96.2	
Sodium	NS	-0.0489	NS	5.00	4.67	93.4	
Vanadium	NS	-0.00911	NS	0.250	0.224	89.6	
Zinc	NS	-0.00910	NS	0.500	0.434	86.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415688-35
Sol. AB: WG415688-36

File ID: P2.120412.205854
File ID: P2.120412.210452

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	246	98.4	250	246	98.4	
Barium	NS	-0.000940	NS	0.250	0.232	92.8	
Beryllium	NS	0.000110	NS	0.250	0.230	92.0	
Cadmium	NS	-0.000370	NS	0.500	0.436	87.2	
Calcium	250	253	101	250	255	102	
Chromium	NS	-0.00216	NS	0.250	0.227	90.8	
Cobalt	NS	-0.00216	NS	0.250	0.219	87.6	
Copper	NS	-0.000450	NS	0.250	0.231	92.4	
Iron	100	92.8	92.8	100	93.4	93.4	
Magnesium	250	242	96.8	250	244	97.6	
Manganese	NS	-0.00124	NS	0.250	0.230	92.0	
Nickel	NS	-0.00195	NS	0.500	0.450	90.0	
Potassium	NS	-0.0441	NS	5.00	4.75	95.0	
Silver	NS	0.000600	NS	0.500	0.481	96.2	
Sodium	NS	-0.0489	NS	5.00	4.67	93.4	
Vanadium	NS	-0.00911	NS	0.250	0.224	89.6	
Zinc	NS	-0.00910	NS	0.500	0.434	86.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415839-09
Sol. AB: WG415839-10

File ID: P2.120512.082616
File ID: P2.120512.083212

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	248	99.2	250	249	99.6	
Barium	NS	-0.0000100	NS	0.250	0.235	94.0	
Beryllium	NS	-0.0000400	NS	0.250	0.247	98.8	
Cadmium	NS	0.0000300	NS	0.500	0.456	91.2	
Calcium	250	270	108	250	268	107	
Chromium	NS	0.00177	NS	0.250	0.236	94.4	
Cobalt	NS	-0.000870	NS	0.250	0.222	88.8	
Copper	NS	0.00408	NS	0.250	0.249	99.6	
Iron	100	92.1	92.1	100	92.1	92.1	
Magnesium	250	241	96.4	250	242	96.8	
Manganese	NS	0	NS	0.250	0.233	93.2	
Nickel	NS	0.00234	NS	0.500	0.459	91.8	
Potassium	NS	-0.0456	NS	5.00	4.98	99.6	
Silver	NS	0.00133	NS	0.500	0.512	102	
Sodium	NS	-0.120	NS	5.00	5.00	100	
Vanadium	NS	0.00181	NS	0.250	0.239	95.6	
Zinc	NS	0.00533	NS	0.500	0.456	91.2	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415839-19
Sol. AB: WG415839-20

File ID: P2.120512.122308
File ID: P2.120512.122904

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	253	101	250	248	99.2	
Barium	NS	-0.000170	NS	0.250	0.241	96.4	
Beryllium	NS	-0.000240	NS	0.250	0.253	101	
Cadmium	NS	0.000300	NS	0.500	0.470	94.0	
Calcium	250	275	110	250	274	110	
Chromium	NS	0.00166	NS	0.250	0.241	96.4	
Cobalt	NS	-0.00103	NS	0.250	0.227	90.8	
Copper	NS	0.00405	NS	0.250	0.251	100	
Iron	100	95.6	95.6	100	94.0	94.0	
Magnesium	250	251	100	250	246	98.4	
Manganese	NS	0.000160	NS	0.250	0.237	94.8	
Nickel	NS	0.00246	NS	0.500	0.470	94.0	
Potassium	NS	-0.0720	NS	5.00	5.02	100	
Silver	NS	0.00329	NS	0.500	0.524	105	
Sodium	NS	-0.113	NS	5.00	5.12	102	
Vanadium	NS	0.000900	NS	0.250	0.244	97.6	
Zinc	NS	0.00706	NS	0.500	0.473	94.6	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415839-29
Sol. AB: WG415839-30

File ID: P2.120512.160147
File ID: P2.120512.160744

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	248	99.2	250	248	99.2	
Barium	NS	0.0000800	NS	0.250	0.240	96.0	
Beryllium	NS	0.00102	NS	0.250	0.250	100	
Cadmium	NS	0.0000700	NS	0.500	0.463	92.6	
Calcium	250	275	110	250	270	108	
Chromium	NS	0.00191	NS	0.250	0.239	95.6	
Cobalt	NS	-0.00108	NS	0.250	0.224	89.6	
Copper	NS	0.00452	NS	0.250	0.249	99.6	
Iron	100	92.3	92.3	100	92.2	92.2	
Magnesium	250	245	98.0	250	245	98.0	
Manganese	NS	-0.000180	NS	0.250	0.236	94.4	
Nickel	NS	0.00206	NS	0.500	0.464	92.8	
Potassium	NS	-0.0355	NS	5.00	5.02	100	
Silver	NS	-0.000300	NS	0.500	0.516	103	
Sodium	NS	-0.0937	NS	5.00	5.07	101	
Vanadium	NS	0.00201	NS	0.250	0.240	96.0	
Zinc	NS	0.00576	NS	0.500	0.466	93.2	

NS = Not spiked

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= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-09
Sol. AB: WG415926-10

File ID: P2.120612.084354
File ID: P2.120612.084951

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	247	98.8	250	251	100	
Barium	NS	0	NS	0.250	0.238	95.2	
Beryllium	NS	-0.000920	NS	0.250	0.240	96.0	
Cadmium	NS	0.000150	NS	0.500	0.451	90.2	
Calcium	250	265	106	250	265	106	
Chromium	NS	-0.00128	NS	0.250	0.237	94.8	
Cobalt	NS	-0.00169	NS	0.250	0.226	90.4	
Copper	NS	0.00208	NS	0.250	0.241	96.4	
Iron	100	92.7	92.7	100	94.0	94.0	
Magnesium	250	245	98.0	250	247	98.8	
Manganese	NS	-0.00297	NS	0.250	0.233	93.2	
Nickel	NS	-0.000570	NS	0.500	0.464	92.8	
Potassium	NS	-0.0383	NS	5.00	4.97	99.4	
Silver	NS	0.00199	NS	0.500	0.504	101	
Sodium	NS	-0.00450	NS	5.00	5.02	100	
Vanadium	NS	0	NS	0.250	0.241	96.4	
Zinc	NS	-0.00259	NS	0.500	0.459	91.8	

NS = Not spiked

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-09
Sol. AB: WG415926-10

File ID: P2.120612.084354
File ID: P2.120612.084951

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	247	98.8	250	251	100	
Barium	NS	0	NS	0.250	0.238	95.2	
Beryllium	NS	-0.000920	NS	0.250	0.240	96.0	
Cadmium	NS	0.000150	NS	0.500	0.451	90.2	
Calcium	250	265	106	250	265	106	
Chromium	NS	-0.00128	NS	0.250	0.237	94.8	
Cobalt	NS	-0.00169	NS	0.250	0.226	90.4	
Copper	NS	0.00208	NS	0.250	0.241	96.4	
Iron	100	92.7	92.7	100	94.0	94.0	
Magnesium	250	245	98.0	250	247	98.8	
Manganese	NS	-0.00297	NS	0.250	0.233	93.2	
Nickel	NS	-0.000570	NS	0.500	0.464	92.8	
Potassium	NS	-0.0383	NS	5.00	4.97	99.4	
Silver	NS	0.00199	NS	0.500	0.504	101	
Sodium	NS	-0.00450	NS	5.00	5.02	100	
Vanadium	NS	0	NS	0.250	0.241	96.4	
Zinc	NS	-0.00259	NS	0.500	0.459	91.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-09
Sol. AB: WG415926-10

File ID: P2.120612.084354
File ID: P2.120612.084951

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	247	98.8	250	251	100	
Barium	NS	0	NS	0.250	0.238	95.2	
Beryllium	NS	-0.000920	NS	0.250	0.240	96.0	
Cadmium	NS	0.000150	NS	0.500	0.451	90.2	
Calcium	250	265	106	250	265	106	
Chromium	NS	-0.00128	NS	0.250	0.237	94.8	
Cobalt	NS	-0.00169	NS	0.250	0.226	90.4	
Copper	NS	0.00208	NS	0.250	0.241	96.4	
Iron	100	92.7	92.7	100	94.0	94.0	
Magnesium	250	245	98.0	250	247	98.8	
Manganese	NS	-0.00297	NS	0.250	0.233	93.2	
Nickel	NS	-0.000570	NS	0.500	0.464	92.8	
Potassium	NS	-0.0383	NS	5.00	4.97	99.4	
Silver	NS	0.00199	NS	0.500	0.504	101	
Sodium	NS	-0.00450	NS	5.00	5.02	100	
Vanadium	NS	0	NS	0.250	0.241	96.4	
Zinc	NS	-0.00259	NS	0.500	0.459	91.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-33
Sol. AB: WG415926-34

File ID: P2.120612.191015
File ID: P2.120612.191612

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	238	95.2	250	241	96.4	
Barium	NS	-0.000140	NS	0.250	0.237	94.8	
Beryllium	NS	-0.000200	NS	0.250	0.234	93.6	
Cadmium	NS	-0.000210	NS	0.500	0.436	87.2	
Calcium	250	256	102	250	257	103	
Chromium	NS	-0.00110	NS	0.250	0.240	96.0	
Cobalt	NS	-0.00215	NS	0.250	0.223	89.2	
Copper	NS	0.00157	NS	0.250	0.233	93.2	
Iron	100	90.6	90.6	100	91.0	91.0	
Magnesium	250	239	95.6	250	241	96.4	
Manganese	NS	-0.00356	NS	0.250	0.231	92.4	
Nickel	NS	-0.00110	NS	0.500	0.457	91.4	
Potassium	NS	-0.00971	NS	5.00	4.95	99.0	
Silver	NS	0.000180	NS	0.500	0.483	96.6	
Sodium	NS	-0.00122	NS	5.00	4.90	98.0	
Vanadium	NS	-0.00298	NS	0.250	0.236	94.4	
Zinc	NS	-0.00272	NS	0.500	0.449	89.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-33
Sol. AB: WG415926-34

File ID: P2.120612.191015
File ID: P2.120612.191612

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	238	95.2	250	241	96.4	
Barium	NS	-0.000140	NS	0.250	0.237	94.8	
Beryllium	NS	-0.000200	NS	0.250	0.234	93.6	
Cadmium	NS	-0.000210	NS	0.500	0.436	87.2	
Calcium	250	256	102	250	257	103	
Chromium	NS	-0.00110	NS	0.250	0.240	96.0	
Cobalt	NS	-0.00215	NS	0.250	0.223	89.2	
Copper	NS	0.00157	NS	0.250	0.233	93.2	
Iron	100	90.6	90.6	100	91.0	91.0	
Magnesium	250	239	95.6	250	241	96.4	
Manganese	NS	-0.00356	NS	0.250	0.231	92.4	
Nickel	NS	-0.00110	NS	0.500	0.457	91.4	
Potassium	NS	-0.00971	NS	5.00	4.95	99.0	
Silver	NS	0.000180	NS	0.500	0.483	96.6	
Sodium	NS	-0.00122	NS	5.00	4.90	98.0	
Vanadium	NS	-0.00298	NS	0.250	0.236	94.4	
Zinc	NS	-0.00272	NS	0.500	0.449	89.8	

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: PE-ICP2
Sol. A: WG415926-33
Sol. AB: WG415926-34

File ID: P2.120612.191015
File ID: P2.120612.191612

Workgroup (AAB#): WG415817
Method: 6010B
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	238	95.2	250	241	96.4	
Barium	NS	-0.000140	NS	0.250	0.237	94.8	
Beryllium	NS	-0.000200	NS	0.250	0.234	93.6	
Cadmium	NS	-0.000210	NS	0.500	0.436	87.2	
Calcium	250	256	102	250	257	103	
Chromium	NS	-0.00110	NS	0.250	0.240	96.0	
Cobalt	NS	-0.00215	NS	0.250	0.223	89.2	
Copper	NS	0.00157	NS	0.250	0.233	93.2	
Iron	100	90.6	90.6	100	91.0	91.0	
Magnesium	250	239	95.6	250	241	96.4	
Manganese	NS	-0.00356	NS	0.250	0.231	92.4	
Nickel	NS	-0.00110	NS	0.500	0.457	91.4	
Potassium	NS	-0.00971	NS	5.00	4.95	99.0	
Silver	NS	0.000180	NS	0.500	0.483	96.6	
Sodium	NS	-0.00122	NS	5.00	4.90	98.0	
Vanadium	NS	-0.00298	NS	0.250	0.236	94.4	
Zinc	NS	-0.00272	NS	0.500	0.449	89.8	

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Microbac Laboratories Inc.
 INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110784
 Instrument ID: PE-ICP2

Date: 12/30/2011
 Method: 6010B

Analyte	Wave Length	AG	AL	AS	B	BA
ALUMINUM	396.15	0	0	0.206	0	0
ANTIMONY	206.84	0	0	-0.740	0	0
ARSENIC	188.98	0	0.0776	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	1.12	0	0	0
CADMIUM	228.80	0	0	3.00	0	0
CALCIUM	227.55	0	0.195	10.0	0	0
CHROMIUM	267.72	0	-0.00252	0	0	0
COBALT	228.62	0	0	0	0	0.337
COPPER	327.39	0	0	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	0	-0.0265	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	-0.185	0	-0.231	-0.0949	-0.230
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0.147	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0	0.200	0	0.0400
ZINC	206.20	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
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Microbac Laboratories Inc.
 INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110784
 Instrument ID: PE-ICP2

Date: 12/30/2011
 Method: 6010B

Analyte	Wave Length	BE	CA	CD	CO	CR
ALUMINUM	396.15	0	0	0	0	0
ANTIMONY	206.84	0	0	0	0	6.33
ARSENIC	188.98	0	0.0200	0	0	-6.59
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	-0.0733
BORON	249.68	0	0	24.1	5.90	1.50
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	0	300	0
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	-0.244
COPPER	327.39	0	0	0	0.380	-0.0400
IRON	239.56	0	0	0	1.91	0
LEAD	220.35	0	-0.0480	0	0.116	-0.0700
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0	0	0	0
MANGANESE	257.61	-1.04	0	-0.755	-0.0418	-0.110
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	0	0	0	-0.566	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	-0.300	0	-1.52	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0.400	0	3.48	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	-0.0100	0	0	0.297
VANADIUM	290.88	0	0	0	0	0
ZINC	206.20	0	0	0	0	-3.64

CORR_FACTORS - Modified 03/05/2008
 PDF File ID: 2684604
 Report generated: 12/07/2012 09:09



Microbac Laboratories Inc.
 INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110784

Date: 12/30/2011

Instrument ID: PE-ICP2

Method: 6010B

Analyte	Wave Length	CU	FE	K	LI	MG
ALUMINUM	396.15	0	0.0192	0	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	-0.00250	0	0	0
BARIUM	233.53	0	-0.0187	0	0	0
BERYLLIUM	234.86	0	0.210	0	0	0
BORON	249.68	0	-4.66	0	0	0
CADMIUM	228.80	0	-0.00420	0	0	0
CALCIUM	227.55	-2.00	100	0	0	0.104
CHROMIUM	267.72	0	0.0391	0	0	0
COBALT	228.62	0	0.0262	0	0	0
COPPER	327.39	0	-0.0688	0	0.154	0
IRON	239.56	0	0	0	0	0.0276
LEAD	220.35	0.740	0.0440	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	0.540	0	0	0
MANGANESE	257.61	-0.0457	-0.0580	-0.0181	-0.794	0.0147
MOLYBDENUM	202.03	0	-0.0494	0	0	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	-0.465	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0.0717	0.0240	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0.120	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0.134	0	0	0
ZINC	206.20	-0.200	0.0198	0	0	0

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Microbac Laboratories Inc.
 INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110784
 Instrument ID: PE-ICP2

Date: 12/30/2011
 Method: 6010B

Analyte	Wave Length	MN	MO	NA	NI	PB
ALUMINUM	396.15	0	13.5	0	0	0
ANTIMONY	206.84	0	-7.69	0	0	0
ARSENIC	188.98	0	6.00	0	0	0
BARIUM	233.53	0	-0.548	0	0	0
BERYLLIUM	234.86	-0.131	-1.50	0	-0.00974	0
BORON	249.68	0	-2.20	0	0	0
CADMIUM	228.80	0	-0.00900	0	-0.398	0
CALCIUM	227.55	0	-8.00	0	-900	0
CHROMIUM	267.72	0.434	-0.00100	0	0	0
COBALT	228.62	0	-0.125	0	0.129	0
COPPER	327.39	0	-0.0774	0	0.150	0.257
IRON	239.56	0.480	0	0	0	0.407
LEAD	220.35	0.100	-5.00	0	0.100	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-5.00	0	0	0.0252
MANGANESE	257.61	0	-0.0482	-0.00916	-0.0340	-0.0413
MOLYBDENUM	202.03	-0.209	0	0	0.120	0
NICKEL	231.60	0	0	0	0	0
POTASSIUM	766.49	0	0	1.00	0	0
SELENIUM	196.03	0.451	0.300	0	0.0940	0
SILICON	251.61	0	15.0	0	0	0
SILVER	328.07	0.130	0.100	0	0	0
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	-1.50	1.20	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0.578	0	0	0
ZINC	206.20	0	0.180	0	-0.200	-0.100

CORR_FACTORS - Modified 03/05/2008
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Microbac Laboratories Inc.
 INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110784
 Instrument ID: PE-ICP2

Date: 12/30/2011
 Method: 6010B

Analyte	Wave Length	SB	SE	SI	SN	SR
ALUMINUM	396.15	0	0	0	0	0
ANTIMONY	206.84	0	0	0	0	0
ARSENIC	188.98	0	0	0	0	0
BARIUM	233.53	0	0	0	0	0
BERYLLIUM	234.86	0	0	0	0	0
BORON	249.68	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	227.55	0	0	0	0	0
CHROMIUM	267.72	0	0	0	0	0
COBALT	228.62	0	0	0	0	0
COPPER	327.39	0	0.148	0	0	0
IRON	239.56	0	0	0	0	0
LEAD	220.35	-0.0100	0	0	0	0
LITHIUM	670.78	0	0	0	0	0
MAGNESIUM	279.08	0	-0.0924	0	0	0
MANGANESE	257.61	-0.0505	-0.0281	-0.185	-0.0445	-0.625
MOLYBDENUM	202.03	0	0	0	0	0
NICKEL	231.60	-0.0500	-0.0100	0	0	0
POTASSIUM	766.49	0	0	0	0	0
SELENIUM	196.03	0	0	0	0	0
SILICON	251.61	0	0	0	0	0
SILVER	328.07	0	0	0	0	0.200
SODIUM	589.59	0	0	0	0	0
STRONTIUM	407.77	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.93	0	0	0	0	0
TITANIUM	334.94	0	0	0	0	0
VANADIUM	290.88	0	0	0	0	0
ZINC	206.20	-0.300	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
 PDF File ID: 2684604
 Report generated: 12/07/2012 09:09



Microbac Laboratories Inc.
 INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L12110784

Date: 12/30/2011

Instrument ID: PE-ICP2

Method: 6010B

Analyte	Wave Length	TI	TL	V	ZN
ALUMINUM	396.15	0	0	0	0
ANTIMONY	206.84	0	0	0.000100	0
ARSENIC	188.98	0	0	0.0930	0
BARIUM	233.53	0	0	-2.29	0
BERYLLIUM	234.86	0	0	0	0
BORON	249.68	0	0	0	0
CADMIUM	228.80	0	0	0.0800	0
CALCIUM	227.55	3.00	0	60.0	0
CHROMIUM	267.72	0	0	-0.567	-0.0400
COBALT	228.62	2.21	0	0	0
COPPER	327.39	-1.05	0	-0.700	-0.0613
IRON	239.56	0	0	0	0
LEAD	220.35	0	0	0.0560	0
LITHIUM	670.78	0	0	0	0
MAGNESIUM	279.08	0	0	0	0
MANGANESE	257.61	-0.00931	-0.0414	-0.0601	-0.0552
MOLYBDENUM	202.03	0	0	-0.288	0
NICKEL	231.60	0	0.617	0	0
POTASSIUM	766.49	0	0	0	0
SELENIUM	196.03	-0.220	0	-0.126	0
SILICON	251.61	0	0	0	0
SILVER	328.07	0	0	-1.67	0
SODIUM	589.59	0	0	0	0
STRONTIUM	407.77	0	0	0	0
THALLIUM	190.80	-12.0	0	-1.41	0
TIN	189.93	0	0	0	0
TITANIUM	334.94	0	0	0	0
VANADIUM	290.88	0	0	0	0
ZINC	206.20	0	0	-0.100	0

CORR_FACTORS - Modified 03/05/2008
 PDF File ID: 2684604
 Report generated: 12/07/2012 09:09



Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12110784 Date: 09/28/2012
Instrument ID: PE-ICP2 Method: 6010B

Analyte	Integration Time (Sec.)	Concentration (mg/L)
Aluminum	10.00	450.0
Antimony	10.00	45.0
Arsenic	10.00	9.0
Barium	10.00	9.0
Beryllium	10.00	4.5
Boron	10.00	45.0
Cadmium	10.00	4.5
Calcium	10.00	450.0
Chromium	10.00	45.0
Cobalt	10.00	45.0
Copper	10.00	45.0
Iron	10.00	450.0
Lead	10.00	90.0
Lithium	10.00	0.9
Magnesium	10.00	450.0
Manganese	10.00	27.0
Molybdenum	10.00	45.0
Nickel	10.00	45.0
Potassium	10.00	80.0
Selenium	10.00	45.0
Silicon	10.00	36.0
Silver	10.00	4.5
Sodium	10.00	180.0
Strontium	10.00	2.7
Thallium	10.00	45.0
Tin	10.00	45.0
Titanium	10.00	18.0
Vanadium	10.00	45.0
Zinc	10.00	45.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 2684603
Report generated: 12/07/2012 09:09



2.2 Metals Data

2.2.2 Metals ICP-MS Data

2.2.2.1 Summary Data



Login Number: L12110784
Department: Metals
Analyst: Ji Hu

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: WG415951 - Due to continuing calibration verification failure for lead on 06-Dec-2012 at 16:30, client samples 21 through 29 were reanalyzed on a later calibration for lead.

Continuing Calibration Blank: WG415951 - Due to continuing calibration blank failure for selenium on 06-Dec-2012 at 16:34, client samples 21 through 29 were reanalyzed on a later calibration for selenium.

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: WG415785 - All acceptance criteria were met.

WG415951 - All acceptance criteria were met.

Matrix Spikes: WG415785 - Sample 10 was chosen by the client for MS/MSD analysis. Samples 12(MS) and 14(MSD) met all acceptance criteria.

WG415951 - Sample 11 was chosen by the client for MS/MSD analysis. Samples 13(MS) and 15(MSD) met all acceptance criteria.

SAMPLES

Samples: WG415785 - Client sample 04 and 05 required dilution analyses in order to obtain results for arsenic within the linear range.

WG415951 - Due to a result that was noncompliant on the negative side upon initial analysis, selenium for client sample 24 was reported from a dilution analysis.

Narrative ID: 56848

Approved By: Sheri Pfalzgraf

Certificate of Analysis

Sample #: L12110784-01	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: EB-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 10:36
Collect Date: 11/27/2012 08:00	Dilution: 1	File ID: NI.120512.103609
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2		U	0.00100	0.000500
Lead, Total	7439-92-1		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.				

Sample #: L12110784-02	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-04-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:09
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: NI.120512.110957
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00509		0.00100	0.000500
Lead, Total	7439-92-1	0.00240		0.00100	0.000500
Selenium, Total	7782-49-2	0.00526		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-03	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-04-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:13
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: NI.120512.111319
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.00442		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Selenium, Dissolved	7782-49-2	0.00458		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 #: L12110784-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-03-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:47
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: NI.120512.114756
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.0119		0.00100	0.000500
Lead, Total	7439-92-1	0.0231		0.00100	0.000500
Selenium, Total	7782-49-2	0.0211		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
E	Semiquantitative result (out of calibration range)				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-03-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:28
Collect Date: 11/27/2012 10:00	Dilution: 50	File ID: NI.120512.122834
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.302		0.0500	0.0250
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-05	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-03-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:51
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: NI.120512.115117
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00427		0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.0208		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
E	Semiquantitative result (out of calibration range)				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-05	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-03-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:31
Collect Date: 11/27/2012 10:00	Dilution: 50	File ID: NI.120512.123156
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.325		0.0500	0.0250
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-06	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-06-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:54
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: NI.120512.115440
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00726		0.00100	0.000500
Arsenic, Total	7440-38-2	0.00969		0.00100	0.000500
Lead, Total	7439-92-1	0.0188		0.00100	0.000500
Selenium, Total	7782-49-2	0.00786		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-07	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-06-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 11:58
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: NI.120512.115802
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00697		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.00870		0.00100	0.000500
Lead, Dissolved	7439-92-1	0.00106		0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00841		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 #: L12110784-08	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-01-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:01
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: NI.120512.120125
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.0130		0.00100	0.000500
Lead, Total	7439-92-1	0.00241		0.00100	0.000500
Selenium, Total	7782-49-2	0.00326		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-09	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: PZ-01-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:04
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: NI.120512.120447
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0116		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00234		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-10	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 10:26
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120512.102602
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00342		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0329		0.00100	0.000500
Lead, Total	7439-92-1	0.00762		0.00100	0.000500
Selenium, Total	7782-49-2	0.00260		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-11	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:23
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120612.152317
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00336		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0345		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00245		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 #: L12110784-12	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 10:29
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120512.102923
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.0679		0.00100	0.000500
Arsenic, Total	7440-38-2	0.102		0.00100	0.000500
Lead, Total	7439-92-1	0.0774		0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Selenium, Total	7782-49-2	0.0694		0.00100	0.000500
Thallium, Total	7440-28-0	0.0674		0.000200	0.000100

Sample #: L12110784-13	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012-MS	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:26
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120612.152639
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.0697		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.103		0.00100	0.000500
Lead, Dissolved	7439-92-1	0.0699		0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.0706		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.0674		0.000200	0.000100

Sample #: L12110784-14	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 10:32
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120512.103246
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.0661		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0983		0.00100	0.000500
Lead, Total	7439-92-1	0.0764		0.00100	0.000500
Selenium, Total	7782-49-2	0.0680		0.00100	0.000500
Thallium, Total	7440-28-0	0.0657		0.000200	0.000100

Sample #: L12110784-15	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-33-GW-11272012-MSD	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:30
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: NI.120612.153002
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.0685		0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.0989		0.00100	0.000500
Lead, Dissolved	7439-92-1	0.0683		0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.0673		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.0662		0.000200	0.000100

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:08
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: NI.120512.120810
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00626		0.00100	0.000500
Arsenic, Total	7440-38-2	0.152		0.00100	0.000500
Lead, Total	7439-92-1		U	0.00100	0.000500
Selenium, Total	7782-49-2	0.00857		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-17	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:11
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: NI.120512.121131
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00644		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.149		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00886		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-18	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-34-GW-11272012	Prep Method: 3015	Prep Date: 12/04/2012 11:56
Matrix: Water	Analytical Method: 6020	Cal Date: 12/05/2012 09:48
Workgroup #: WG415785	Analyst: JYH	Run Date: 12/05/2012 12:14
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: NI.120512.121454
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.0183		0.00100	0.000500
Lead, Total	7439-92-1		U	0.00100	0.000500
Selenium, Total	7782-49-2	0.00306		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-19	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-34-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:33
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: NI.120612.153324
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0187		0.00100	0.000500
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00217		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 #: L12110784-20	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-22-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:36
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: NI.120612.153647
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00116		0.00100	0.000500
Arsenic, Total	7440-38-2	0.00221		0.00100	0.000500
Lead, Total	7439-92-1	0.000551	J	0.00100	0.000500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Selenium, Total	7782-49-2	0.00946		0.00100	0.000500
Thallium, Total	7440-28-0	0.000559		0.000200	0.000100
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-21	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-22-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 15:57
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: NI.120612.155706
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00118		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.00163		0.00100	0.000500
Thallium, Dissolved	7440-28-0	0.000554		0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-21	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-22-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 16:52
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: NI.121012.165226
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00854		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-11272012-01	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:00
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: NI.120612.160029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00642		0.00100	0.000500
Arsenic, Total	7440-38-2	0.154		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100

Certificate of Analysis

U	Not detected at or above adjusted sample detection limit.
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Sample #: L12110784-22	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-11272012-01	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 16:55
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: NI.121012.165548
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Total	7439-92-1		U	0.00100	0.000500
Selenium, Total	7782-49-2	0.00922		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-23	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-11272012-01	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 16:59
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: NI.121012.165911
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.0102		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-23	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-11272012-01	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:03
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: NI.120612.160351
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00682		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.155		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L12110784-24	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-32-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:02
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: NI.121012.170234
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Total	7439-92-1	0.00305		0.00100	0.000500
Selenium, Total	7782-49-2	0.00694		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-24	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-32-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:07
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: NI.120612.160714
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00107		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0109		0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-25	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-32-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:10
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: NI.120612.161035
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.000959	J	0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0113		0.00100	0.000500
Thallium, Dissolved	7440-28-0		U	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.				

Certificate of Analysis

Sample #: L12110784-25	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-32-GW-11272012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:05
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: NI.121012.170556
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Dissolved	7439-92-1	0.00188		0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00953		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-26	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-02-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:33
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: NI.121012.173300
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Total	7439-92-1	0.000778	J	0.00100	0.000500
Selenium, Total	7782-49-2	0.00801		0.00100	0.000500
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-26	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-02-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:13
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: NI.120612.161358
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0	0.00175		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0161		0.00100	0.000500
Thallium, Total	7440-28-0		U	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.				

Certificate of Analysis

Sample #: L12110784-27	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-02-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:17
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: NI.120612.161719
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0	0.00150		0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0160		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 #: L12110784-27	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-02-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:36
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: NI.121012.173623
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00828		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-28	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-23-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:20
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: NI.120612.162042
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.0776		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 #: L12110784-28	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-23-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:39
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: NI.121012.173945
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Total	7439-92-1	0.00171		0.00100	0.000500
Selenium, Total	7782-49-2	0.0114		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L12110784-29	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-23-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/06/2012 11:18
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/06/2012 16:24
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: NI.120612.162404
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Antimony, Dissolved	7440-36-0		U	0.00100	0.000500
Arsenic, Dissolved	7440-38-2	0.0756		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 #: L12110784-29	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW-23-GW-11282012	Prep Method: 3015	Prep Date: 12/06/2012 07:37
Matrix: Water	Analytical Method: 6020	Cal Date: 12/10/2012 10:08
Workgroup #: WG415951	Analyst: JYH	Run Date: 12/10/2012 17:43
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: NI.121012.174308
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Lead, Dissolved	7439-92-1		U	0.00100	0.000500
Selenium, Dissolved	7782-49-2	0.00924		0.00100	0.000500
U	Not detected at or above adjusted sample detection limit.				

2.2.2.2 QC Summary Data

Example 6020 Calculations
Perkin Elmer ELAN 6100

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/L)

Example:

0.1

100

40

1

0.25

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/kg)

Example:

0.1

200

0.5

1

40

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (ug/kg)

Example:

40

80

50

50 ug/kg = 0.050 mg/kg

Perkin Elmer ELAN ICP/MS

STANDARDS KEY

- QC Std 1 - ICV
- QC Std 2 - ICB
- QC Std 3 - LLICV
- QC Std 4 - ICSA
- QC Std 5 - ICSAB
- QC Std 6 - CCV
- QC Std 7 - CCB
- QC Std 8 - LLCCV

Calibration Solutions

Analyte	Stock Conc. (mg/L)	S1 (mg/L)	S2 (mg/L)	S3 (mg/L)	S4 (mg/L)
Al	10	0	0.0004	0.05	0.1
Sb	10	0	0.0004	0.05	0.1
As	10	0	0.0004	0.05	0.1
Ba	10	0	0.0004	0.05	0.1
Be	10	0	0.0004	0.05	0.1
Ca	1000	0	0.04	5	10
Cd	10	0	0.0004	0.05	0.1
Cr	10	0	0.0004	0.05	0.1
Co	10	0	0.0004	0.05	0.1
Cu	10	0	0.0004	0.05	0.1
Fe	1000	0	0.04	5	10
Pb	10	0	0.0004	0.05	0.1
Mg	1000	0	0.04	5	10
Mn	10	0	0.0004	0.05	0.1
Ni	10	0	0.0004	0.05	0.1
K	1000	0	0.04	5	10
Se	10	0	0.0004	0.05	0.1
Ag	10	0	0.0004	0.05	0.1
Na	1000	0	0.04	5	10
Tl	10	0	0.0004	0.05	0.1
V	10	0	0.0004	0.05	0.1
U	1000	0	0.0004	0.05	0.1
Zn	10	0	0.0004	0.05	0.1

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG415701
 Analyst: REK
 Spike Analyst: REK
 Run Date: 12/04/2012 11:56
 Method: 3015
 Balance: BAL016
 Instrument: MW-2
 Instrument Start: 12/04/2012 12:12

SOP: ME407 Revision 13
 Spike Solution: STD53323
 Spike Witness: VC
 MS WG# 401311 SYRINGE FICOA16241
 Digestion Tubes Lot #: COA16400
 HNO3 Lot #: COA16520

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG415701-02	BLANK	1	40 mL	100 mL	205.976 g	205.965 g		
2	WG415661-01	FBLK	18	40 mL	100 mL	206.109 g	206.095 g		
3	WG415701-03	LCS	1	40 mL	100 mL	206.108 g	206.087 g	.25 mL	
4	L12110754-01	SAMP	1	40 mL	100 mL	206.727 g	206.699 g		12/07/12
5	L12110771-36	SAMP	1	40 mL	100 mL	206.295 g	206.268 g		12/13/12
6	L12110771-38	SAMP	1	40 mL	100 mL	206.218 g	206.195 g		12/13/12
7	L12110784-01	SAMP	1	40 mL	100 mL	206.427 g	206.403 g		12/13/12
8	L12110784-02	SAMP	1	40 mL	100 mL	205.569 g	205.542 g		12/13/12
9	L12110784-03	SAMP	1	40 mL	100 mL	205.558 g	205.541 g		12/13/12
10	L12110784-04	SAMP	1	40 mL	100 mL	204.337 g	204.099 g		12/13/12
11	L12110784-05	SAMP	1	40 mL	100 mL	204.8 g	204.705 g		12/13/12
12	L12110784-06	SAMP	1	40 mL	100 mL	205.395 g	205.367 g		12/13/12
13	L12110784-07	SAMP	1	40 mL	100 mL	206.715 g	206.691 g		12/13/12
14	L12110784-08	SAMP	1	40 mL	100 mL	207.824 g	207.819 g		12/13/12
15	L12110784-09	SAMP	1	40 mL	100 mL	205.707 g	205.688 g		12/13/12
16	WG415701-01	REF	1	40 mL	100 mL	206.79 g	206.782 g		
17	L12110784-10	RS01	1	40 mL	100 mL	206.79 g	206.782 g		12/13/12
18	WG415701-04	MS	1	40 mL	100 mL	206.415 g	206.393 g	.25 mL	
19	L12110784-12	MS01	1	40 mL	100 mL	206.415 g	206.393 g	.25 mL	12/13/12
20	WG415701-05	MSD	1	40 mL	100 mL	203.848 g	203.835 g	.25 mL	
21	L12110784-14	SD01	1	40 mL	100 mL	203.848 g	203.835 g	.25 mL	12/13/12
22	L12110784-16	SAMP	1	40 mL	100 mL	206.199 g	206.178 g		12/13/12
23	L12110784-17	SAMP	1	40 mL	100 mL	208.987 g	208.967 g		12/13/12
24	L12110784-18	SAMP	1	40 mL	100 mL	206.736 g	206.699 g		12/13/12
25	L12120011-02	SAMP	18	40 mL	100 mL	208.892 g	208.862 g		12/06/12
26	L12120011-04	SAMP	18	40 mL	100 mL	206.832 g	206.799 g		12/06/12
27	L12120011-06	SAMP	18	40 mL	100 mL	207.265 g	207.24 g		12/06/12

Analyst: *REK*

Reviewer: *Eric Patten*



Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG415701
Analyst: REK
Spike Analyst: REK
Run Date: 12/04/2012 11:56
Method: 3015
Balance: BAL016
Instrument: MW-2
Instrument Start: 12/04/2012 12:12

SOP: ME407 Revision 13
Spike Solution: STD53323
Spike Witness: VC
MS WG# 401311 SYRINGE FICOA16241
Digestion Tubes Lot #: COA16400
HNO3 Lot #: COA16520

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG415701-02	BLANK	1	40 mL	100 mL	205.976 g	205.965 g		
2	WG415661-01	FBLK	18	40 mL	100 mL	206.109 g	206.095 g		
3	WG415701-03	LCS	1	40 mL	100 mL	206.108 g	206.087 g	.25 mL	
4	L12110754-01	SAMP	1	40 mL	100 mL	206.727 g	206.699 g		12/07/12
5	L12110771-36	SAMP	1	40 mL	100 mL	206.295 g	206.268 g		12/13/12
6	L12110771-38	SAMP	1	40 mL	100 mL	206.218 g	206.195 g		12/13/12
7	L12110784-01	SAMP	1	40 mL	100 mL	206.427 g	206.403 g		12/13/12
8	L12110784-02	SAMP	1	40 mL	100 mL	205.569 g	205.542 g		12/13/12
9	L12110784-03	SAMP	1	40 mL	100 mL	205.558 g	205.541 g		12/13/12
10	L12110784-04	SAMP	1	40 mL	100 mL	204.337 g	204.099 g		12/13/12
11	L12110784-05	SAMP	1	40 mL	100 mL	204.8 g	204.705 g		12/13/12
12	L12110784-06	SAMP	1	40 mL	100 mL	205.395 g	205.367 g		12/13/12
13	L12110784-07	SAMP	1	40 mL	100 mL	206.715 g	206.691 g		12/13/12
14	L12110784-08	SAMP	1	40 mL	100 mL	207.824 g	207.819 g		12/13/12
15	L12110784-09	SAMP	1	40 mL	100 mL	205.707 g	205.688 g		12/13/12
16	WG415701-01	REF	1	40 mL	100 mL	206.79 g	206.782 g		
17	L12110784-10	RS01	1	40 mL	100 mL	206.79 g	206.782 g		12/13/12
18	WG415701-04	MS	1	40 mL	100 mL	206.415 g	206.393 g	.25 mL	
19	L12110784-12	MS01	1	40 mL	100 mL	206.415 g	206.393 g	.25 mL	12/13/12
20	WG415701-05	MSD	1	40 mL	100 mL	203.848 g	203.835 g	.25 mL	
21	L12110784-14	SD01	1	40 mL	100 mL	203.848 g	203.835 g	.25 mL	12/13/12
22	L12110784-16	SAMP	1	40 mL	100 mL	206.199 g	206.178 g		12/13/12
23	L12110784-17	SAMP	1	40 mL	100 mL	208.987 g	208.967 g		12/13/12
24	L12110784-18	SAMP	1	40 mL	100 mL	206.736 g	206.699 g		12/13/12
25	L12120011-02	SAMP	18	40 mL	100 mL	208.892 g	208.862 g		12/06/12
26	L12120011-04	SAMP	18	40 mL	100 mL	206.832 g	206.799 g		12/06/12
27	L12120011-06	SAMP	18	40 mL	100 mL	207.265 g	207.24 g		12/06/12

Analyst: *REK*

Reviewer: *Eric Potten*



Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG415872
Analyst: VC
Spike Analyst: VC
Run Date: 12/06/2012 07:37
Method: 3015
Balance: BAL016
Instrument: MW-3
Instrument Start: 12/06/2012 08:35

SOP: ME407 Revison 13
Spike Solution: STD53323
Spike Witness: ERP
HNO3 Lot #: COA16520
Digestion Tubes Lot #: COA16400
MS WG# 401311 SYRINGE FICOA16241

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG415872-02	BLANK	1	40 mL	100 mL	205.003 g	204.996 g		
2	WG415872-03	LCS	1	40 mL	100 mL	208.225 g	206.285 g	.25 mL	
3	WG415872-01	REF	1	40 mL	100 mL	206.438 g	206.422 g		
4	L12110784-11	RS02	1	40 mL	100 mL	206.438 g	206.422 g		12/13/12
5	WG415872-04	MS	1	40 mL	100 mL	206.489 g	206.474 g	.25 mL	
6	L12110784-13	MS02	1	40 mL	100 mL	206.489 g	206.474 g	.25 mL	12/13/12
7	WG415872-05	MSD	1	40 mL	100 mL	207.824 g	207.795 g	.25 mL	
8	L12110784-15	SD02	1	40 mL	100 mL	207.824 g	207.795 g	.25 mL	12/13/12
9	L12110784-19	SAMP	1	40 mL	100 mL	206.172 g	206.155 g		12/13/12
10	L12110784-20	SAMP	1	40 mL	100 mL	206.114 g	206.088 g		12/13/12
11	L12110784-21	SAMP	1	40 mL	100 mL	207.476 g	207.455 g		12/13/12
12	L12110784-22	SAMP	1	40 mL	100 mL	206.117 g	206.09 g		12/13/12
13	L12110784-23	SAMP	1	40 mL	100 mL	207.13 g	207.108 g		12/13/12
14	L12110784-24	SAMP	1	40 mL	100 mL	206.856 g	206.834 g		12/13/12
15	L12110784-25	SAMP	1	40 mL	100 mL	206.995 g	206.982 g		12/13/12
16	L12110784-26	SAMP	1	40 mL	100 mL	207.713 g	207.691 g		12/13/12
17	L12110784-27	SAMP	1	40 mL	100 mL	205.314 g	205.304 g		12/13/12
18	L12110784-28	SAMP	1	40 mL	100 mL	207.404 g	207.384 g		12/13/12
19	L12110784-29	SAMP	1	40 mL	100 mL	205.901 g	205.882 g		12/13/12
20	L12120127-01	SAMP	1	40 mL	100 mL	207.176 g	207.161 g		12/14/12
21	L12120127-02	SAMP	1	40 mL	100 mL	207.662 g	207.64 g		12/14/12
22	L12120127-03	SAMP	1	40 mL	100 mL	207.003 g	206.987 g		12/14/12
23	L12120127-04	SAMP	1	40 mL	100 mL	206.505 g	206.495 g		12/14/12
24	L12120127-05	SAMP	1	40 mL	100 mL	206.735 g	206.722 g		12/14/12
25	L12120127-06	SAMP	1	40 mL	100 mL	206.297 g	206.287 g		12/14/12

L12110784-22	filtered digestate
L12110784-23	filtered digestate
L12110784-24	filtered digestate
L12110784-25	filtered digestate
L12110784-26	filtered digestate
L12110784-27	filtered digestate
L12120127-02	filtered digestate
L12120127-03	filtered digestate
L12120127-04	filtered digestate
L12120127-05	filtered digestate

MW_DIG - Modified 09/30/2009
PDF ID: 2687616
Report generated: 12/06/2012 10:14



Microbac Laboratories Inc.
Microwave Digestion Log

Analyst: Vicki Collier

SQP:
Spike Solution: Sam
Reviewer: Sam
Spike Witness: Patricia

Method:
Balance:
Instrument:
Instrument Start:

MW_DIG - Modified 09/30/2009
PDF ID: 2687616
Report generated: 12/06/2012 10:14



Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG415872
 Analyst: VC
 Spike Analyst: VC
 Run Date: 12/06/2012 07:37
 Method: 3015
 Balance: BAL016
 Instrument: MW-3
 Instrument Start: 12/06/2012 08:35

SOP: ME407 Revison 13
 Spike Solution: STD53323
 Spike Witness: ERP
 HNO3 Lot #: COA16520
 Digestion Tubes Lot #: COA16400
 MS WG# 401311 SYRINGE FICOA16241

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG415872-02	BLANK	1	40 mL	100 mL	205.003 g	204.996 g		
2	WG415872-03	LCS	1	40 mL	100 mL	208.225 g	206.285 g	.25 mL	
3	WG415872-01	REF	1	40 mL	100 mL	206.438 g	206.422 g		
4	L12110784-11	RS02	1	40 mL	100 mL	206.438 g	206.422 g		12/13/12
5	WG415872-04	MS	1	40 mL	100 mL	206.489 g	206.474 g	.25 mL	
6	L12110784-13	MS02	1	40 mL	100 mL	206.489 g	206.474 g	.25 mL	12/13/12
7	WG415872-05	MSD	1	40 mL	100 mL	207.824 g	207.795 g	.25 mL	
8	L12110784-15	SD02	1	40 mL	100 mL	207.824 g	207.795 g	.25 mL	12/13/12
9	L12110784-19	SAMP	1	40 mL	100 mL	206.172 g	206.155 g		12/13/12
10	L12110784-20	SAMP	1	40 mL	100 mL	206.114 g	206.088 g		12/13/12
11	L12110784-21	SAMP	1	40 mL	100 mL	207.476 g	207.455 g		12/13/12
12	L12110784-22	SAMP	1	40 mL	100 mL	206.117 g	206.09 g		12/13/12
13	L12110784-23	SAMP	1	40 mL	100 mL	207.13 g	207.108 g		12/13/12
14	L12110784-24	SAMP	1	40 mL	100 mL	206.856 g	206.834 g		12/13/12
15	L12110784-25	SAMP	1	40 mL	100 mL	206.995 g	206.982 g		12/13/12
16	L12110784-26	SAMP	1	40 mL	100 mL	207.713 g	207.691 g		12/13/12
17	L12110784-27	SAMP	1	40 mL	100 mL	205.314 g	205.304 g		12/13/12
18	L12110784-28	SAMP	1	40 mL	100 mL	207.404 g	207.384 g		12/13/12
19	L12110784-29	SAMP	1	40 mL	100 mL	205.901 g	205.882 g		12/13/12
20	L12120127-01	SAMP	1	40 mL	100 mL	207.176 g	207.161 g		12/14/12
21	L12120127-02	SAMP	1	40 mL	100 mL	207.662 g	207.64 g		12/14/12
22	L12120127-03	SAMP	1	40 mL	100 mL	207.003 g	206.987 g		12/14/12
23	L12120127-04	SAMP	1	40 mL	100 mL	206.505 g	206.495 g		12/14/12
24	L12120127-05	SAMP	1	40 mL	100 mL	206.735 g	206.722 g		12/14/12
25	L12120127-06	SAMP	1	40 mL	100 mL	206.297 g	206.287 g		12/14/12

L12110784-22	filtered digestate
L12110784-23	filtered digestate
L12110784-24	filtered digestate
L12110784-25	filtered digestate
L12110784-26	filtered digestate
L12110784-27	filtered digestate
L12120127-02	filtered digestate
L12120127-03	filtered digestate
L12120127-04	filtered digestate
L12120127-05	filtered digestate

MW_DIG - Modified 09/30/2009
 PDF ID: 2687614
 Report generated: 12/06/2012 10:14



Microbac Laboratories Inc.
Microwave Digestion Log

Analyst: Vicki Collins

SQP:
Spike Solution: Sam
Reviewer: Sam
Spike Witness: Patricia

Method:
Balance:
Instrument:
Instrument Start:

MW_DIG - Modified 09/30/2009
PDF ID: 2687614
Report generated: 12/06/2012 10:14



Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 120512A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 0.2
 Maintenance Log ID: 44189

Calibration Std: STD54940 ICV Std: STD54793 Post Spike: STD53712
 ICSA: STD54863 ICSAB: STD54862 Int. Std: RGT17307
 CCV: STD54792 LLCCV: STD54861 Tuning Sol: _____

415785,415516,415811,415834

Workgroups:

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	NI.120512.132945	L12110770-02	12K0500-02 06SB	.511/200	1		12/05/12 13:29
70	NI.120512.133308	WG415811-01	Post Digestion Spike		1	L12110770-02	12/05/12 13:33
71	NI.120512.133629	WG415811-02	Serial Dilution		5	L12110770-02	12/05/12 13:36
72	NI.120512.133951	L12110770-02	12K0500-02 06SB		25		12/05/12 13:39
73	NI.120512.134316	WG415858-24	CCV		1		12/05/12 13:43
74	NI.120512.134638	WG415858-25	CCB		1		12/05/12 13:46
75	NI.120512.135003	L12110770-03	12K0500-03 08SF	.514/200	1		12/05/12 13:50
76	NI.120512.135326	L12110770-04	12K0500-04 08SB	.52/200	1		12/05/12 13:53
77	NI.120512.135648	L12110770-05	12K0500-05 010SF	.504/200	1		12/05/12 13:56
78	NI.120512.140011	L12110770-06	12K0500-06 010SB	.512/200	1		12/05/12 14:00
79	NI.120512.140333	L12110770-07	12K0500-07 09SF	.535/200	1		12/05/12 14:03
80	NI.120512.140656	L12110770-08	12K0500-08 09SB	.534/200	1		12/05/12 14:06
81	NI.120512.141017	L12110770-09	12K0500-09 01SF	.5/200	1		12/05/12 14:10
82	NI.120512.141342	WG415858-26	CCV		1		12/05/12 14:13
83	NI.120512.141704	WG415858-27	CCB		1		12/05/12 14:17
84	NI.120512.144451	L12110770-01	12K0500-01 06SF	.546/200	5		12/05/12 14:44
85	NI.120512.144813	L12110770-03	12K0500-03 08SF	.514/200	5		12/05/12 14:48
86	NI.120512.145135	L12110770-09	12K0500-09 01SF	.5/200	10		12/05/12 14:51
87	NI.120512.145500	WG415858-28	CCV		1		12/05/12 14:55
88	NI.120512.145823	WG415858-29	CCB		1		12/05/12 14:58
89	NI.120512.150358	WG415777-03	Method/Prep Blank	40/100	1		12/05/12 15:03
90	NI.120512.150720	WG415771-01	Fluid Blank		1		12/05/12 15:07
91	NI.120512.151042	WG415777-04	Laboratory Control S	40/100	1		12/05/12 15:10
92	NI.120512.151404	L12120074-01	DRL-Z-OUTLET 006		1	WG415777-01	12/05/12 15:14
93	NI.120512.151726	WG415777-05	Matrix Spike	40/100	1	L12120074-01	12/05/12 15:17
94	NI.120512.152049	WG415777-06	Duplicate	40/100	1	L12120074-01	12/05/12 15:20
95	NI.120512.152411	L12120076-01	OUTFALL 002/COMP	40/100	2		12/05/12 15:24
96	NI.120512.152734	WG415834-01	Post Digestion Spike		2	L12120076-01	12/05/12 15:27
97	NI.120512.153056	WG415834-02	Serial Dilution		10	L12120076-01	12/05/12 15:30
98	NI.120512.153420	WG415858-30	CCV		1		12/05/12 15:34
99	NI.120512.153743	WG415858-31	CCB		1		12/05/12 15:37
100	NI.120512.154544	WG415834-01	Post Digestion Spike		2	L12120076-01	12/05/12 15:45
101	NI.120512.154909	WG415858-32	CCV		1		12/05/12 15:49
102	NI.120512.155231	WG415858-33	CCB		1		12/05/12 15:52

Page: 3 Approved: December 06, 2012

Shari L. Bahgat



Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 120512A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 0.2
 Maintenance Log ID: 44189

Calibration Std: STD54940 ICV Std: STD54793 Post Spike: STD53712
 ICSA: STD54863 ICSAB: STD54862 Int. Std: RGT17307
 CCV: STD54792 LLCCV: STD54861 Tuning Sol: _____

415785,415516,415811,415834

Workgroups:

Comments:

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Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
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Comments

Seq.	Rerun	Dil.	Reason	Analytes
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96			Wrong spiking level, rerun.	
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Page: 4 Approved: December 06, 2012

Shari L. Babcock



Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 120612D.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 0.2
 Maintenance Log ID: 44204

Calibration Std: STD54940 ICV Std: STD55308 Post Spike: STD53712
 ICSA: STD54863 ICSAB: STD54862 Int. Std: RGT17307
 CCV: STD54792 LLCCV: STD54861 Tuning Sol : STD54941
 Stannous : _____ Hydroxylamine : _____

Workgroups: 415834,415951,415952

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.120612.110458	Blank	Blank		1		12/06/12 11:04
2	NI.120612.110821	WG415970-01	Calibration Point		1		12/06/12 11:08
3	NI.120612.111143	WG415970-02	Calibration Point		1		12/06/12 11:11
4	NI.120612.111506	WG415970-03	Calibration Point		1		12/06/12 11:15
5	NI.120612.111828	WG415970-04	Calibration Point		1		12/06/12 11:18
6	NI.120612.112153	WG415970-05	Initial Calibration Verification		1		12/06/12 11:21
7	NI.120612.112516	WG415970-06	Initial Calib Blank		1		12/06/12 11:25
8	NI.120612.112839	WG415970-07	Low Level Initial Calibration V		1		12/06/12 11:28
9	NI.120612.113201	WG415970-08	Interference Check		1		12/06/12 11:32
10	NI.120612.113523	WG415970-09	Interference Check		1		12/06/12 11:35
11	NI.120612.114117	WG415970-10	CCV		1		12/06/12 11:41
12	NI.120612.114439	WG415970-11	CCB		1		12/06/12 11:44
13	NI.120612.114803	WG415777-03	Method/Prep Blank	40/100	1		12/06/12 11:48
14	NI.120612.115125	WG415777-04	Laboratory Control S	40/100	1		12/06/12 11:51
15	NI.120612.115448	WG415777-02	Reference Sample		1	L12120082-05	12/06/12 11:54
16	NI.120612.115811	WG415777-07	Matrix Spike	40/100	1	L12120082-05	12/06/12 11:58
17	NI.120612.120133	WG415777-08	Matrix Spike Duplica	40/100	1	L12120082-05	12/06/12 12:01
18	NI.120612.120456	L12120082-01	MW-3-01	40/100	1		12/06/12 12:04
19	NI.120612.120818	L12120082-02	MW-2-01	40/100	1		12/06/12 12:08
20	NI.120612.121140	WG415834-03	Post Digestion Spike		1	L12120082-02	12/06/12 12:11
21	NI.120612.121501	WG415834-04	Serial Dilution		5	L12120082-02	12/06/12 12:15
22	NI.120612.121823	WG415834-04	Serial Dilution		25	L12120082-02	12/06/12 12:18
23	NI.120612.122146	WG415970-12	CCV		1		12/06/12 12:21
24	NI.120612.122508	WG415970-13	CCB		1		12/06/12 12:25
25	NI.120612.122831	L12120082-03	MW-1-01	40/100	1		12/06/12 12:28
26	NI.120612.123152	L12120082-04	MW-1-02	40/100	1		12/06/12 12:31
27	NI.120612.123515	L12110821-01	7417SS00300C	40/100	1		12/06/12 12:35
28	NI.120612.123836	L12110822-01	7417SS00700A	40/100	1		12/06/12 12:38
29	NI.120612.124158	L12110823-01	7417SS02002A	40/100	1		12/06/12 12:41
30	NI.120612.124520	L12120009-01	SD33SS01802A	40/100	1		12/06/12 12:45
31	NI.120612.124917	L12120082-03	MW-1-01	40/100	25		12/06/12 12:49
32	NI.120612.125240	L12120082-04	MW-1-02	40/100	25		12/06/12 12:52
33	NI.120612.125603	WG415970-14	CCV		1		12/06/12 12:56
34	NI.120612.125926	WG415970-15	CCB		1		12/06/12 12:59

Page: 1 Approved: December 07, 2012




Microbac Laboratories Inc.
Instrument Run Log

Instrument: ICP-MS2 Dataset: 120612D.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 0.2
 Maintenance Log ID: 44204

Calibration Std: STD54940 ICV Std: STD55308 Post Spike: STD53712
 ICSA: STD54863 ICSAB: STD54862 Int. Std: RG17307
 CCV: STD54792 LLCV: STD54861 Tuning Sol : STD54941
 Stannous : _____ Hydroxylamine : _____

Workgroups: 415834,415951,415952Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	NI.120612.130305	L12120009-02	SD33SS01902A	40/100	1		12/06/12 13:03
36	NI.120612.130638	L12120009-03	SD33SS02003A	40/100	1		12/06/12 13:06
37	NI.120612.131001	L12120055-02	60500-C0119	40/100	1		12/06/12 13:10
38	NI.120612.131323	L12120055-04	60500-C0120	40/100	1		12/06/12 13:13
39	NI.120612.131646	L12120056-02	60500-SSP0272	40/100	1		12/06/12 13:16
40	NI.120612.132008	L12120056-04	60500-SSP0273	40/100	1		12/06/12 13:20
41	NI.120612.132331	L12120056-04	60500-SSP0273		50		12/06/12 13:23
42	NI.120612.132655	WG415970-16	CCV		1		12/06/12 13:26
43	NI.120612.133017	WG415970-17	CCB		1		12/06/12 13:30
44	NI.120612.133735	L12120055-02	60500-C0119	40/100	50		12/06/12 13:37
45	NI.120612.134057	L12120055-04	60500-C0120	40/100	50		12/06/12 13:40
46	NI.120612.134421	WG415970-18	CCV		1		12/06/12 13:44
47	NI.120612.134744	WG415970-19	CCB		1		12/06/12 13:47
48	NI.120612.140047	WG415777-03	Method/Prep Blank	40/100	1		12/06/12 14:00
49	NI.120612.140409	WG415777-04	Laboratory Control S	40/100	1		12/06/12 14:04
50	NI.120612.140732	WG415777-02	Reference Sample		1	L12120082-05	12/06/12 14:07
51	NI.120612.141731	WG415777-07	Matrix Spike	40/100	1	L12120082-05	12/06/12 14:17
52	NI.120612.142054	WG415777-08	Matrix Spike Duplica	40/100	1	L12120082-05	12/06/12 14:20
53	NI.120612.142416	L12120082-01	MW-3-01	40/100	1		12/06/12 14:24
54	NI.120612.142738	L12120082-02	MW-2-01	40/100	1		12/06/12 14:27
55	NI.120612.143059	WG415834-03	Post Digestion Spike		1	L12120082-02	12/06/12 14:30
56	NI.120612.143422	WG415834-04	Serial Dilution		5	L12120082-02	12/06/12 14:34
57	NI.120612.143744	WG415834-04	Serial Dilution		25	L12120082-02	12/06/12 14:37
58	NI.120612.144108	WG415970-20	CCV		1		12/06/12 14:41
59	NI.120612.144430	WG415970-21	CCB		1		12/06/12 14:44
60	NI.120612.144754	L12120082-03	MW-1-01	40/100	1		12/06/12 14:47
61	NI.120612.145117	L12120082-04	MW-1-02	40/100	1		12/06/12 14:51
62	NI.120612.145445	L12120082-02	MW-2-01	40/100	5		12/06/12 14:54
63	NI.120612.145807	WG415834-03	Post Digestion Spike		5	L12120082-02	12/06/12 14:58
64	NI.120612.150130	WG415834-04	Serial Dilution		25	L12120082-02	12/06/12 15:01
65	NI.120612.150454	WG415970-22	CCV		1		12/06/12 15:04
66	NI.120612.150817	WG415970-23	CCB		1		12/06/12 15:08
67	NI.120612.151632	WG415872-02	Method/Prep Blank	40/100	1		12/06/12 15:16
68	NI.120612.151954	WG415872-03	Laboratory Control S	40/100	1		12/06/12 15:19

Page: 2 Approved: December 07, 2012

Shari L. Bahgat

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 120612D.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 0.2
 Maintenance Log ID: 44204

Calibration Std: STD54940 ICV Std: STD55308 Post Spike: STD53712
 ICSA: STD54863 ICSAB: STD54862 Int. Std: RG17307
 CCV: STD54792 LLCCV: STD54861 Tuning Sol : STD54941
 Stannous : _____ Hydroxylamine : _____

Workgroups: 415834,415951,415952

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	NI.120612.152317	WG415872-01	Reference Sample		1	L12110784-11	12/06/12 15:23
70	NI.120612.152639	WG415872-04	Matrix Spike	40/100	1	L12110784-11	12/06/12 15:26
71	NI.120612.153002	WG415872-05	Matrix Spike Duplica	40/100	1	L12110784-11	12/06/12 15:30
72	NI.120612.153324	L12110784-19	MW-34-GW-11272012	40/100	1		12/06/12 15:33
73	NI.120612.153647	L12110784-20	MW-22-GW-11272012	40/100	1		12/06/12 15:36
74	NI.120612.154009	WG415951-01	Post Digestion Spike		1	L12110784-20	12/06/12 15:40
75	NI.120612.154332	WG415951-02	Serial Dilution		5	L12110784-20	12/06/12 15:43
76	NI.120612.154654	WG415951-02	Serial Dilution		25	L12110784-20	12/06/12 15:46
77	NI.120612.155019	WG415970-24	CCV		1		12/06/12 15:50
78	NI.120612.155342	WG415970-25	CCB		1		12/06/12 15:53
79	NI.120612.155706	L12110784-21	MW-22-GW-11272012	40/100	1		12/06/12 15:57
80	NI.120612.160029	L12110784-22	DUP-GW-11272012-01	40/100	1		12/06/12 16:00
81	NI.120612.160351	L12110784-23	DUP-GW-11272012-01	40/100	1		12/06/12 16:03
82	NI.120612.160714	L12110784-24	MW-32-GW-11272012	40/100	1		12/06/12 16:07
83	NI.120612.161035	L12110784-25	MW-32-GW-11272012	40/100	1		12/06/12 16:10
84	NI.120612.161358	L12110784-26	MW-02-GW-11282012	40/100	1		12/06/12 16:13
85	NI.120612.161719	L12110784-27	MW-02-GW-11282012	40/100	1		12/06/12 16:17
86	NI.120612.162042	L12110784-28	MW-23-GW-11282012	40/100	1		12/06/12 16:20
87	NI.120612.162404	L12110784-29	MW-23-GW-11282012	40/100	1		12/06/12 16:24
88	NI.120612.162733	L12110784-24	MW-32-GW-11272012		5		12/06/12 16:27
89	NI.120612.163057	WG415970-26	CCV		1		12/06/12 16:30
90	NI.120612.163419	WG415970-27	CCB		1		12/06/12 16:34
91	NI.120612.163855	WG415970-28	Interference Check		1		12/06/12 16:38
92	NI.120612.164218	WG415970-29	Interference Check		1		12/06/12 16:42
93	NI.120612.164543	WG415970-30	CCV		1		12/06/12 16:45
94	NI.120612.164906	WG415970-31	CCB		1		12/06/12 16:49
95	NI.120612.165718	L12120127-01	ERT003:HMW-4:G120512	40/100	1		12/06/12 16:57
96	NI.120612.170040	L12120127-02	ERT003:HMW-5:G120512	40/100	1		12/06/12 17:00
97	NI.120612.170402	L12120127-03	ERT003:HMW-6:G120512	40/100	1		12/06/12 17:04
98	NI.120612.170724	L12120127-04	ERT003:HMW-8:G120512	40/100	1		12/06/12 17:07
99	NI.120612.171047	L12120127-05	ERT003:HMW-8:G120512A	40/100	1		12/06/12 17:10
100	NI.120612.171409	L12120127-06	ERT003:HMW-9:G120512	40/100	1		12/06/12 17:14
101	NI.120612.171732	L12120127-06	ERT003:HMW-9:G120512		50		12/06/12 17:17
102	NI.120612.172055	WG415970-32	CCV		1		12/06/12 17:20

Page: 3 Approved: December 07, 2012

Shari L. Bahgat

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 120612D.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 0.2
 Maintenance Log ID: 44204

Calibration Std: STD54940 ICV Std: STD55308 Post Spike: STD53712
 ICSA: STD54863 ICSAB: STD54862 Int. Std: RG17307
 CCV: STD54792 LLCCV: STD54861 Tuning Sol : STD54941
 Stannous : _____ Hydroxylamine : _____

Workgroups: 415834,415951,415952

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	NI.120612.172418	WG415970-33	CCB		1		12/06/12 17:24
104	NI.120612.172741	WG415902-03	Method/Prep Blank	40/100	1		12/06/12 17:27
105	NI.120612.173104	WG415902-04	Laboratory Control S	40/100	1		12/06/12 17:31
106	NI.120612.173426	L12120088-04	MW2B.279.14		1	WG415902-01	12/06/12 17:34
107	NI.120612.173749	L12120088-05	MW2B.279.14	40/100	1	WG415902-05	12/06/12 17:37
108	NI.120612.174111	L12120088-06	MW2B.279.14	40/100	1	WG415902-06	12/06/12 17:41
109	NI.120612.174434	L12120088-11	MW2E.279.14	40/100	1		12/06/12 17:44
110	NI.120612.174756	L12120088-14	MW4B.279.14	40/100	1		12/06/12 17:47
111	NI.120612.175119	WG415952-01	Post Digestion Spike		1	L12120088-14	12/06/12 17:51
112	NI.120612.175440	WG415952-02	Serial Dilution		5	L12120088-14	12/06/12 17:54
113	NI.120612.175803	WG415952-02	Serial Dilution		25	L12120088-14	12/06/12 17:58
114	NI.120612.180128	WG415970-34	CCV		1		12/06/12 18:01
115	NI.120612.180451	WG415970-35	CCB		1		12/06/12 18:04
116	NI.120612.180815	L12120088-17	MW5A.279.14	40/100	1		12/06/12 18:08
117	NI.120612.181137	L12120088-20	MW5A2.279.14	40/100	1		12/06/12 18:11
118	NI.120612.181459	L12120088-23	OW1B.279.14	40/100	1		12/06/12 18:14
119	NI.120612.181822	L12120088-26	OW2A.279.14	40/100	1		12/06/12 18:18
120	NI.120612.182144	L12120088-29	OW3A.279.14	40/100	1		12/06/12 18:21
121	NI.120612.182507	L12120096-01	120412PPG-23	40/100	1		12/06/12 18:25
122	NI.120612.182829	L12120096-02	120412PPG-21	40/100	1		12/06/12 18:28
123	NI.120612.183151	L12120096-03	120412PPG-29S	40/100	1		12/06/12 18:31
124	NI.120612.183512	L12120096-04	120412PPG-29A	40/100	1		12/06/12 18:35
125	NI.120612.183835	L12120096-05	120412PPG-28B	40/100	1		12/06/12 18:38
126	NI.120612.184200	WG415970-36	CCV		1		12/06/12 18:42
127	NI.120612.184522	WG415970-37	CCB		1		12/06/12 18:45
128	NI.120612.184846	L12120096-06	120412PPG-25A	40/100	1		12/06/12 18:48
129	NI.120612.185207	L12120096-07	120412PPG-34S	40/100	1		12/06/12 18:52
130	NI.120612.185529	L12120096-08	120412PPG-3A	40/100	1		12/06/12 18:55
131	NI.120612.185850	L12120096-09	120412PPG-4A	40/100	1		12/06/12 18:58
132	NI.120612.190213	L12120096-10	120412PPG-24A		1	WG415902-02	12/06/12 19:02
133	NI.120612.190535	WG415902-07	Matrix Spike	40/100	1	L12120096-10	12/06/12 19:05
134	NI.120612.190858	WG415902-08	Duplicate	40/100	1	L12120096-10	12/06/12 19:08
135	NI.120612.191222	WG415970-38	CCV		1		12/06/12 19:12
136	NI.120612.191544	WG415970-39	CCB		1		12/06/12 19:15

Page: 4 Approved: December 07, 2012

Shari L. Bahgat

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 121012A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 0.2
 Maintenance Log ID: 44228

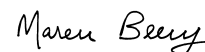
Calibration Std: STD54940 ICV Std: STD55308 Post Spike: STD53712
 ICSA: STD55331 ICSAB: STD55332 Int. Std: RG17307
 CCV: STD55309 LLCCV: STD55311 Tuning Sol : STD54941
 Stannous : _____ Hydroxylamine : _____

Workgroups: 416158,416073,416952,416199,415951

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.121012.095434	Blank	Blank		1		12/10/12 09:54
2	NI.121012.095757	WG416201-01	Calibration Point		1		12/10/12 09:57
3	NI.121012.100119	WG416201-02	Calibration Point		1		12/10/12 10:01
4	NI.121012.100442	WG416201-03	Calibration Point		1		12/10/12 10:04
5	NI.121012.100804	WG416201-04	Calibration Point		1		12/10/12 10:08
6	NI.121012.101129	WG416201-05	Initial Calibration Verification		1		12/10/12 10:11
7	NI.121012.101453	WG416201-06	Initial Calib Blank		1		12/10/12 10:14
8	NI.121012.101818	WG416201-07	Low Level Initial Calibration V		1		12/10/12 10:18
9	NI.121012.102416	WG416201-08	Low Level Initial Calibration V		1		12/10/12 10:24
10	NI.121012.102737	WG416201-09	Interference Check		1		12/10/12 10:27
11	NI.121012.103100	WG416201-10	Interference Check		1		12/10/12 10:31
12	NI.121012.103436	WG416201-11	CCV		1		12/10/12 10:34
13	NI.121012.103758	WG416201-12	CCB		1		12/10/12 10:37
14	NI.121012.104147	WG416015-02	Method/Prep Blank	40/100	1		12/10/12 10:41
15	NI.121012.104510	WG416015-03	Laboratory Control S	40/100	1		12/10/12 10:45
16	NI.121012.104832	WG416015-01	Reference Sample		1	L12120172-13	12/10/12 10:48
17	NI.121012.105154	WG416015-04	Matrix Spike	40/100	1	L12120172-13	12/10/12 10:51
18	NI.121012.105517	WG416015-05	Matrix Spike Duplica	40/100	1	L12120172-13	12/10/12 10:55
19	NI.121012.105839	L12120172-01	9801-MW1A	40/100	1		12/10/12 10:58
20	NI.121012.110202	L12120172-02	9801-MW2	40/100	1		12/10/12 11:02
21	NI.121012.110524	WG416158-01	Post Digestion Spike		1	L12120172-02	12/10/12 11:05
22	NI.121012.110847	WG416158-02	Serial Dilution		5	L12120172-02	12/10/12 11:08
23	NI.121012.111209	WG416158-02	Serial Dilution		25	L12120172-02	12/10/12 11:12
24	NI.121012.111534	WG416201-13	CCV		1		12/10/12 11:15
25	NI.121012.111857	WG416201-14	CCB		1		12/10/12 11:18
26	NI.121012.112221	L12120172-03	9801-MW3	40/100	1		12/10/12 11:22
27	NI.121012.112543	L12120172-04	9801-MW3A	40/100	1		12/10/12 11:25
28	NI.121012.112906	L12120172-05	9801-MW4	40/100	1		12/10/12 11:29
29	NI.121012.113228	L12120172-06	9801-MW5	40/100	1		12/10/12 11:32
30	NI.121012.113551	L12120172-07	9801-MW6	40/100	1		12/10/12 11:35
31	NI.121012.113913	L12120172-08	9801-MW7	40/100	1		12/10/12 11:39
32	NI.121012.114236	L12120172-09	9801-MW8	40/100	1		12/10/12 11:42
33	NI.121012.114558	L12120172-10	9801-SW1	40/100	1		12/10/12 11:45
34	NI.121012.114921	L12120172-11	9801-SW2	40/100	1		12/10/12 11:49

Page: 1 Approved: December 11, 2012




Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 121012A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 0.2
 Maintenance Log ID: 44228

Calibration Std: STD54940 ICV Std: STD55308 Post Spike: STD53712
 ICSA: STD55331 ICSAB: STD55332 Int. Std: RGT17307
 CCV: STD55309 LLCV: STD55311 Tuning Sol : STD54941
 Stannous : Hydroxylamine :

Workgroups: 416158,416073,416952,416199,415951

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	NI.121012.115244	L12120172-12	9801-SW3	40/100	1		12/10/12 11:52
36	NI.121012.115608	WG416201-15	CCV		1		12/10/12 11:56
37	NI.121012.115930	WG416201-16	CCB		1		12/10/12 11:59
38	NI.121012.120254	L12120172-14	9801-SW5	40/100	1		12/10/12 12:02
39	NI.121012.120754	WG416009-02	Reference Sample		1	L12120148-01	12/10/12 12:07
40	NI.121012.121117	WG416009-07	Matrix Spike	40/100	1	L12120148-01	12/10/12 12:11
41	NI.121012.121439	WG416009-08	Duplicate	40/100	1	L12120148-01	12/10/12 12:14
42	NI.121012.122018	L12120096-02	120412PPG-21	40/100	5		12/10/12 12:20
43	NI.121012.122341	WG415952-03	Post Digestion Spike		5	L12120096-02	12/10/12 12:23
44	NI.121012.122703	WG415952-04	Serial Dilution		25	L12120096-02	12/10/12 12:27
45	NI.121012.123028	WG416201-17	CCV		1		12/10/12 12:30
46	NI.121012.123350	WG416201-18	CCB		1		12/10/12 12:33
47	NI.121012.123714	WG416201-19	Low Level Continuing Calibra		1		12/10/12 12:37
48	NI.121012.135500	WG416131-02	Method/Prep Blank	40/100	1		12/10/12 13:55
49	NI.121012.135823	WG416131-06	Filter Blank		1		12/10/12 13:58
50	NI.121012.140145	WG416131-03	Laboratory Control S	40/100	1		12/10/12 14:01
51	NI.121012.140508	WG416131-01	Reference Sample		1	L12120202-06	12/10/12 14:05
52	NI.121012.140830	WG416131-04	Matrix Spike	40/100	1	L12120202-06	12/10/12 14:08
53	NI.121012.141153	WG416131-05	Matrix Spike Duplica	40/100	1	L12120202-06	12/10/12 14:11
54	NI.121012.141515	L12120281-01	2120211-01	40/100	1		12/10/12 14:15
55	NI.121012.141837	WG416199-01	Post Digestion Spike		1	L12120281-01	12/10/12 14:18
56	NI.121012.142455	WG416199-02	Serial Dilution		5	L12120281-01	12/10/12 14:24
57	NI.121012.142817	WG416199-02	Serial Dilution		25	L12120281-01	12/10/12 14:28
58	NI.121012.143142	WG416201-20	CCV		1		12/10/12 14:31
59	NI.121012.143504	WG416201-21	CCB		1		12/10/12 14:35
60	NI.121012.143829	L12120281-02	2120211-02	40/100	1		12/10/12 14:38
61	NI.121012.144151	WG416131-07	Reference Sample		1	L12120281-03	12/10/12 14:41
62	NI.121012.144512	WG416131-08	Matrix Spike	40/100	1	L12120281-03	12/10/12 14:45
63	NI.121012.144835	WG416131-09	Duplicate	40/100	1	L12120281-03	12/10/12 14:48
64	NI.121012.145157	L12120112-01	FLUME	40/100	1		12/10/12 14:51
65	NI.121012.145520	L12120112-02	FLUME	40/100	1		12/10/12 14:55
66	NI.121012.145842	L12120112-03	201-EFFF	40/100	1		12/10/12 14:58
67	NI.121012.150205	L12120112-04	201-EFFF	40/100	1		12/10/12 15:02
68	NI.121012.151244	L12120112-01	FLUME		5		12/10/12 15:12

Page: 2 Approved: December 11, 2012

Maren Beery

Microbac Laboratories Inc.
Instrument Run Log

Instrument: ICP-MS2 Dataset: 121012A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 0.2
 Maintenance Log ID: 44228

Calibration Std: STD54940 ICV Std: STD55308 Post Spike: STD53712
 ICSA: STD55331 ICSAB: STD55332 Int. Std: RGT17307
 CCV: STD55309 LLCV: STD55311 Tuning Sol : STD54941
 Stannous : _____ Hydroxylamine : _____

Workgroups: 416158,416073,416952,416199,415951

Comments:

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Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	NI.121012.172248	L12110784-25	MW-32-GW-11272012		50		12/10/12 17:22
104	NI.121012.172613	WG416201-30	CCV		1		12/10/12 17:26
105	NI.121012.172936	WG416201-31	CCB		1		12/10/12 17:29
106	NI.121012.173300	L12110784-26	MW-02-GW-11282012	40/100	1		12/10/12 17:33
107	NI.121012.173623	L12110784-27	MW-02-GW-11282012	40/100	1		12/10/12 17:36
108	NI.121012.173945	L12110784-28	MW-23-GW-11282012	40/100	1		12/10/12 17:39
109	NI.121012.174308	L12110784-29	MW-23-GW-11282012	40/100	1		12/10/12 17:43
110	NI.121012.174630	L12110784-24	MW-32-GW-11272012		2		12/10/12 17:46
111	NI.121012.174953	L12110784-26	MW-02-GW-11282012		50		12/10/12 17:49
112	NI.121012.175316	L12110784-27	MW-02-GW-11282012		50		12/10/12 17:53
113	NI.121012.175638	L12110784-28	MW-23-GW-11282012		50		12/10/12 17:56
114	NI.121012.180002	WG416201-32	CCV		1		12/10/12 18:00
115	NI.121012.180325	WG416201-33	CCB		1		12/10/12 18:03
116	NI.121012.180649	L12110784-29	MW-23-GW-11282012		50		12/10/12 18:06
117	NI.121012.181013	WG416201-34	Interference Check		1		12/10/12 18:10
118	NI.121012.181335	WG416201-35	Interference Check		1		12/10/12 18:13
119	NI.121012.181700	WG416201-36	CCV		1		12/10/12 18:17
120	NI.121012.182023	WG416201-37	CCB		1		12/10/12 18:20

Comments

Seq.	Rerun	Dil.	Reason	Analytes
8			Rerun for zinc.	

Page: 4 Approved: December 11, 2012

Maren Beery

Microbac Laboratories Inc.

Data Checklist

Date: 05-DEC-2012
 Analyst: JYH
 Analyst: NA
 Method: 6020/6020A/200.8
 Instrument: ICP-MS2
 Curve Workgroup: 415858
 Runlog ID: 50345
 Analytical Workgroups: 415785,415516,415811,415834

Additional Workgroup:	
Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	784,011,770,076
Client Forms	X
Level X	
Level 3	
Level 4	784,011,746,747,749,751,770,076
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	SLP
Comments	

Primary Reviewer:

Secondary Reviewer:
06-DEC-2012



Microbac Laboratories Inc.

Data Checklist

Date: 06-DEC-2012
 Analyst: JYH
 Analyst: NA
 Method: 6020/6020A/200.8
 Instrument: ICP-MS2
 Curve Workgroup: 415970
 Runlog ID: 50363
 Analytical Workgroups: 415834,415951,415952

Additional Workgroup:	
Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	821,822,823,009,055,056,082,784
	127,096
Client Forms	X
Level X	
Level 3	
Level 4	821,822,823,009,055,056,082,784
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	SLP
Comments	

Primary Reviewer:

Secondary Reviewer:
07-DEC-2012



Microbac Laboratories Inc.

Data Checklist

Date: 10-DEC-2012
 Analyst: JYH
 Analyst: NA
 Method: 6020/6020A/200.8
 Instrument: ICP-MS2
 Curve Workgroup: 416201
 Runlog ID: 50401
 Analytical Workgroups: 416158,416073,416952,416199,415951

Additional Workgroup:	
Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	X
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	148,112,202,281
Client Forms	X
Level X	
Level 3	281
Level 4	784
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	MMB
Comments	

Primary Reviewer:

Secondary Reviewer:
11-DEC-2012



Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method:6020
 Login Number:L12110784

AAB#:WG415785

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
EB-GW-11272012	01	11/27/12					12/04/2012	7.2	180		12/05/12	8.1	180	
PZ-04-GW-11272012	02	11/27/12					12/04/2012	7.1	180		12/05/12	8.1	180	
PZ-04-GW-11272012	03	11/27/12					12/04/2012	7.1	180		12/05/12	8.1	180	
MW-03-GW-11272012	04	11/27/12					12/04/2012	7.1	180		12/05/12	8.1	180	
MW-03-GW-11272012	04	11/27/12					12/04/2012	7.1	180		12/05/12	8.1	180	
MW-03-GW-11272012	05	11/27/12					12/04/2012	7.1	180		12/05/12	8.1	180	
MW-03-GW-11272012	05	11/27/12					12/04/2012	7.1	180		12/05/12	8.1	180	
PZ-06-GW-11272012	06	11/27/12					12/04/2012	7.1	180		12/05/12	8.1	180	
PZ-06-GW-11272012	07	11/27/12					12/04/2012	7.1	180		12/05/12	8.1	180	
PZ-01-GW-11272012	08	11/27/12					12/04/2012	7	180		12/05/12	8	180	
PZ-01-GW-11272012	09	11/27/12					12/04/2012	7	180		12/05/12	8	180	
MW-33-GW-11272012	10	11/27/12					12/04/2012	7	180		12/05/12	8	180	
MW-33-GW-11272012-MS	12	11/27/12					12/04/2012	7	180		12/05/12	8	180	
MW-33-GW-11272012-MSD	14	11/27/12					12/04/2012	7	180		12/05/12	8	180	
BLDG4-PIT-SSP-GW-1127201	16	11/27/12					12/04/2012	7	180		12/05/12	8	180	
BLDG4-PIT-SSP-GW-1127201	17	11/27/12					12/04/2012	7	180		12/05/12	8	180	
MW-34-GW-11272012	18	11/27/12					12/04/2012	7	180		12/05/12	8	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
 PDF File ID: 2687221
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method:6020
 Login Number:L12110784

AAB#:WG415951

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW-33-GW-11272012	11	11/27/12					12/06/2012	8.9	180		12/06/12	9.2	180	
MW-33-GW-11272012-MS	13	11/27/12					12/06/2012	8.9	180		12/06/12	9.2	180	
MW-33-GW-11272012-MSD	15	11/27/12					12/06/2012	8.9	180		12/06/12	9.2	180	
MW-34-GW-11272012	19	11/27/12					12/06/2012	8.8	180		12/06/12	9.1	180	
MW-22-GW-11272012	20	11/27/12					12/06/2012	8.7	180		12/06/12	9	180	
MW-22-GW-11272012	21	11/27/12					12/06/2012	8.7	180		12/06/12	9	180	
MW-22-GW-11272012	21	11/27/12					12/06/2012	8.7	180		12/10/12	13.1	180	
DUP-GW-11272012-01	22	11/27/12					12/06/2012	8.8	180		12/06/12	9.2	180	
DUP-GW-11272012-01	22	11/27/12					12/06/2012	8.8	180		12/10/12	13.2	180	
DUP-GW-11272012-01	23	11/27/12					12/06/2012	8.8	180		12/06/12	9.2	180	
DUP-GW-11272012-01	23	11/27/12					12/06/2012	8.8	180		12/10/12	13.2	180	
MW-32-GW-11272012	24	11/27/12					12/06/2012	8.7	180		12/10/12	13.1	180	
MW-32-GW-11272012	24	11/27/12					12/06/2012	8.7	180		12/06/12	9	180	
MW-32-GW-11272012	25	11/27/12					12/06/2012	8.7	180		12/10/12	13.1	180	
MW-32-GW-11272012	25	11/27/12					12/06/2012	8.7	180		12/06/12	9	180	
MW-02-GW-11282012	26	11/28/12					12/06/2012	7.9	180		12/06/12	8.2	180	
MW-02-GW-11282012	26	11/28/12					12/06/2012	7.9	180		12/10/12	12.3	180	
MW-02-GW-11282012	27	11/28/12					12/06/2012	7.9	180		12/06/12	8.2	180	
MW-02-GW-11282012	27	11/28/12					12/06/2012	7.9	180		12/10/12	12.3	180	
MW-23-GW-11282012	28	11/28/12					12/06/2012	7.9	180		12/10/12	12.4	180	
MW-23-GW-11282012	28	11/28/12					12/06/2012	7.9	180		12/06/12	8.3	180	
MW-23-GW-11282012	29	11/28/12					12/06/2012	7.9	180		12/10/12	12.4	180	
MW-23-GW-11282012	29	11/28/12					12/06/2012	7.9	180		12/06/12	8.3	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
 PDF File ID: 2687221
 Report generated 12/11/2012 09:59



METHOD BLANK SUMMARY

Login Number: L12110784
 Blank File ID: NI.120512.101554
 Prep Date: 12/04/12 11:56
 Analyzed Date: 12/05/12 10:15
 Analyst: JYH

Work Group: WG415785
 Blank Sample ID: WG415701-02
 Instrument ID: ICP-MS2
 Method: 6020

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG415701-03	NI.120512.102239	12/05/12 10:22	01
MW-33-GW-11272012	L12110784-10	NI.120512.102602	12/05/12 10:26	01
MW-33-GW-11272012-MS	L12110784-12	NI.120512.102923	12/05/12 10:29	01
MW-33-GW-11272012-MSD	L12110784-14	NI.120512.103246	12/05/12 10:32	01
EB-GW-11272012	L12110784-01	NI.120512.103609	12/05/12 10:36	01
PZ-04-GW-11272012	L12110784-02	NI.120512.110957	12/05/12 11:09	01
PZ-04-GW-11272012	L12110784-03	NI.120512.111319	12/05/12 11:13	01
MW-03-GW-11272012	L12110784-04	NI.120512.114756	12/05/12 11:47	01
MW-03-GW-11272012	L12110784-05	NI.120512.115117	12/05/12 11:51	01
PZ-06-GW-11272012	L12110784-06	NI.120512.115440	12/05/12 11:54	01
PZ-06-GW-11272012	L12110784-07	NI.120512.115802	12/05/12 11:58	01
PZ-01-GW-11272012	L12110784-08	NI.120512.120125	12/05/12 12:01	01
PZ-01-GW-11272012	L12110784-09	NI.120512.120447	12/05/12 12:04	01
BLDG4-PIT-SSP-GW-11272012	L12110784-16	NI.120512.120810	12/05/12 12:08	01
BLDG4-PIT-SSP-GW-11272012	L12110784-17	NI.120512.121131	12/05/12 12:11	01
MW-34-GW-11272012	L12110784-18	NI.120512.121454	12/05/12 12:14	01
MW-03-GW-11272012	L12110784-04	NI.120512.122834	12/05/12 12:28	DL01
MW-03-GW-11272012	L12110784-05	NI.120512.123156	12/05/12 12:31	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 2687222
 Report generated 12/11/2012 10:34



METHOD BLANK SUMMARY

Login Number: L12110784 Work Group: WG415951
 Blank File ID: NI.120612.151632 Blank Sample ID: WG415872-02
 Prep Date: 12/06/12 07:37 Instrument ID: ICP-MS2
 Analyzed Date: 12/06/12 15:16 Method: 6020
 Analyst: JYH

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG415872-03	NI.120612.151954	12/06/12 15:19	01
MW-33-GW-11272012	L12110784-11	NI.120612.152317	12/06/12 15:23	01
MW-33-GW-11272012-MS	L12110784-13	NI.120612.152639	12/06/12 15:26	01
MW-33-GW-11272012-MSD	L12110784-15	NI.120612.153002	12/06/12 15:30	01
MW-34-GW-11272012	L12110784-19	NI.120612.153324	12/06/12 15:33	01
MW-22-GW-11272012	L12110784-20	NI.120612.153647	12/06/12 15:36	01
MW-22-GW-11272012	L12110784-21	NI.120612.155706	12/06/12 15:57	01
DUP-GW-11272012-01	L12110784-22	NI.120612.160029	12/06/12 16:00	01
DUP-GW-11272012-01	L12110784-23	NI.120612.160351	12/06/12 16:03	01
MW-32-GW-11272012	L12110784-24	NI.120612.160714	12/06/12 16:07	01
MW-32-GW-11272012	L12110784-25	NI.120612.161035	12/06/12 16:10	01
MW-02-GW-11282012	L12110784-26	NI.120612.161358	12/06/12 16:13	01
MW-02-GW-11282012	L12110784-27	NI.120612.161719	12/06/12 16:17	01
MW-23-GW-11282012	L12110784-28	NI.120612.162042	12/06/12 16:20	01
MW-23-GW-11282012	L12110784-29	NI.120612.162404	12/06/12 16:24	01
MW-22-GW-11272012	L12110784-21	NI.121012.165226	12/10/12 16:52	02
DUP-GW-11272012-01	L12110784-22	NI.121012.165548	12/10/12 16:55	02
DUP-GW-11272012-01	L12110784-23	NI.121012.165911	12/10/12 16:59	02
MW-32-GW-11272012	L12110784-24	NI.121012.170234	12/10/12 17:02	02
MW-32-GW-11272012	L12110784-25	NI.121012.170556	12/10/12 17:05	02
MW-02-GW-11282012	L12110784-26	NI.121012.173300	12/10/12 17:33	02
MW-02-GW-11282012	L12110784-27	NI.121012.173623	12/10/12 17:36	02
MW-23-GW-11282012	L12110784-28	NI.121012.173945	12/10/12 17:39	02
MW-23-GW-11282012	L12110784-29	NI.121012.174308	12/10/12 17:43	02

Report Name: BLANK_SUMMARY
 PDF File ID: 2687222
 Report generated 12/11/2012 10:34



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/04/12 11:56 Sample ID: WG415701-02
 Instrument ID: ICP-MS2 Run Date: 12/05/12 10:15 Prep Method: 3015
 File ID: NI.120512.101554 Analyst: JYH Method: 6020
 Workgroup (AAB#): WG415785 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: ICP-MS - 05-DEC-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Antimony, Total	0.000500	0.00100	0.000500	1	U
Arsenic, Total	0.000500	0.00100	0.000500	1	U
Lead, Total	0.000500	0.00100	0.000500	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.000100	0.000200	0.000100	1	U

MDL Method Detection Limit
 RL Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > RL

Report Name: BLANK
 PDF ID: 2687223
 11-DEC-2012 09:59



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/06/12 07:37 Sample ID: WG415872-02
 Instrument ID: ICP-MS2 Run Date: 12/06/12 15:16 Prep Method: 3015
 File ID: NI.120612.151632 Analyst: JYH Method: 6020
 Workgroup (AAB#): WG415951 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: ICP-MS - 06-DEC-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Antimony, Total	0.000500	0.00100	0.000500	1	U
Arsenic, Total	0.000500	0.00100	0.000500	1	U
Lead, Total	0.000500	0.00100	0.000500	1	U
Selenium, Total	0.000500	0.00100	0.000500	1	U
Thallium, Total	0.000100	0.000200	0.000100	1	U

MDL Method Detection Limit
 RL Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > RL

Report Name: BLANK
 PDF ID: 2687223
 11-DEC-2012 09:59



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415701-03
 Instrument ID: ICP-MS2 Run Time: 10:22 Prep Method: 3015
 File ID: NI.120512.102239 Analyst: JYH Method: 6020
 Workgroup (AAB#): WG415785 Matrix: Water Units: mg/L
 QC Key: WATERLOO Lot#: STD53323 Cal ID: ICP-MS - 05-DEC-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Antimony, Total	0.0625	0.0628	101	80 - 120	
Arsenic, Total	0.0625	0.0624	99.8	80 - 120	
Lead, Total	0.0625	0.0610	97.6	80 - 120	
Selenium, Total	0.0625	0.0635	102	80 - 120	
Thallium, Total	0.0625	0.0614	98.2	80 - 120	

LCS - Modified 03/06/2008
 PDF File ID: 2687224
 Report generated: 12/11/2012 09:59



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415872-03
Instrument ID: ICP-MS2 Run Time: 15:19 Prep Method: 3015
File ID: NI.120612.151954 Analyst: JYH Method: 6020
Workgroup (AAB#): WG415951 Matrix: Water Units: mg/L
QC Key: WATERLOO Lot#: STD53323 Cal ID: ICP-MS - 06-DEC-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Antimony, Total	0.0625	0.0629	101	80 - 120	
Arsenic, Total	0.0625	0.0624	99.9	80 - 120	
Lead, Total	0.0625	0.0635	102	80 - 120	
Selenium, Total	0.0625	0.0622	99.5	80 - 120	
Thallium, Total	0.0625	0.0621	99.4	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 2687224
Report generated: 12/11/2012 09:59



MS/MSD REPORT

Loginum: L12110784 Cal ID: ICP-MS2- 05-DEC-12 Worknum: WG415785
 Instrument ID: ICP-MS2 Contract #: _____ Prep Method: 3015
 Parent ID: L12110784-10 File ID: NI.120512.102602 Dil: 1 Method: 6020
 Sample ID: L12110784-12 MS File ID: NI.120512.102923 Dil: 1 Matrix: Water
 Sample ID: L12110784-14 MSD File ID: NI.120512.103246 Dil: 1 Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Total	0.00342	0.0625	0.0679	103	0.0625	0.0661	100	2.68	80 - 120	20	
Arsenic, Total	0.0329	0.0625	0.102	110	0.0625	0.0983	105	3.46	80 - 120	20	
Lead, Total	0.00762	0.0625	0.0774	112	0.0625	0.0764	110	1.33	80 - 120	20	
Selenium, Total	0.00260	0.0625	0.0694	107	0.0625	0.0680	105	2.04	80 - 120	20	
Thallium, Total	U	0.0625	0.0674	108	0.0625	0.0657	105	2.44	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
 PDF File ID: 2687225
 Report generated 12/11/2012 09:59



MS/MSD REPORT

Loginum: L12110784 Cal ID: ICP-MS2- 06-DEC-12 Worknum: WG415951
 Instrument ID: ICP-MS2 Contract #: _____ Prep Method: 3015
 Parent ID: L12110784-11 File ID: NI.120612.152317 Dil: 1 Method: 6020
 Sample ID: L12110784-13 MS File ID: NI.120612.152639 Dil: 1 Matrix: Water
 Sample ID: L12110784-15 MSD File ID: NI.120612.153002 Dil: 1 Units: mg/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Antimony, Dissolved	0.00336	0.0625	0.0697	106	0.0625	0.0685	104	1.73	80 - 120	20	
Arsenic, Dissolved	0.0345	0.0625	0.103	110	0.0625	0.0989	103	4.53	80 - 120	20	
Lead, Dissolved	U	0.0625	0.0699	112	0.0625	0.0683	109	2.34	80 - 120	20	
Selenium, Dissolved	0.00245	0.0625	0.0706	109	0.0625	0.0673	104	4.73	80 - 120	20	
Thallium, Dissolved	U	0.0625	0.0674	108	0.0625	0.0662	106	1.72	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008
 PDF File ID: 2687225
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12110784 Worknum: WG415785
Instrument: ICP-MS2 Method: 6020
Serial Dil: WG415785-02 File ID: NI.120512.104254 Dil: 5 Units: ug/L
Sample: L12110784-01 File ID: NI.120512.103609 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	ND	U	ND	U		
Arsenic	ND	U	ND	U		
Lead	ND	U	ND	U		
Selenium	ND	U	ND	U		
Thallium	ND	U	ND	U		

U = Result is below MDL.
F = Result is greater than or equal to MDL and less than the RL.
X = Result is greater than or equal to RL and less than 100 times the MDL.
E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008
PDF File ID: 2687219
12/11/2012 09:59



Microbac Laboratories Inc.
Serial Dilution Report

Login: L12110784 Worknum: WG415951
Instrument: ICP-MS2 Method: 6020
Serial Dil: WG415951-02 File ID: NI.120612.154332 Dil: 5 Units: ug/L
Sample: L12110784-20 File ID: NI.120612.153647 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Antimony	0.466	X	1.07	F	129.00	
Arsenic	0.886	X	1.90	F	114.00	
Lead	0.220	F	ND	U		
Selenium	3.78	X	5.74	X	51.60	
Thallium	0.223	X	0.664	X	197.00	

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 2687219

12/11/2012 09:59



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784

Worknum: WG415785

Instrument ID: ICP-MS2

Method: 6020

Post Spike ID: WG415785-01

File ID: NI.120512.103931

Dil: 1

Units: ug/L

Sample ID: L12110784-01

File ID: NI.120512.103609

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	46.8		0	U	50	93.6	75 - 125	
ARSENIC	44.4		0	U	50	88.7	75 - 125	
LEAD	49.7		0	U	50	99.4	75 - 125	
SELENIUM	41.8		0	U	50	83.7	75 - 125	
THALLIUM	47.4		0	U	50	94.9	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2687220
Report generated: 12/11/2012 09:59



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784

Worknum: WG415951

Instrument ID: ICP-MS2

Method: 6020

Post Spike ID: WG415951-01

File ID: NI.120612.154009

Dil: 1

Units: ug/L

Sample ID: L12110784-20

File ID: NI.120612.153647

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ANTIMONY	49.2		0.466		50	97.5	75 - 125	
ARSENIC	48.9		0.886		50	96.1	75 - 125	
LEAD	52.7		0.220	F	50	104.9	75 - 125	
SELENIUM	48.8		3.78		50	90.0	75 - 125	
THALLIUM	51.5		0.223		50	102.5	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2687220
Report generated: 12/11/2012 09:59



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12110784</u>	Workgroup (AAB#):	<u>WG415785</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ICP-MS2</u>
ICAL Worknum:	<u>WG415858</u>	Initial Calibration Date:	<u>05-DEC-2012 09:48</u>

	WG415858-01		WG415858-02		WG415858-03		WG415858-04		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
ANTIMONY	0	13.1	.4	262	50	246000	100	480000	.999997	
ARSENIC	0	-286	.4	-194	50	71100	100	140000	.999967	
LEAD	0	274	.4	658	50	386000	100	751000	.999982	
SELENIUM	0	0.500	.4	8.80	50	6610	100	13000	.999979	
THALLIUM	0	4.00	.4	368	50	350000	100	675000	.999998	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12110784</u>	Workgroup (AAB#):	<u>WG415951</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ICP-MS2</u>
ICAL Worknum:	<u>WG415970</u>	Initial Calibration Date:	<u>06-DEC-2012 11:18</u>

	WG415970-01		WG415970-02		WG415970-03		WG415970-04		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
ANTIMONY	0	83.8	.4	479	50	336000	100	679000	.999971	
ARSENIC	0	-425	.4	-270	50	91800	100	186000	.999905	
LEAD	0	388	.4	1000	50	575000	100	1160000	.999914	
SELENIUM	0	4.70	.4	20.3	50	8310	100	17000	.999834	
THALLIUM	0	122	.4	674	50	492000	100	973000	.999994	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L12110784</u>	Workgroup (AAB#):	<u>WG415951</u>
Analytical Method:	<u>6020</u>	Instrument ID:	<u>ICP-MS2</u>
ICAL Worknum:	<u>WG416201</u>	Initial Calibration Date:	<u>10-DEC-2012 10:08</u>

	WG416201-01		WG416201-02		WG416201-03		WG416201-04		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
ANTIMONY	0	11.2	.4	334	50	300000	100	543000	.999921	
ARSENIC	0	-441	.4	-385	50	82600	100	156000	.999982	
LEAD	0	333	.4	850	50	496000	100	893000	.999946	
SELENIUM	0	17.3	.4	20.0	50	7960	100	14900	.999996	
THALLIUM	0	2.00	.4	433	50	392000	100	702000	.999898	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-06
Instrument ID: ICP-MS2 Run Time: 09:55 Method: 6020
File ID: NI.120512.095532 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415785 Cal ID: ICP-MS2 - 05-DEC-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ARSENIC	.2	.4	.2	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

ICB - Modified 07/14/2009
PDF File ID: 2687232
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-06
Instrument ID: ICP-MS2 Run Time: 11:25 Method: 6020
File ID: NI.120612.112516 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415951 Cal ID: ICP-MS2 - 06-DEC-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ARSENIC	.2	.4	.2	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

ICB - Modified 07/14/2009
PDF File ID: 2687232
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-06
Instrument ID: ICP-MS2 Run Time: 10:14 Method: 6020
File ID: NI.121012.101453 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415951 Cal ID: ICP-MS2 - 10-DEC-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ARSENIC	.2	.4	.2	U
LEAD	.2	.4	.2	U
ANTIMONY	.2	.4	.2	U
SELENIUM	.2	.4	.2	U
THALLIUM	.04	.08	.04	U

ICB - Modified 07/14/2009
PDF File ID: 2687232
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-11
Instrument ID: ICP-MS2 Run Time: 10:12 Method: 6020
File ID: NI.120512.101229 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2687235
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-13
Instrument ID: ICP-MS2 Run Time: 10:53 Method: 6020
File ID: NI.120512.105303 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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PDF File ID: 2687235
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-15
 Instrument ID: ICP-MS2 Run Time: 11:27 Method: 6020
 File ID: NI.120512.112700 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2687235
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-17
Instrument ID: ICP-MS2 Run Time: 11:44 Method: 6020
File ID: NI.120512.114415 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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PDF File ID: 2687235
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-19
Instrument ID: ICP-MS2 Run Time: 12:25 Method: 6020
File ID: NI.120512.122503 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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PDF File ID: 2687235
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-23
Instrument ID: ICP-MS2 Run Time: 13:06 Method: 6020
File ID: NI.120512.130608 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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PDF File ID: 2687235
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-11
Instrument ID: ICP-MS2 Run Time: 11:44 Method: 6020
File ID: NI.120612.114439 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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PDF File ID: 2687235
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-23
 Instrument ID: ICP-MS2 Run Time: 15:08 Method: 6020
 File ID: NI.120612.150817 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-25
 Instrument ID: ICP-MS2 Run Time: 15:53 Method: 6020
 File ID: NI.120612.155342 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2687235
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-27
 Instrument ID: ICP-MS2 Run Time: 16:34 Method: 6020
 File ID: NI.120612.163419 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.823	*
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

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 PDF File ID: 2687235
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-31
Instrument ID: ICP-MS2 Run Time: 16:49 Method: 6020
File ID: NI.120612.164906 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2687235
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-12
 Instrument ID: ICP-MS2 Run Time: 10:37 Method: 6020
 File ID: NI.121012.103758 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

CCB - Modified 03/05/2008
 PDF File ID: 2687235
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-25
Instrument ID: ICP-MS2 Run Time: 16:15 Method: 6020
File ID: NI.121012.161513 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2687235
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-29
 Instrument ID: ICP-MS2 Run Time: 16:49 Method: 6020
 File ID: NI.121012.164901 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

CCB - Modified 03/05/2008
 PDF File ID: 2687235
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-31
 Instrument ID: ICP-MS2 Run Time: 17:29 Method: 6020
 File ID: NI.121012.172936 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

CCB - Modified 03/05/2008
 PDF File ID: 2687235
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-33
Instrument ID: ICP-MS2 Run Time: 18:03 Method: 6020
File ID: NI.121012.180325 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-37
Instrument ID: ICP-MS2 Run Time: 18:20 Method: 6020
File ID: NI.121012.182023 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Antimony	0.200	0.400	0.200	U
Arsenic	0.200	0.400	0.200	U
Lead	0.200	0.400	0.200	U
Selenium	0.200	0.400	0.200	U
Thallium	0.0400	0.0800	0.0400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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PDF File ID: 2687235
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-05
 Instrument ID: ICP-MS2 Run Time: 09:52 Method: 6020
 File ID: NI.120512.095208 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
 QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	49.4	98.8	90 - 110	
Arsenic	50	49.5	98.9	90 - 110	
Lead	50	49.4	98.9	90 - 110	
Selenium	50	50.0	100	90 - 110	
Thallium	50	49.5	99.1	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-05
 Instrument ID: ICP-MS2 Run Time: 10:11 Method: 6020
 File ID: NI.121012.101129 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	51.0	102	90 - 110	
Arsenic	50	50.0	100	90 - 110	
Lead	50	51.1	102	90 - 110	
Selenium	50	50.5	101	90 - 110	
Thallium	50	50.9	102	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
 INITIAL CALIBRATION VERIFICATION (ICV)
 (Alternate Source)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-05
 Instrument ID: ICP-MS2 Run Time: 11:21 Method: 6020
 File ID: NI.120612.112153 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
 QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Antimony	50	49.7	99.4	90 - 110	
Arsenic	50	49.4	98.7	90 - 110	
Lead	50	49.8	99.5	90 - 110	
Selenium	50	49.4	98.8	90 - 110	
Thallium	50	49.7	99.3	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-10
 Instrument ID: ICP-MS2 Run Time: 10:09 Method: 6020
 File ID: NI.120512.100907 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	50.0	51.5	ug/L	103	90 - 110		
Arsenic	50.0	49.9	ug/L	99.9	90 - 110		
Lead	50.0	50.9	ug/L	102	90 - 110		
Selenium	50.0	49.9	ug/L	99.8	90 - 110		
Thallium	50.0	50.5	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

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 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-12
 Instrument ID: ICP-MS2 Run Time: 10:49 Method: 6020
 File ID: NI.120512.104941 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	50.0	50.8	ug/L	102	90 - 110		
Arsenic	50.0	48.7	ug/L	97.3	90 - 110		
Lead	50.0	51.0	ug/L	102	90 - 110		
Selenium	50.0	47.7	ug/L	95.4	90 - 110		
Thallium	50.0	49.6	ug/L	99.2	90 - 110		

* Exceeds LIMITS Criteria

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 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-14
 Instrument ID: ICP-MS2 Run Time: 11:23 Method: 6020
 File ID: NI.120512.112329 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Antimony	50.0	52.3	ug/L	105	90 - 110	
Arsenic	50.0	50.5	ug/L	101	90 - 110	
Lead	50.0	52.9	ug/L	106	90 - 110	
Selenium	50.0	49.6	ug/L	99.3	90 - 110	
Thallium	50.0	50.8	ug/L	102	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-16
 Instrument ID: ICP-MS2 Run Time: 11:40 Method: 6020
 File ID: NI.120512.114053 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	50.0	50.5	ug/L	101	90 - 110		
Arsenic	50.0	49.1	ug/L	98.1	90 - 110		
Lead	50.0	52.2	ug/L	104	90 - 110		
Selenium	50.0	48.2	ug/L	96.5	90 - 110		
Thallium	50.0	49.5	ug/L	99.0	90 - 110		

* Exceeds LIMITS Criteria

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 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-18
 Instrument ID: ICP-MS2 Run Time: 12:21 Method: 6020
 File ID: NI.120512.122141 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Antimony	50.0	50.7	ug/L	101	90 - 110	
Arsenic	50.0	49.2	ug/L	98.5	90 - 110	
Lead	50.0	51.8	ug/L	104	90 - 110	
Selenium	50.0	48.3	ug/L	96.5	90 - 110	
Thallium	50.0	49.8	ug/L	99.6	90 - 110	

* Exceeds LIMITS Criteria

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 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-22
 Instrument ID: ICP-MS2 Run Time: 13:02 Method: 6020
 File ID: NI.120512.130246 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	50.0	51.4	ug/L	103	90 - 110		
Arsenic	50.0	50.9	ug/L	102	90 - 110		
Lead	50.0	51.4	ug/L	103	90 - 110		
Selenium	50.0	50.6	ug/L	101	90 - 110		
Thallium	50.0	50.4	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

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 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-10
 Instrument ID: ICP-MS2 Run Time: 11:41 Method: 6020
 File ID: NI.120612.114117 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Antimony	50.0	51.0	ug/L	102	90 - 110	
Arsenic	50.0	50.1	ug/L	100	90 - 110	
Lead	50.0	51.6	ug/L	103	90 - 110	
Selenium	50.0	50.2	ug/L	100	90 - 110	
Thallium	50.0	50.5	ug/L	101	90 - 110	

* Exceeds LIMITS Criteria

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 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-22
 Instrument ID: ICP-MS2 Run Time: 15:04 Method: 6020
 File ID: NI.120612.150454 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	50.0	51.7	ug/L	103	90 - 110		
Arsenic	50.0	49.3	ug/L	98.7	90 - 110		
Lead	50.0	51.4	ug/L	103	90 - 110		
Selenium	50.0	49.3	ug/L	98.6	90 - 110		
Thallium	50.0	49.4	ug/L	98.7	90 - 110		

* Exceeds LIMITS Criteria

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 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-24
 Instrument ID: ICP-MS2 Run Time: 15:50 Method: 6020
 File ID: NI.120612.155019 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	50.0	49.8	ug/L	99.7	90 - 110		
Arsenic	50.0	50.2	ug/L	100	90 - 110		
Lead	50.0	52.3	ug/L	105	90 - 110		
Selenium	50.0	51.0	ug/L	102	90 - 110		
Thallium	50.0	50.3	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

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 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-26
 Instrument ID: ICP-MS2 Run Time: 16:30 Method: 6020
 File ID: NI.120612.163057 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Antimony	50.0	49.8	ug/L	99.5	90 - 110	
Arsenic	50.0	49.1	ug/L	98.1	90 - 110	
Lead	50.0	55.9	ug/L	112	90 - 110	*
Selenium	50.0	51.7	ug/L	103	90 - 110	
Thallium	50.0	50.9	ug/L	102	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-30
 Instrument ID: ICP-MS2 Run Time: 16:45 Method: 6020
 File ID: NI.120612.164543 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	50.0	52.3	ug/L	105	90 - 110		
Arsenic	50.0	49.5	ug/L	99.1	90 - 110		
Lead	50.0	54.9	ug/L	110	90 - 110		
Selenium	50.0	49.9	ug/L	99.7	90 - 110		
Thallium	50.0	50.6	ug/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-11
 Instrument ID: ICP-MS2 Run Time: 10:34 Method: 6020
 File ID: NI.121012.103436 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Antimony	50.0	51.1	ug/L	102	90 - 110	
Arsenic	50.0	49.6	ug/L	99.2	90 - 110	
Lead	50.0	51.0	ug/L	102	90 - 110	
Selenium	50.0	49.6	ug/L	99.2	90 - 110	
Thallium	50.0	50.2	ug/L	100	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-24
 Instrument ID: ICP-MS2 Run Time: 16:11 Method: 6020
 File ID: NI.121012.161150 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	50.0	52.8	ug/L	106	90 - 110		
Arsenic	50.0	52.0	ug/L	104	90 - 110		
Lead	50.0	49.8	ug/L	99.6	90 - 110		
Selenium	50.0	51.7	ug/L	103	90 - 110		
Thallium	50.0	51.3	ug/L	103	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-28
 Instrument ID: ICP-MS2 Run Time: 16:45 Method: 6020
 File ID: NI.121012.164538 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	50.0	53.4	ug/L	107	90 - 110		
Arsenic	50.0	52.0	ug/L	104	90 - 110		
Lead	50.0	50.7	ug/L	101	90 - 110		
Selenium	50.0	51.4	ug/L	103	90 - 110		
Thallium	50.0	51.4	ug/L	103	90 - 110		

* Exceeds LIMITS Criteria

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 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-30
 Instrument ID: ICP-MS2 Run Time: 17:26 Method: 6020
 File ID: NI.121012.172613 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	50.0	55.2	ug/L	110	90 - 110		
Arsenic	50.0	51.1	ug/L	102	90 - 110		
Lead	50.0	52.3	ug/L	105	90 - 110		
Selenium	50.0	49.9	ug/L	99.7	90 - 110		
Thallium	50.0	50.9	ug/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-32
 Instrument ID: ICP-MS2 Run Time: 18:00 Method: 6020
 File ID: NI.121012.180002 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	50.0	54.9	ug/L	110	90 - 110		
Arsenic	50.0	51.0	ug/L	102	90 - 110		
Lead	50.0	54.7	ug/L	109	90 - 110		
Selenium	50.0	52.1	ug/L	104	90 - 110		
Thallium	50.0	51.4	ug/L	103	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-36
 Instrument ID: ICP-MS2 Run Time: 18:17 Method: 6020
 File ID: NI.121012.181700 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Antimony	50.0	55.5	ug/L	111	90 - 110	*
Arsenic	50.0	50.7	ug/L	101	90 - 110	
Lead	50.0	53.7	ug/L	107	90 - 110	
Selenium	50.0	51.2	ug/L	102	90 - 110	
Thallium	50.0	51.1	ug/L	102	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2687234
 Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
 LOW LEVEL CALIBRATION VERIFICATION

Login Number: L12110784 Run Date: 12/05/2012 Sample ID: WG415858-07
 Instrument ID: ICP-MS2 Run Time: 09:58 Method: 6020
 File ID: NI.120512.095857 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415785 Cal ID: ICP-MS - 05-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	0.400	0.429	ug/L	107	50 - 150		
Arsenic	0.400	0.357	ug/L	89.3	50 - 150		
Lead	0.200	0.191	ug/L	95.5	50 - 150		
Selenium	0.400	0.335	ug/L	83.7	50 - 150		
Thallium	0.0800	0.0785	ug/L	98.1	50 - 150		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
 PDF File ID: 2693164
 Report generated 12/11/2012 10:00



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415970-07
 Instrument ID: ICP-MS2 Run Time: 11:28 Method: 6020
 File ID: NI.120612.112839 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS		Q
Antimony	0.400	0.395	ug/L	98.8	50 - 150		
Arsenic	0.400	0.382	ug/L	95.4	50 - 150		
Lead	0.200	0.193	ug/L	96.4	50 - 150		
Selenium	0.400	0.359	ug/L	89.6	50 - 150		
Thallium	0.0800	0.0681	ug/L	85.1	50 - 150		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
 PDF File ID: 2693164
 Report generated 12/11/2012 10:00



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-08
 Instrument ID: ICP-MS2 Run Time: 10:24 Method: 6020
 File ID: NI.121012.102416 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Antimony	0.400	0.401	ug/L	100	50 - 150	
Arsenic	0.400	0.421	ug/L	105	50 - 150	
Lead	0.200	0.199	ug/L	99.4	50 - 150	
Selenium	0.400	0.406	ug/L	101	50 - 150	
Thallium	0.0800	0.0746	ug/L	93.3	50 - 150	

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
 PDF File ID: 2693164
 Report generated 12/11/2012 10:00



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L12110784 Run Date: 12/10/2012 Sample ID: WG416201-19
 Instrument ID: ICP-MS2 Run Time: 12:37 Method: 6020
 File ID: NI.121012.123714 Analyst: JYH QC Key: WATERLOO
 Workgroup (AAB#): WG415951 Cal ID: ICP-MS - 10-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Antimony	0.400	0.409	ug/L	102	50 - 150	
Arsenic	0.400	0.344	ug/L	85.9	50 - 150	
Lead	0.200	0.206	ug/L	103	50 - 150	
Selenium	0.400	0.204	ug/L	50.9	50 - 150	
Thallium	0.0800	0.0801	ug/L	100	50 - 150	

* Exceeds LIMITS Criteria



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG415858-08
Sol. AB: WG415858-09

File ID: NI.120512.100219
File ID: NI.120512.100542

Workgroup (AAB#): WG415785
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0585	NS	100	95.5	95.5	
Arsenic	NS	-0.0108	NS	100	94.3	94.3	
Lead	NS	0.0637	NS	100	94.7	94.7	
Selenium	NS	-0.0101	NS	100	94.0	94.0	
Thallium	NS	0.0346	NS	100	94.0	94.0	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG415858-20
Sol. AB: WG415858-21

File ID: NI.120512.125558
File ID: NI.120512.125921

Workgroup (AAB#): WG415785
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0429	NS	100	96.7	96.7	
Arsenic	NS	0.0343	NS	100	95.7	95.7	
Lead	NS	0.0599	NS	100	97.4	97.4	
Selenium	NS	0.151	NS	100	96.0	96.0	
Thallium	NS	0.0247	NS	100	94.1	94.1	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG415970-08
Sol. AB: WG415970-09

File ID: NI.120612.113201
File ID: NI.120612.113523

Workgroup (AAB#): WG415785
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0377	NS	100	93.9	93.9	
Arsenic	NS	-0.0196	NS	100	93.6	93.6	
Lead	NS	0.0590	NS	100	93.8	93.8	
Selenium	NS	-0.0350	NS	100	92.8	92.8	
Thallium	NS	0.0315	NS	100	92.8	92.8	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A : WG415970-28
Sol. AB : WG415970-29

File ID: NI.120612.163855
File ID: NI.120612.164218

Workgroup (AAB#): WG415785
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0305	NS	100	94.7	94.7	
Arsenic	NS	0.0469	NS	100	93.1	93.1	
Lead	NS	0.0600	NS	100	99.9	99.9	
Selenium	NS	0.395	NS	100	93.7	93.7	
Thallium	NS	0.00650	NS	100	93.5	93.5	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG416201-09
Sol. AB: WG416201-10

File ID: NI.121012.102737
File ID: NI.121012.103100

Workgroup (AAB#): WG415785
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0407	NS	100	97.3	97.3	
Arsenic	NS	-0.0241	NS	100	97.5	97.5	
Lead	NS	0.0360	NS	100	99.1	99.1	
Selenium	NS	0.0218	NS	100	97.2	97.2	
Thallium	NS	0.0144	NS	100	96.9	96.9	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG416201-26
Sol. AB: WG416201-27

File ID: NI.121012.163851
File ID: NI.121012.164214

Workgroup (AAB#): WG415785
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0357	NS	100	102	102	
Arsenic	NS	0.0505	NS	100	102	102	
Lead	NS	0.0332	NS	100	96.2	96.2	
Selenium	NS	0.107	NS	100	101	101	
Thallium	NS	0.0152	NS	100	97.5	97.5	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG416201-34
Sol. AB: WG416201-35

File ID: NI.121012.181013
File ID: NI.121012.181335

Workgroup (AAB#): WG415785
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0409	NS	100	107	107	
Arsenic	NS	0.0278	NS	100	102	102	
Lead	NS	0.0397	NS	100	102	102	
Selenium	NS	0.103	NS	100	103	103	
Thallium	NS	0.0176	NS	100	96.9	96.9	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG415858-08
Sol. AB: WG415858-09

File ID: NI.120512.100219
File ID: NI.120512.100542

Workgroup (AAB#): WG415951
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0585	NS	100	95.5	95.5	
Arsenic	NS	-0.0108	NS	100	94.3	94.3	
Lead	NS	0.0637	NS	100	94.7	94.7	
Selenium	NS	-0.0101	NS	100	94.0	94.0	
Thallium	NS	0.0346	NS	100	94.0	94.0	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG415858-20
Sol. AB: WG415858-21

File ID: NI.120512.125558
File ID: NI.120512.125921

Workgroup (AAB#): WG415951
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0429	NS	100	96.7	96.7	
Arsenic	NS	0.0343	NS	100	95.7	95.7	
Lead	NS	0.0599	NS	100	97.4	97.4	
Selenium	NS	0.151	NS	100	96.0	96.0	
Thallium	NS	0.0247	NS	100	94.1	94.1	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG415970-08
Sol. AB: WG415970-09

File ID: NI.120612.113201
File ID: NI.120612.113523

Workgroup (AAB#): WG415951
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0377	NS	100	93.9	93.9	
Arsenic	NS	-0.0196	NS	100	93.6	93.6	
Lead	NS	0.0590	NS	100	93.8	93.8	
Selenium	NS	-0.0350	NS	100	92.8	92.8	
Thallium	NS	0.0315	NS	100	92.8	92.8	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG415970-28
Sol. AB: WG415970-29

File ID: NI.120612.163855
File ID: NI.120612.164218

Workgroup (AAB#): WG415951
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0305	NS	100	94.7	94.7	
Arsenic	NS	0.0469	NS	100	93.1	93.1	
Lead	NS	0.0600	NS	100	99.9	99.9	
Selenium	NS	0.395	NS	100	93.7	93.7	
Thallium	NS	0.00650	NS	100	93.5	93.5	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG416201-09
Sol. AB: WG416201-10

File ID: NI.121012.102737
File ID: NI.121012.103100

Workgroup (AAB#): WG415951
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0407	NS	100	97.3	97.3	
Arsenic	NS	-0.0241	NS	100	97.5	97.5	
Lead	NS	0.0360	NS	100	99.1	99.1	
Selenium	NS	0.0218	NS	100	97.2	97.2	
Thallium	NS	0.0144	NS	100	96.9	96.9	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

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ICS - Modified 03/06/2008
PDF File ID: 2687233
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG416201-26
Sol. AB: WG416201-27

File ID: NI.121012.163851
File ID: NI.121012.164214

Workgroup (AAB#): WG415951
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0357	NS	100	102	102	
Arsenic	NS	0.0505	NS	100	102	102	
Lead	NS	0.0332	NS	100	96.2	96.2	
Selenium	NS	0.107	NS	100	101	101	
Thallium	NS	0.0152	NS	100	97.5	97.5	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L12110784
Instrument ID: ICP-MS2
Sol. A: WG416201-34
Sol. AB: WG416201-35

File ID: NI.121012.181013
File ID: NI.121012.181335

Workgroup (AAB#): WG415951
Method: 6020
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Antimony	NS	0.0409	NS	100	107	107	
Arsenic	NS	0.0278	NS	100	102	102	
Lead	NS	0.0397	NS	100	102	102	
Selenium	NS	0.103	NS	100	103	103	
Thallium	NS	0.0176	NS	100	96.9	96.9	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



CRI - Modified 03/06/2008
PDF File ID: 2693162
Report generated 12/11/2012 09:59



CRI - Modified 03/06/2008
PDF File ID: 2693162
Report generated 12/11/2012 09:59



Microbac Laboratories Inc.

INTERNAL STANDARD REPORT

Login: L12110784 Analytical Method: 6020
 Analytical Workgroup: WG415785 Matrix: 1
 Instrument: ICP-MS2 Analyst: JYH
 ICAL Date: 05-DEC-2012 09:38

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
L12110784-01	SAMP	05-DEC-2012 10:36	103.67	104.878	103.389
L12110784-02	SAMP	05-DEC-2012 11:09	69.76	80.07	78.438
L12110784-03	SAMP	05-DEC-2012 11:13	71.617	83.047	80.727
L12110784-04	SAMP	05-DEC-2012 11:47	62.187	74.68	73.888
L12110784-04	SAMP	05-DEC-2012 12:28	86.841	88.213	87.09
L12110784-05	SAMP	05-DEC-2012 11:51	64.228	75.17	74.331
L12110784-05	SAMP	05-DEC-2012 12:31	88.109	90.013	88.535
L12110784-06	SAMP	05-DEC-2012 11:54	75.105	83.598	80.842
L12110784-07	SAMP	05-DEC-2012 11:58	73.977	86.841	83.754
L12110784-08	SAMP	05-DEC-2012 12:01	79.914	96.782	92.725
L12110784-09	SAMP	05-DEC-2012 12:04	78.826	92.337	90.811
L12110784-10	SAMP	05-DEC-2012 10:26	82.358	96.858	93.409
L12110784-12	SAMP	05-DEC-2012 10:29	83.362	96.613	95.146
L12110784-14	SAMP	05-DEC-2012 10:32	86.19	99.59	97.808
L12110784-16	SAMP	05-DEC-2012 12:08	69.455	85.588	83.086
L12110784-17	SAMP	05-DEC-2012 12:11	69.053	84.341	81.43
L12110784-18	SAMP	05-DEC-2012 12:14	79.205	93.051	90.645
WG415701-02	BLANK	05-DEC-2012 10:15	101.666	103.511	102.501
WG415701-03	LCS	05-DEC-2012 10:22	97.964	98.529	97.978
WG415785-01	PSPK	05-DEC-2012 10:39	105.44	107.898	107.048
WG415785-02	SERIAL	05-DEC-2012 10:42	99.099	94.473	93.499
WG415858-05	ICV	05-DEC-2012 09:52	98.949	102.551	101.838
WG415858-06	ICB	05-DEC-2012 09:55	103.893	106.006	104.675
WG415858-07	LLICV	05-DEC-2012 09:58	99.608	101.48	98.924
WG415858-08	ICS	05-DEC-2012 10:02	97.096	102.337	99.581
WG415858-09	ICS	05-DEC-2012 10:05	98.521	103.841	100.495
WG415858-10	CCV	05-DEC-2012 10:09	98.835	104.017	101.25
WG415858-11	CCB	05-DEC-2012 10:12	101.024	102.642	101.766
WG415858-12	CCV	05-DEC-2012 10:49	97.696	101.24	99.157
WG415858-13	CCB	05-DEC-2012 10:53	98.374	99.488	98.623
WG415858-14	CCV	05-DEC-2012 11:23	95.458	99.653	98.2
WG415858-15	CCB	05-DEC-2012 11:27	97.187	97.955	97.807
WG415858-16	CCV	05-DEC-2012 11:40	95.159	103.312	102.094
WG415858-17	CCB	05-DEC-2012 11:44	94.257	97.408	97.086
WG415858-18	CCV	05-DEC-2012 12:21	90.38	95.935	95.028
WG415858-19	CCB	05-DEC-2012 12:25	91.117	94.596	93.505
WG415858-20	ICS	05-DEC-2012 12:55	85.551	95.179	92.416
WG415858-21	ICS	05-DEC-2012 12:59	87.389	96.274	93.985
WG415858-22	CCV	05-DEC-2012 13:02	87.688	95.358	94.555
WG415858-23	CCB	05-DEC-2012 13:06	87.688	94.258	93.035

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2687228
 Report generated: 12/11/2012 09:58



INTERNAL STANDARD REPORT

Login: L12110784 Analytical Method: 6020
 Analytical Workgroup: WG415951 Matrix: 1
 Instrument: ICP-MS2 Analyst: JYH
 ICAL Date: 06-DEC-2012 11:08

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
L12110784-11	SAMP	06-DEC-2012 15:23	78.579	86.221	86.639
L12110784-13	SAMP	06-DEC-2012 15:26	79.538	86.899	87.997
L12110784-15	SAMP	06-DEC-2012 15:30	78.83	85.955	86.045
L12110784-19	SAMP	06-DEC-2012 15:33	82.164	89.181	89.869
L12110784-20	SAMP	06-DEC-2012 15:36	73.399	80.228	81.091
L12110784-21	SAMP	06-DEC-2012 15:57	75.574	88.091	88.215
L12110784-22	SAMP	06-DEC-2012 16:00	70.197	82.868	82.724
L12110784-23	SAMP	06-DEC-2012 16:03	70.4	81.885	81.601
L12110784-24	SAMP	06-DEC-2012 16:07	63.389	75.075	75.02
L12110784-25	SAMP	06-DEC-2012 16:10	63.073	75.906	74.902
L12110784-26	SAMP	06-DEC-2012 16:13	62.899	71.603	71.358
L12110784-27	SAMP	06-DEC-2012 16:17	63.168	69.9	69.759
L12110784-28	SAMP	06-DEC-2012 16:20	61.874	69.318	67.609
L12110784-29	SAMP	06-DEC-2012 16:24	62.966	70.365	69.966
WG415872-02	BLANK	06-DEC-2012 15:16	90.237	84.909	87.122
WG415872-03	LCS	06-DEC-2012 15:19	93.323	90.664	93.754
WG415951-01	PSPK	06-DEC-2012 15:40	76.105	85.678	86.247
WG415951-02	SERIAL	06-DEC-2012 15:43	84.989	83.67	83.532
WG415970-05	ICV	06-DEC-2012 11:21	100.926	103.084	102.638
WG415970-06	ICB	06-DEC-2012 11:25	98.819	98.773	99.316
WG415970-07	LLICV	06-DEC-2012 11:28	98.804	98.779	98.284
WG415970-08	ICS	06-DEC-2012 11:32	99.713	103.974	102.24
WG415970-09	ICS	06-DEC-2012 11:35	100.384	102.436	101.713
WG415970-10	CCV	06-DEC-2012 11:41	100.403	103.268	101.898
WG415970-11	CCB	06-DEC-2012 11:44	97.535	97.558	98.423
WG415970-22	CCV	06-DEC-2012 15:04	94.201	91.071	91.889
WG415970-23	CCB	06-DEC-2012 15:08	93.556	89.113	93.112
WG415970-24	CCV	06-DEC-2012 15:50	95	95.838	99.307
WG415970-25	CCB	06-DEC-2012 15:53	98.201	97.767	100.633
WG415970-26	CCV	06-DEC-2012 16:30	96.99	99.903	101.413
WG415970-27	CCB	06-DEC-2012 16:34	94.687	95.199	97.059
WG415970-28	ICS	06-DEC-2012 16:38	91.269	96.164	94.936
WG415970-29	ICS	06-DEC-2012 16:42	89.412	92.2	92.187
WG415970-30	CCV	06-DEC-2012 16:45	90.448	93.002	92.695
WG415970-31	CCB	06-DEC-2012 16:49	88.713	89.291	90.37

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2687228
 Report generated: 12/11/2012 09:58



INTERNAL STANDARD REPORT

Login: L12110784 Analytical Method: 6020
 Analytical Workgroup: WG415951 Matrix: 1
 Instrument: ICP-MS2 Analyst: JYH
 ICAL Date: 10-DEC-2012 09:57

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
L12110784-21	SAMP	10-DEC-2012 16:52	68.874	83.05	76.575
L12110784-22	SAMP	10-DEC-2012 16:55	66.068	81.22	74.349
L12110784-23	SAMP	10-DEC-2012 16:59	66.698	79.638	73.491
L12110784-24	SAMP	10-DEC-2012 17:02	59.188	70.342	64.985
L12110784-25	SAMP	10-DEC-2012 17:05	59.731	70.746	65.579
L12110784-26	SAMP	10-DEC-2012 17:33	57.629	67.093	62.259
L12110784-27	SAMP	10-DEC-2012 17:36	60.676	68.771	63.993
L12110784-28	SAMP	10-DEC-2012 17:39	60.711	67.893	63.057
L12110784-29	SAMP	10-DEC-2012 17:43	59.8	66.406	61.705
WG416201-05	ICV	10-DEC-2012 10:11	97.214	101.508	98.55
WG416201-06	ICB	10-DEC-2012 10:14	100.759	104.267	101.559
WG416201-08	LLICV	10-DEC-2012 10:24	102.216	104.82	101.171
WG416201-09	ICS	10-DEC-2012 10:27	95.515	102.5	97.944
WG416201-10	ICS	10-DEC-2012 10:31	97.393	103.5	98.954
WG416201-11	CCV	10-DEC-2012 10:34	96.528	101.514	97.71
WG416201-12	CCB	10-DEC-2012 10:37	101.775	105.053	100.834
WG416201-19	LLCCV	10-DEC-2012 12:37	100.791	104.848	101.709
WG416201-24	CCV	10-DEC-2012 16:11	87.807	94.442	87.069
WG416201-25	CCB	10-DEC-2012 16:15	87.177	92.569	85.986
WG416201-26	ICS	10-DEC-2012 16:38	84.492	90.716	84.335
WG416201-27	ICS	10-DEC-2012 16:42	84.587	90.121	83.225
WG416201-28	CCV	10-DEC-2012 16:45	88.003	94.1	87.75
WG416201-29	CCB	10-DEC-2012 16:49	85.791	89.545	83.742
WG416201-30	CCV	10-DEC-2012 17:26	84.889	88.292	82.78
WG416201-31	CCB	10-DEC-2012 17:29	86.641	88.804	83.963
WG416201-32	CCV	10-DEC-2012 18:00	88.418	89.758	85.314
WG416201-33	CCB	10-DEC-2012 18:03	87.681	87.615	83.014
WG416201-34	ICS	10-DEC-2012 18:10	83.766	88.571	82.215
WG416201-35	ICS	10-DEC-2012 18:13	81.699	84.497	77.966
WG416201-36	CCV	10-DEC-2012 18:17	85.592	87.613	82.054
WG416201-37	CCB	10-DEC-2012 18:20	86.827	86.152	81.4

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 2687228
 Report generated: 12/11/2012 09:58



Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L12110784 Date: 09/24/2012
Instrument ID: ICP-MS2 Method: 6020

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Uranium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:

All analytes passed acceptance criteria at the specified concentration.



2.2 Metals Data

2.2.3 Metals CVAA Data (Mercury)

2.2.3.1 Summary Data



Login Number: L12110784
Department: Metals - AA
Analyst: Pierce Morris
Analyst #2: Kim Rhodes

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: WG415763 - The laboratary control sample was in the wrong position in the autosampler and therefore was reanalyzed at 17:04. The laboratory control sample analyzed on 06-DEC-2012 at 17:04 was spiked at half the customary concentration,however, the acceptance criteria were met.
Serial Dilution/Post Digestion Spikes: WG415703 - All acceptance criteria were met.

WG415763 - All acceptance criteria were met.

WG415984 - All acceptance criteria were met.

Matrix Spikes: WG415703 - Sample 10 was chosen by the client for MS/MSD analysis. Samples 12(MS) and 14(MSD) met all acceptance criteria.

WG415763 - Sample 11 was chosen by the client for MS/MSD analysis. Samples 13(MS) and 15(MSD) yielded noncompliant recoveries for mercury.

SAMPLES

Samples: WG415703 - Due to a result that was noncompliant on the negative side upon initial analysis, mercury for client sample 08 was reported from a later reanalysis.

Narrative ID: 56827
Approved By: Maren Beery
Maren Beery

Certificate of Analysis

Sample #: L12110784-01	PrePrep Method: N/A	Instrument: HYDRA
Client ID: EB-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 12:57
Collect Date: 11/27/2012 08:00	Dilution: 1	File ID: HY.120412.125747
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 #: L12110784-02	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-04-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:03
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: HY.120412.130320
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 #: L12110784-03	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-04-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:04
Collect Date: 11/27/2012 09:35	Dilution: 1	File ID: HY.120412.130458
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.000148	J	0.000200	0.000100
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-04	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-03-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:06
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: HY.120412.130649
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

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 #: L12110784-05	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-03-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:08
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: HY.120412.130827
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 #: L12110784-06	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-06-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:10
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: HY.120412.131004
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.000212		0.000200	0.000100

Sample #: L12110784-07	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-06-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:12
Collect Date: 11/27/2012 10:00	Dilution: 1	File ID: HY.120412.131221
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.000129	J	0.000200	0.000100
J	The analyte was positively identified, but the quantitation was below the RL.				

Certificate of Analysis

Sample #: L12110784-08	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-01-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/17/2012 12:40
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/17/2012 13:02
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: HY.121712.130254
Sample Tag: 02	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 #: L12110784-09	PrePrep Method: N/A	Instrument: HYDRA
Client ID: PZ-01-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:16
Collect Date: 11/27/2012 10:55	Dilution: 1	File ID: HY.120412.131608
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 #: L12110784-10	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 12:49
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120412.124907
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 #: L12110784-11	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:45
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120612.174526
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

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 #: L12110784-12	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012-MS	Prep Method: 7470A	Prep Date: 12/04/2012 06:50
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 12:50
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120412.125043
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.00456		0.000222	0.000111

Sample #: L12110784-13	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012-MS	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:47
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120612.174704
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.00370		0.000222	0.000111

Sample #: L12110784-14	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012-MSD	Prep Method: 7470A	Prep Date: 12/04/2012 06:50
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 12:52
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120412.125223
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.00431		0.000222	0.000111

Sample #: L12110784-15	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-33-GW-11272012-MSD	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:49
Collect Date: 11/27/2012 11:10	Dilution: 1	File ID: HY.120612.174902
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.00361		0.000222	0.000111

Sample #: L12110784-16	PrePrep Method: N/A	Instrument: HYDRA
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:17
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: HY.120412.131758
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 #: L12110784-17	PrePrep Method: N/A	Instrument: HYDRA
Client ID: BLDG4-PIT-SSP-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 13:19
Collect Date: 11/27/2012 11:40	Dilution: 1	File ID: HY.120412.131937
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 #: L12110784-18	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-34-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:10
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: HY.120412.141043
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.				

Certificate of Analysis

Sample #: L12110784-19	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-34-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:12
Collect Date: 11/27/2012 12:40	Dilution: 1	File ID: HY.120412.141241
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 #: L12110784-20	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-22-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:14
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: HY.120412.141448
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 #: L12110784-21	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-22-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:17
Collect Date: 11/27/2012 15:10	Dilution: 1	File ID: HY.120412.141709
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury, Dissolved	7439-97-6	0.000133	J	0.000200	0.000100
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-22	PrePrep Method: N/A	Instrument: HYDRA
Client ID: DUP-GW-11272012-01	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:19
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: HY.120412.141906
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

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 #: L12110784-23	PrePrep Method: N/A	Instrument: HYDRA
Client ID: DUP-GW-11272012-01	Prep Method: 7470A	Prep Date: 12/04/2012 09:00
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/04/2012 12:00
Workgroup #: WG415703	Analyst: PDM	Run Date: 12/04/2012 14:21
Collect Date: 11/27/2012 11:50	Dilution: 1	File ID: HY.120412.142107
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 #: L12110784-24	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-32-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:50
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: HY.120612.175040
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 #: L12110784-25	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-32-GW-11272012	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:53
Collect Date: 11/27/2012 15:15	Dilution: 1	File ID: HY.120612.175357
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.				

Certificate of Analysis

Sample #: L12110784-26	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-02-GW-11282012	Prep Method: 7470A	Prep Date: 12/04/2012 11:19
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/06/2012 16:48
Workgroup #: WG415763	Analyst: KHR	Run Date: 12/06/2012 17:55
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: HY.120612.175536
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Mercury	7439-97-6	0.000143	J	0.000200	0.000100
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L12110784-27	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-02-GW-11282012	Prep Method: 7470A	Prep Date: 12/05/2012 07:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/14/2012 10:45
Workgroup #: WG415984	Analyst: PDM	Run Date: 12/14/2012 11:21
Collect Date: 11/28/2012 10:30	Dilution: 1	File ID: HY.121412.112130
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 #: L12110784-28	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-23-GW-11282012	Prep Method: 7470A	Prep Date: 12/05/2012 07:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/14/2012 10:45
Workgroup #: WG415984	Analyst: PDM	Run Date: 12/14/2012 11:23
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: HY.121412.112318
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 #: L12110784-29	PrePrep Method: N/A	Instrument: HYDRA
Client ID: MW-23-GW-11282012	Prep Method: 7470A	Prep Date: 12/05/2012 07:14
Matrix: Water	Analytical Method: 7470A	Cal Date: 12/14/2012 10:45
Workgroup #: WG415984	Analyst: PDM	Run Date: 12/14/2012 11:25
Collect Date: 11/28/2012 09:15	Dilution: 1	File ID: HY.121412.112506
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

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.				

2.2.3.2 QC Summary Data

**Example Cold Vapor Mercury Calculations
Hydra AA Mercury Analyzer**

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and five standards.

2.0 Calculating the concentration (C) of an element in water using data from run log and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Diluted to Volume (mL)

Vi = Aliquot Volume (mL)

D = Manual dilution factor, if required (10X = 10)

Cx = Concentration of element in ppb (ug/L)

Example:

0.1

40

40

1

0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Ws} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Diluted to volume (mL)

Ws = Aliquot weight (g)

D = Manual dilution factor

Cx = Concentration of element in ug/kg

Example:

0.1

40

0.6

1

6.67

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (ug/kg)

6.67

80

8.33

8.33 ug/kg = 0.00833 mg/kg

Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG415654

Analyst: REK

Spike Analyst: REK

Method: 7470A

Run Date: 12/04/2012 09:00

Hotblock Start Temp: 93.6 @ 06:30

Hotblock End Temp: 95.6 @ 08:30

Instrument: HB5

SOP: ME404 Revision 13

Spike Solution: STD55191

Spike Witness: VC

ICP;WG401305 Filter Lot COA16240

Digestion Tubes Lot #: COA16400

H2SO4 Lot #: COA16424

HNO3 Lot #: COA16520

K2S2O8 1:1 Lot #: RGT16987

KMnO4 1:1 Lot #: RGT18007

Mercury Water ICV Lot #: STD55193

HG H2O STDS 10PPM Lot #: STD55199

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG415654-02	BLANK	1	40 mL	40 mL		
2	WG415654-03	LCS	1	40 mL	40 mL	4 mL	
3	L12110754-01	SAMP	1	40 mL	40 mL		12/07/12
4	L12110784-01	SAMP	1	40 mL	40 mL		12/13/12
5	L12110784-02	SAMP	1	40 mL	40 mL		12/13/12
6	L12110784-03	SAMP	1	40 mL	40 mL		12/13/12
7	L12110784-04	SAMP	1	40 mL	40 mL		12/13/12
8	L12110784-05	SAMP	1	40 mL	40 mL		12/13/12
9	L12110784-06	SAMP	1	40 mL	40 mL		12/13/12
10	L12110784-07	SAMP	1	40 mL	40 mL		12/13/12
11	L12110784-08	SAMP	1	40 mL	40 mL		12/13/12
12	L12110784-09	SAMP	1	40 mL	40 mL		12/13/12
13	WG415654-01	REF	1	40 mL	40 mL		
14	L12110784-10	RS01	1	40 mL	40 mL		12/13/12
15	WG415654-04	MS	1	36 mL	40 mL	4 mL	
16	L12110784-12	MS01	1	36 mL	40 mL	4 mL	12/13/12
17	WG415654-05	MSD	1	36 mL	40 mL	4 mL	
18	L12110784-14	SD01	1	36 mL	40 mL	4 mL	12/13/12
19	L12110784-16	SAMP	1	40 mL	40 mL		12/13/12
20	L12110784-17	SAMP	1	40 mL	40 mL		12/13/12
21	L12110784-18	SAMP	1	40 mL	40 mL		12/13/12
22	L12110784-19	SAMP	1	40 mL	40 mL		12/13/12
23	L12110784-20	SAMP	1	40 mL	40 mL		12/13/12
24	L12110784-21	SAMP	1	40 mL	40 mL		12/13/12
25	L12110784-22	SAMP	1	40 mL	40 mL		12/13/12
26	L12110784-23	SAMP	1	40 mL	40 mL		12/13/12
27	L12120030-01	SAMP	12	1 mL	40 mL		12/04/12

Analyst: *REK*

Reviewer: *Eric Pottin*



Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG415654

Analyst: REK

Spike Analyst: REK

Method: 7470A

Run Date: 12/04/2012 09:00

Hotblock Start Temp: 93.6 @ 06:30

Hotblock End Temp: 95.6 @ 08:30

Instrument: HB5

SOP: ME404 Revision 13

Spike Solution: STD55191

Spike Witness: VC

ICP;WG401305 Filter Lot COA16240

Digestion Tubes Lot #: COA16400

H2SO4 Lot #: COA16424

HNO3 Lot #: COA16520

K2S2O8 1:1 Lot #: RGT16987

KMnO4 1:1 Lot #: RGT18007

Mercury Water ICV Lot #: STD55193

HG H2O STDS 10PPM Lot #: STD55199

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG415654-02	BLANK	1	40 mL	40 mL		
2	WG415654-03	LCS	1	40 mL	40 mL	4 mL	
3	L12110754-01	SAMP	1	40 mL	40 mL		12/07/12
4	L12110784-01	SAMP	1	40 mL	40 mL		12/13/12
5	L12110784-02	SAMP	1	40 mL	40 mL		12/13/12
6	L12110784-03	SAMP	1	40 mL	40 mL		12/13/12
7	L12110784-04	SAMP	1	40 mL	40 mL		12/13/12
8	L12110784-05	SAMP	1	40 mL	40 mL		12/13/12
9	L12110784-06	SAMP	1	40 mL	40 mL		12/13/12
10	L12110784-07	SAMP	1	40 mL	40 mL		12/13/12
11	L12110784-08	SAMP	1	40 mL	40 mL		12/13/12
12	L12110784-09	SAMP	1	40 mL	40 mL		12/13/12
13	WG415654-01	REF	1	40 mL	40 mL		
14	L12110784-10	RS01	1	40 mL	40 mL		12/13/12
15	WG415654-04	MS	1	36 mL	40 mL	4 mL	
16	L12110784-12	MS01	1	36 mL	40 mL	4 mL	12/13/12
17	WG415654-05	MSD	1	36 mL	40 mL	4 mL	
18	L12110784-14	SD01	1	36 mL	40 mL	4 mL	12/13/12
19	L12110784-16	SAMP	1	40 mL	40 mL		12/13/12
20	L12110784-17	SAMP	1	40 mL	40 mL		12/13/12
21	L12110784-18	SAMP	1	40 mL	40 mL		12/13/12
22	L12110784-19	SAMP	1	40 mL	40 mL		12/13/12
23	L12110784-20	SAMP	1	40 mL	40 mL		12/13/12
24	L12110784-21	SAMP	1	40 mL	40 mL		12/13/12
25	L12110784-22	SAMP	1	40 mL	40 mL		12/13/12
26	L12110784-23	SAMP	1	40 mL	40 mL		12/13/12
27	L12120030-01	SAMP	12	1 mL	40 mL		12/04/12

Analyst: *REK*

Reviewer: *Eric Pottin*



Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG415757
Analyst: REK
Spike Analyst: REK
Method: 7470A
Run Date: 12/05/2012 07:14
Hotblock Start Temp: 95 @ 06:45
Hotblock End Temp: 94 @ 08:45
Instrument: HB5

SOP: ME404 Revision 13
Spike Solution: STD55206
Spike Witness: VC
Digestion Tubes Lot #: COA16400
H2SO4 Lot #: COA16424
HNO3 Lot #: COA16520
K2S2O8 1:1 Lot #: RGT16987
KMnO4 1:1 Lot #: RGT18007
Mercury Water ICV Lot #: STD55208
HG H2O STDS 10PPM Lot #: STD55214

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG415757-04	BLANK	1	40 mL	40 mL		
2	WG415757-05	LCS	1	40 mL	40 mL	4 mL	
3	L12110784-27	SAMP	1	40 mL	40 mL		12/13/12
4	L12110784-28	SAMP	1	40 mL	40 mL		12/13/12
5	L12110784-29	SAMP	1	40 mL	40 mL		12/13/12
6	WG415757-01	REF	2	40 mL	40 mL		
7	L12120033-01	RS01	2	40 mL	40 mL		12/14/12
8	L12120033-02	SAMP	2	40 mL	40 mL		12/14/12
9	WG415757-06	MS	2	36 mL	40 mL	4 mL	
10	L12120033-03	MS01	2	36 mL	40 mL	4 mL	12/14/12
11	WG415757-07	MSD	2	36 mL	40 mL	4 mL	
12	L12120033-04	SD01	2	36 mL	40 mL	4 mL	12/14/12
13	WG415757-02	REF	2	40 mL	40 mL		
14	L12120033-05	SAMP	2	40 mL	40 mL		12/14/12
15	L12120033-06	SAMP	2	40 mL	40 mL		12/14/12
16	L12120054-01	SAMP	1	40 mL	40 mL		12/17/12
17	L12120054-02	SAMP	1	40 mL	40 mL		12/17/12
18	L12120082-01	SAMP	1	40 mL	40 mL		12/11/12
19	L12120082-02	SAMP	1	40 mL	40 mL		12/11/12
20	L12120082-03	SAMP	1	40 mL	40 mL		12/11/12
21	L12120082-04	SAMP	1	40 mL	40 mL		12/11/12
22	WG415757-03	REF	1	40 mL	40 mL		
23	L12120082-05	RS01	1	40 mL	40 mL		12/11/12
24	WG415757-09	MS	1	36 mL	40 mL	4 mL	
25	L12120082-06	MS01	1	36 mL	40 mL	4 mL	12/11/12
26	WG415757-10	MSD	1	36 mL	40 mL	4 mL	
27	L12120082-07	SD01	1	36 mL	40 mL	4 mL	12/11/12
28	WG415757-08	DUP	1	40 mL	40 mL		

Analyst: REK

Reviewer: Eric Pottin



Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG415757
 Analyst: REK
 Spike Analyst: REK
 Method: 7470A
 Run Date: 12/05/2012 07:14
 Hotblock Start Temp: 95 @ 06:45
 Hotblock End Temp: 94 @ 08:45
 Instrument: HB5

SOP: ME404 Revision 13
 Spike Solution: STD55206
 Spike Witness: VC
 Digestion Tubes Lot #: COA16400
 H2SO4 Lot #: COA16424
 HNO3 Lot #: COA16520
 K2S2O8 1:1 Lot #: RGT16987
 KMnO4 1:1 Lot #: RGT18007
 Mercury Water ICV Lot #: STD55208
 HG H2O STDS 10PPM Lot #: STD55214

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG415757-04	BLANK	1	40 mL	40 mL		
2	WG415757-05	LCS	1	40 mL	40 mL	4 mL	
3	L12110784-27	SAMP	1	40 mL	40 mL		12/13/12
4	L12110784-28	SAMP	1	40 mL	40 mL		12/13/12
5	L12110784-29	SAMP	1	40 mL	40 mL		12/13/12
6	WG415757-01	REF	2	40 mL	40 mL		
7	L12120033-01	RS01	2	40 mL	40 mL		12/14/12
8	L12120033-02	SAMP	2	40 mL	40 mL		12/14/12
9	WG415757-06	MS	2	36 mL	40 mL	4 mL	
10	L12120033-03	MS01	2	36 mL	40 mL	4 mL	12/14/12
11	WG415757-07	MSD	2	36 mL	40 mL	4 mL	
12	L12120033-04	SD01	2	36 mL	40 mL	4 mL	12/14/12
13	WG415757-02	REF	2	40 mL	40 mL		
14	L12120033-05	SAMP	2	40 mL	40 mL		12/14/12
15	L12120033-06	SAMP	2	40 mL	40 mL		12/14/12
16	L12120054-01	SAMP	1	40 mL	40 mL		12/17/12
17	L12120054-02	SAMP	1	40 mL	40 mL		12/17/12
18	L12120082-01	SAMP	1	40 mL	40 mL		12/11/12
19	L12120082-02	SAMP	1	40 mL	40 mL		12/11/12
20	L12120082-03	SAMP	1	40 mL	40 mL		12/11/12
21	L12120082-04	SAMP	1	40 mL	40 mL		12/11/12
22	WG415757-03	REF	1	40 mL	40 mL		
23	L12120082-05	RS01	1	40 mL	40 mL		12/11/12
24	WG415757-09	MS	1	36 mL	40 mL	4 mL	
25	L12120082-06	MS01	1	36 mL	40 mL	4 mL	12/11/12
26	WG415757-10	MSD	1	36 mL	40 mL	4 mL	
27	L12120082-07	SD01	1	36 mL	40 mL	4 mL	12/11/12
28	WG415757-08	DUP	1	40 mL	40 mL		

Analyst: *REK*

Reviewer: *Eric Pottin*



Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG415700

Analyst: REK

Spike Analyst: REK

Method: 7470A

Run Date: 12/04/2012 11:19

Hotblock Start Temp: 95.4 @ 10:35

Hotblock End Temp: 94.9 @ 12:35

Instrument: HB5

SOP: ME404 Revision 13

Spike Solution: STD55191

Spike Witness: VC

Digestion Tubes Lot #: COA16400

H2SO4 Lot #: COA16424

HNO3 Lot #: COA16520

K2S2O8 1:1 Lot #: RGT16987

KMnO4 1:1 Lot #: RGT18007

Mercury Water ICV Lot #: STD55193

HG H2O STDS 10PPM Lot #: STD55199

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG415700-02	BLANK	1	40 mL	40 mL		
2	WG415669-01	FBLK	17	4 mL	40 mL		
3	WG415700-03	LCS	1	40 mL	40 mL	4 mL	
4	L12110744-01	SAMP	17	4 mL	40 mL		12/07/12
5	L12110744-02	SAMP	17	4 mL	40 mL		12/07/12
6	L12110755-01	SAMP	17	4 mL	40 mL		12/07/12
7	L12110764-01	SAMP	17	4 mL	40 mL		12/06/12
8	L12110764-02	SAMP	17	4 mL	40 mL		12/06/12
9	L12110764-03	SAMP	17	4 mL	40 mL		12/06/12
10	L12110764-04	SAMP	17	4 mL	40 mL		12/06/12
11	L12110764-05	SAMP	17	4 mL	40 mL		12/06/12
12	L12110764-06	SAMP	17	4 mL	40 mL		12/06/12
13	L12110764-07	SAMP	17	4 mL	40 mL		12/06/12
14	L12110764-08	SAMP	17	4 mL	40 mL		12/06/12
15	L12110764-09	SAMP	17	4 mL	40 mL		12/06/12
16	L12110764-10	SAMP	17	4 mL	40 mL		12/06/12
17	L12110764-11	SAMP	17	4 mL	40 mL		12/06/12
18	L12110767-03	SAMP	17	4 mL	40 mL		12/13/12
19	WG415700-01	REF	1	40 mL	40 mL		
20	L12110784-11	RS02	1	40 mL	40 mL		12/13/12
21	WG415700-04	MS	1	36 mL	40 mL	4 mL	
22	L12110784-13	MS02	1	36 mL	40 mL	4 mL	12/13/12
23	WG415700-05	MSD	1	36 mL	40 mL	4 mL	
24	L12110784-15	SD02	1	36 mL	40 mL	4 mL	12/13/12
25	L12110784-24	SAMP	1	40 mL	40 mL		12/13/12
26	L12110784-25	SAMP	1	40 mL	40 mL		12/13/12
27	L12110784-26	SAMP	1	40 mL	40 mL		12/13/12

Analyst: *REK*

Reviewer: *Eric Pottin*



Microbac Laboratories Inc.
Metals Digest Log

Workgroup: WG415700

Analyst: REK

Spike Analyst: REK

Method: 7470A

Run Date: 12/04/2012 11:19

Hotblock Start Temp: 95.4 @ 10:35

Hotblock End Temp: 94.9 @ 12:35

Instrument: HB5

SOP: ME404 Revision 13

Spike Solution: STD55191

Spike Witness: VC

Digestion Tubes Lot #: COA16400

H2SO4 Lot #: COA16424

HNO3 Lot #: COA16520

K2S2O8 1:1 Lot #: RGT16987

KMnO4 1:1 Lot #: RGT18007

Mercury Water ICV Lot #: STD55193

HG H2O STDS 10PPM Lot #: STD55199

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Spike Amount	Due Date
1	WG415700-02	BLANK	1	40 mL	40 mL		
2	WG415669-01	FBLK	17	4 mL	40 mL		
3	WG415700-03	LCS	1	40 mL	40 mL	4 mL	
4	L12110744-01	SAMP	17	4 mL	40 mL		12/07/12
5	L12110744-02	SAMP	17	4 mL	40 mL		12/07/12
6	L12110755-01	SAMP	17	4 mL	40 mL		12/07/12
7	L12110764-01	SAMP	17	4 mL	40 mL		12/06/12
8	L12110764-02	SAMP	17	4 mL	40 mL		12/06/12
9	L12110764-03	SAMP	17	4 mL	40 mL		12/06/12
10	L12110764-04	SAMP	17	4 mL	40 mL		12/06/12
11	L12110764-05	SAMP	17	4 mL	40 mL		12/06/12
12	L12110764-06	SAMP	17	4 mL	40 mL		12/06/12
13	L12110764-07	SAMP	17	4 mL	40 mL		12/06/12
14	L12110764-08	SAMP	17	4 mL	40 mL		12/06/12
15	L12110764-09	SAMP	17	4 mL	40 mL		12/06/12
16	L12110764-10	SAMP	17	4 mL	40 mL		12/06/12
17	L12110764-11	SAMP	17	4 mL	40 mL		12/06/12
18	L12110767-03	SAMP	17	4 mL	40 mL		12/13/12
19	WG415700-01	REF	1	40 mL	40 mL		
20	L12110784-11	RS02	1	40 mL	40 mL		12/13/12
21	WG415700-04	MS	1	36 mL	40 mL	4 mL	
22	L12110784-13	MS02	1	36 mL	40 mL	4 mL	12/13/12
23	WG415700-05	MSD	1	36 mL	40 mL	4 mL	
24	L12110784-15	SD02	1	36 mL	40 mL	4 mL	12/13/12
25	L12110784-24	SAMP	1	40 mL	40 mL		12/13/12
26	L12110784-25	SAMP	1	40 mL	40 mL		12/13/12
27	L12110784-26	SAMP	1	40 mL	40 mL		12/13/12

Analyst: *REK*

Reviewer: *Eric Pottin*



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HYDRA Dataset: 120412B.PRN
 Analyst1: PDM Analyst2: N/A
 Method: 7470A/245.1 SOP: ME404 Rev: 13
 Maintenance Log ID: 44182

Calibration Std: STD55199 ICV Std: STD55193 Post Spike: STD55199
 ICSA: N/A ICSAB: N/A Int. Std: _____
 CCV: _____ LLCCV: _____

415654

Workgroups:

Comments: Sequences 35 through 42 were not reported due to CCB noncompliance.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	HY.120412.115138	WG415741-01	Calibration Point		1		12/04/12 11:51
2	HY.120412.115347	WG415741-02	Calibration Point		1		12/04/12 11:53
3	HY.120412.115526	WG415741-03	Calibration Point		1		12/04/12 11:55
4	HY.120412.115714	WG415741-04	Calibration Point		1		12/04/12 11:57
5	HY.120412.115906	WG415741-05	Calibration Point		1		12/04/12 11:59
6	HY.120412.120047	WG415741-06	Calibration Point		1		12/04/12 12:00
7	HY.120412.120612	WG415741-07	Initial Calibration Verification		1		12/04/12 12:06
8	HY.120412.120810	WG415741-08	Initial Calib Blank		1		12/04/12 12:08
9	HY.120412.121007	WG415741-09	CCV		1		12/04/12 12:10
10	HY.120412.121158	WG415741-10	CCB		1		12/04/12 12:11
11	HY.120412.124230	WG415654-02	Method/Prep Blank	40/40	1		12/04/12 12:42
12	HY.120412.124410	WG415654-03	Laboratory Control S	40/40	1		12/04/12 12:44
13	HY.120412.124549	L12120030-01	TRC COND	1/40	1		12/04/12 12:45
14	HY.120412.124725	WG415703-01	Post Digestion Spike		1	L12120030-01	12/04/12 12:47
15	HY.120412.124907	WG415654-01	Reference Sample	40/40	1	L12110784-10	12/04/12 12:49
16	HY.120412.125043	L12110784-12	MW-33-GW-11272012-MS	36/40	1	WG415654-04	12/04/12 12:50
17	HY.120412.125223	L12110784-14	MW-33-GW-11272012-MSD	36/40	1	WG415654-05	12/04/12 12:52
18	HY.120412.125423	L12110754-01	ERT003:FB-2:W112712	40/40	1		12/04/12 12:54
19	HY.120412.125610	WG415703-02	Post Digestion Spike		1	L12110754-01	12/04/12 12:56
20	HY.120412.125747	L12110784-01	EB-GW-11272012	40/40	1		12/04/12 12:57
21	HY.120412.125924	WG415741-11	CCV		1		12/04/12 12:59
22	HY.120412.130104	WG415741-12	CCB		1		12/04/12 13:01
23	HY.120412.130320	L12110784-02	PZ-04-GW-11272012	40/40	1		12/04/12 13:03
24	HY.120412.130458	L12110784-03	PZ-04-GW-11272012	40/40	1		12/04/12 13:04
25	HY.120412.130649	L12110784-04	MW-03-GW-11272012	40/40	1		12/04/12 13:06
26	HY.120412.130827	L12110784-05	MW-03-GW-11272012	40/40	1		12/04/12 13:08
27	HY.120412.131004	L12110784-06	PZ-06-GW-11272012	40/40	1		12/04/12 13:10
28	HY.120412.131221	L12110784-07	PZ-06-GW-11272012	40/40	1		12/04/12 13:12
29	HY.120412.131420	L12110784-08	PZ-01-GW-11272012	40/40	1		12/04/12 13:14
30	HY.120412.131608	L12110784-09	PZ-01-GW-11272012	40/40	1		12/04/12 13:16
31	HY.120412.131758	L12110784-16	BLDG4-PIT-SSP-GW-112720	40/40	1		12/04/12 13:17
32	HY.120412.131937	L12110784-17	BLDG4-PIT-SSP-GW-112720	40/40	1		12/04/12 13:19
33	HY.120412.132136	WG415741-13	CCV		1		12/04/12 13:21
34	HY.120412.132335	WG415741-14	CCB		1		12/04/12 13:23

Page: 1 Approved: December 05, 2012

Maren Beery



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HYDRA Dataset: 120412B.PRN
 Analyst1: PDM Analyst2: N/A
 Method: 7470A/245.1 SOP: ME404 Rev: 13
 Maintenance Log ID: 44182

Calibration Std: STD55199 ICV Std: STD55193 Post Spike: STD55199
 ICSA: N/A ICSAB: N/A Int. Std: _____
 CCV: _____ LLCCV: _____

415654

Workgroups:

Comments: Sequences 35 through 42 were not reported due to CCB noncompliance.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	HY.120412.132513	L12110784-18	MW-34-GW-11272012		1		12/04/12 13:25
36	HY.120412.132650	L12110784-19	MW-34-GW-11272012		1		12/04/12 13:26
37	HY.120412.132827	L12110784-20	MW-22-GW-11272012		1		12/04/12 13:28
38	HY.120412.133013	L12110784-21	MW-22-GW-11272012		1		12/04/12 13:30
39	HY.120412.133201	L12110784-22	DUP-GW-11272012-01		1		12/04/12 13:32
40	HY.120412.133341	L12110784-23	DUP-GW-11272012-01		1		12/04/12 13:33
41	HY.120412.133523	WG415741-15	Ck4CCV		1		12/04/12 13:35
42	HY.120412.133713	WG415741-16	Ck5CCB		1		12/04/12 13:37
43	HY.120412.140014	WG415741-17	CCV		1		12/04/12 14:00
44	HY.120412.140151	WG415741-18	CCB		1		12/04/12 14:01
45	HY.120412.141043	L12110784-18	MW-34-GW-11272012	40/40	1		12/04/12 14:10
46	HY.120412.141241	L12110784-19	MW-34-GW-11272012	40/40	1		12/04/12 14:12
47	HY.120412.141448	L12110784-20	MW-22-GW-11272012	40/40	1		12/04/12 14:14
48	HY.120412.141709	L12110784-21	MW-22-GW-11272012	40/40	1		12/04/12 14:17
49	HY.120412.141906	L12110784-22	DUP-GW-11272012-01	40/40	1		12/04/12 14:19
50	HY.120412.142107	L12110784-23	DUP-GW-11272012-01	40/40	1		12/04/12 14:21
51	HY.120412.142247	WG415703-03	Post Digestion Spike		1	L12110784-23	12/04/12 14:22
52	HY.120412.142425	WG415741-19	CCV		1		12/04/12 14:24
53	HY.120412.142603	WG415741-20	CCB		1		12/04/12 14:26

Page: 2 Approved: December 05, 2012

Maren Beery



Microbac Laboratories Inc.

Instrument Run Log

Instrument: HYDRA Dataset: 120612F.PRN
 Analyst1: KHR Analyst2: N/A
 Method: 7470A/245.1 SOP: ME404 Rev: 13
 Maintenance Log ID: 44211

Calibration Std: STD55199 ICV Std: STD55193 Post Spike: STD55199
 ICSA: N/A ICSAB: N/A Int. Std: _____
 CCV: _____ LLCCV: _____ Tuning Sol : _____
 Stannous : _____ Hydroxylamine : _____

Workgroups: 415763

Comments:

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Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	HY.120612.163850	WG416018-01	Calibration Point		1		12/06/12 16:38
2	HY.120612.164040	WG416018-02	Calibration Point		1		12/06/12 16:40
3	HY.120612.164238	WG416018-03	Calibration Point		1		12/06/12 16:42
4	HY.120612.164436	WG416018-04	Calibration Point		1		12/06/12 16:44
5	HY.120612.164625	WG416018-05	Calibration Point		1		12/06/12 16:46
6	HY.120612.164825	WG416018-06	Calibration Point		1		12/06/12 16:48
7	HY.120612.165023	WG416018-07	Initial Calibration Verification		1		12/06/12 16:50
8	HY.120612.165203	WG416018-08	Initial Calib Blank		1		12/06/12 16:52
9	HY.120612.165349	WG416018-09	CCV		1		12/06/12 16:53
10	HY.120612.165527	WG416018-10	CCB		1		12/06/12 16:55
11	HY.120612.165707	WG415700-02	Method/Prep Blank	40/40	1		12/06/12 16:57
12	HY.120612.165924	WG415700-03	Laboratory Control S		1		12/06/12 16:59
13	HY.120612.170113	WG415669-01	Fluid Blank		1		12/06/12 17:01
14	HY.120612.170427	WG415700-03	Laboratory Control S	40/40	1		12/06/12 17:04
15	HY.120612.170803	L12110744-01	E. BASIN SLUDGE	4/40	1		12/06/12 17:08
16	HY.120612.170952	WG415763-01	Post Digestion Spike		1	L12110744-01	12/06/12 17:09
17	HY.120612.171133	L12110744-02	WEST DRYING BED	4/40	1		12/06/12 17:11
18	HY.120612.171310	L12110755-01	ERT003:STOCKPILE1:Z1128	4/40	1		12/06/12 17:13
19	HY.120612.171527	L12110764-01	AOC 4-6-07	4/40	1		12/06/12 17:15
20	HY.120612.171718	L12110764-02	AOC 4-6-08	4/40	1		12/06/12 17:17
21	HY.120612.171907	WG416018-11	CCV		1		12/06/12 17:19
22	HY.120612.172119	WG416018-12	CCB		1		12/06/12 17:21
23	HY.120612.172256	L12110764-03	AOC 4-6-09	4/40	1		12/06/12 17:22
24	HY.120612.172454	L12110764-04	AOC 4-6-10	4/40	1		12/06/12 17:24
25	HY.120612.172631	L12110764-05	AOC 4-6-11	4/40	1		12/06/12 17:26
26	HY.120612.172848	L12110764-06	AOC 4-4-01	4/40	1		12/06/12 17:28
27	HY.120612.173126	L12110764-07	AOC 4-4-02	4/40	1		12/06/12 17:31
28	HY.120612.173306	L12110764-08	AOC 4-4-03	4/40	1		12/06/12 17:33
29	HY.120612.173447	L12110764-09	AOC 6-01	4/40	1		12/06/12 17:34
30	HY.120612.173624	L12110764-10	AOC 6-02	4/40	1		12/06/12 17:36
31	HY.120612.173801	L12110764-11	AOC 6-03		1		12/06/12 17:38
32	HY.120612.173951	L12110767-03	SITE-WS-11282012	4/40	1		12/06/12 17:39
33	HY.120612.174134	WG416018-13	CCV		1		12/06/12 17:41
34	HY.120612.174316	WG416018-14	CCB		1		12/06/12 17:43

Page: 1 Approved: December 07, 2012




Microbac Laboratories Inc.

Instrument Run Log

Instrument: HYDRA Dataset: 120612F.PRN
 Analyst1: KHR Analyst2: N/A
 Method: 7470A/245.1 SOP: ME404 Rev: 13
 Maintenance Log ID: 44211

Calibration Std: STD55199 ICV Std: STD55193 Post Spike: STD55199
 ICSA: N/A ICSAB: N/A Int. Std: _____
 CCV: _____ LLCCV: _____ Tuning Sol: _____
 Stannous: _____ Hydroxylamine: _____

Workgroups: 415763

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	HY.120612.174526	L12110784-11	MW-33-GW-11272012		1	WG415700-01	12/06/12 17:45
36	HY.120612.174704	L12110784-13	MW-33-GW-11272012-MS	36/40	1	WG415700-04	12/06/12 17:47
37	HY.120612.174902	L12110784-15	MW-33-GW-11272012-MSD	36/40	1	WG415700-05	12/06/12 17:49
38	HY.120612.175040	L12110784-24	MW-32-GW-11272012	40/40	1		12/06/12 17:50
39	HY.120612.175221	WG415763-02	Post Digestion Spike		1	L12110784-24	12/06/12 17:52
40	HY.120612.175357	L12110784-25	MW-32-GW-11272012	40/40	1		12/06/12 17:53
41	HY.120612.175536	L12110784-26	MW-02-GW-11282012	40/40	1		12/06/12 17:55
42	HY.120612.182714	L12110764-11	AOC 6-03	4/40	1		12/06/12 18:27
43	HY.120612.183026	WG416018-15	CCV		1		12/06/12 18:30
44	HY.120612.183218	WG416018-16	CCB		1		12/06/12 18:32

Page: 2 Approved: December 07, 2012




Microbac Laboratories Inc.

Instrument Run Log

Instrument: HYDRA Dataset: 121412C.PRN
 Analyst1: PDM Analyst2: N/A
 Method: 7470A/245.1 SOP: ME404 Rev: 13
 Maintenance Log ID: 44295

Calibration Std: STD55214 ICV Std: STD55208 Post Spike: STD55214
 ICSA: N/A ICSAB: N/A Int. Std: _____
 CCV: _____ LLCCV: _____ Tuning Sol: _____
 Stannous: RGT25901 Hydroxylamine: RGT25903

Workgroups: 415984

Comments: Sequences 27 through 33 were not reported due to CCV noncompliance for NPDES criteria.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	HY.121412.103649	WG416686-01	Calibration Point		1		12/14/12 10:36
2	HY.121412.103835	WG416686-02	Calibration Point		1		12/14/12 10:38
3	HY.121412.104015	WG416686-03	Calibration Point		1		12/14/12 10:40
4	HY.121412.104152	WG416686-04	Calibration Point		1		12/14/12 10:41
5	HY.121412.104331	WG416686-05	Calibration Point		1		12/14/12 10:43
6	HY.121412.104509	WG416686-06	Calibration Point		1		12/14/12 10:45
7	HY.121412.104921	WG416686-07	Initial Calibration Verification		1		12/14/12 10:49
8	HY.121412.105123	WG416686-08	Initial Calibration Verification		1		12/14/12 10:51
9	HY.121412.105339	WG416686-09	Initial Calib Blank		1		12/14/12 10:53
10	HY.121412.105608	WG416686-10	CCV		1		12/14/12 10:56
11	HY.121412.105745	WG416686-11	CCB		1		12/14/12 10:57
12	HY.121412.105943	WG415757-04	Method/Prep Blank	40/40	1		12/14/12 10:59
13	HY.121412.110120	WG415757-05	Laboratory Control S	40/40	1		12/14/12 11:01
14	HY.121412.110257	L12120082-01	MW-3-01	40/40	1		12/14/12 11:02
15	HY.121412.110503	WG415984-01	Post Digestion Spike		1	L12120082-01	12/14/12 11:05
16	HY.121412.110735	L12120082-02	MW-2-01	40/40	1		12/14/12 11:07
17	HY.121412.110912	L12120082-03	MW-1-01	40/40	1		12/14/12 11:09
18	HY.121412.111050	L12120082-04	MW-1-02	40/40	1		12/14/12 11:10
19	HY.121412.111229	WG415757-03	Reference Sample	40/40	1	L12120082-05	12/14/12 11:12
20	HY.121412.111436	L12120082-06	MW-4-MS	36/40	1	WG415757-09	12/14/12 11:14
21	HY.121412.111623	L12120082-07	MW-4-MSD	36/40	1	WG415757-10	12/14/12 11:16
22	HY.121412.111815	WG416686-12	CCV		1		12/14/12 11:18
23	HY.121412.111953	WG416686-13	CCB		1		12/14/12 11:19
24	HY.121412.112130	L12110784-27	MW-02-GW-11282012	40/40	1		12/14/12 11:21
25	HY.121412.112318	L12110784-28	MW-23-GW-11282012	40/40	1		12/14/12 11:23
26	HY.121412.112506	L12110784-29	MW-23-GW-11282012	40/40	1		12/14/12 11:25
27	HY.121412.112647	L12120033-01	STORMWATER OUTLET 00		1	WG415757-01	12/14/12 11:26
28	HY.121412.112837	L12120033-02	STORMWATER OUTLET 00		1		12/14/12 11:28
29	HY.121412.113019	WG415757-06	Matrix Spike		1	L12120033-01	12/14/12 11:30
30	HY.121412.113218	WG415757-07	Matrix Spike Duplica		1	L12120033-01	12/14/12 11:32
31	HY.121412.113420	L12120033-05	DUP		1	WG415757-02	12/14/12 11:34
32	HY.121412.113606	WG415757-08	Duplicate		1	L12120033-05	12/14/12 11:36
33	HY.121412.113754	L12120033-06	FIELD BLANK		1		12/14/12 11:37
34	HY.121412.113935	WG416686-14	CCV		1		12/14/12 11:39

Page: 1 Approved: December 14, 2012

Shari L. Bahgat

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HYDRA Dataset: 121412C.PRN
 Analyst1: PDM Analyst2: N/A
 Method: 7470A/245.1 SOP: ME404 Rev: 13
 Maintenance Log ID: 44295

Calibration Std: STD55214 ICV Std: STD55208 Post Spike: STD55214
 ICSA: N/A ICSAB: N/A Int. Std: _____
 CCV: _____ LLCCV: _____ Tuning Sol: _____
 Stannous: RGT25901 Hydroxylamine: RGT25903

Workgroups: 415984

Comments: Sequences 27 through 33 were not reported due to CCV noncompliance for NPDES criteria.

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	HY.121412.114205	WG416686-15	CCB		1		12/14/12 11:42
36	HY.121412.114432	L12120054-01	NORTH TANK	40/40	1		12/14/12 11:44
37	HY.121412.114609	L12120054-02	SOUTH TANK	40/40	1		12/14/12 11:46
38	HY.121412.114807	WG416686-16	CCV		1		12/14/12 11:48
39	HY.121412.115016	WG416686-17	CCB		1		12/14/12 11:50

Comments

Seq.	Rerun	Dil.	Reason	Analytes
7			ICV reanalyzed to meet NPDES acceptance criteria.	

Page: 2 Approved: December 14, 2012

Shari L. Bahar

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HYDRA Dataset: 121712D.PRN
 Analyst1: PDM Analyst2: N/A
 Method: 7470A/245.1 SOP: ME404 Rev: 13
 Maintenance Log ID: 44307

Calibration Std: STD55199 ICV Std: STD55193 Post Spike: STD55199
 ICSA: N/A ICSAB: N/A Int. Std: _____
 CCV: _____ LLCCV: _____ Tuning Sol: _____
 Stannous: RGT25901 Hydroxylamine: RGT25903

Workgroups: 415703

Comments:

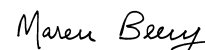
--

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	HY.121712.122929	WG416889-01	Calibration Point		1		12/17/12 12:29
2	HY.121712.123141	WG416889-02	Calibration Point		1		12/17/12 12:31
3	HY.121712.123358	WG416889-03	Calibration Point		1		12/17/12 12:33
4	HY.121712.123557	WG416889-04	Calibration Point		1		12/17/12 12:35
5	HY.121712.123737	WG416889-05	Calibration Point		1		12/17/12 12:37
6	HY.121712.124018	WG416889-06	Calibration Point		1		12/17/12 12:40
7	HY.121712.124208	WG416889-07	Initial Calibration Verification		1		12/17/12 12:42
8	HY.121712.124556	WG416889-08	Initial Calibration Verification		1		12/17/12 12:45
9	HY.121712.124732	WG416889-09	Initial Calib Blank		1		12/17/12 12:47
10	HY.121712.125002	WG416889-10	Ck4CCV		1		12/17/12 12:50
11	HY.121712.125144	WG416889-11	Ck5CCB		1		12/17/12 12:51
12	HY.121712.125359	WG416889-12	CCV		1		12/17/12 12:53
13	HY.121712.125548	WG416889-13	CCB		1		12/17/12 12:55
14	HY.121712.130254	L12110784-08	PZ-01-GW-11272012	40/40	1		12/17/12 13:02
15	HY.121712.130430	WG416889-14	CCV		1		12/17/12 13:04
16	HY.121712.130638	WG416889-15	CCB		1		12/17/12 13:06

Comments

Seq.	Rerun	Dil.	Reason	Analytes
10			Reanalyzed with compliant CCB	
11			reanalyzed due to noncompliant results.	

Page: 1 Approved: December 18, 2012




Microbac Laboratories Inc.
Instrument Run Log

Instrument: HYDRA Dataset: 121812A.PRN
 Analyst1: PDM Analyst2: N/A
 Method: 7470A/245.1 SOP: ME404 Rev: 13
 Maintenance Log ID: 44332

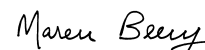
Calibration Std: STD55423 ICV Std: STD55417 Post Spike: STD55423
 ICSA: N/A ICSAB: N/A Int. Std: _____
 CCV: _____ LLCCV: _____ Tuning Sol: _____
 Stannous : RGT25901 Hydroxylamine : RGT25903

Workgroups: 415984

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	HY.121812.085052	WG416919-01	Calibration Point		1		12/18/12 08:50
2	HY.121812.085230	WG416919-02	Calibration Point		1		12/18/12 08:52
3	HY.121812.085418	WG416919-03	Calibration Point		1		12/18/12 08:54
4	HY.121812.085555	WG416919-04	Calibration Point		1		12/18/12 08:55
5	HY.121812.085805	WG416919-05	Calibration Point		1		12/18/12 08:58
6	HY.121812.085943	WG416919-06	Calibration Point		1		12/18/12 08:59
7	HY.121812.090202	WG416919-07	Initial Calibration Verification		1		12/18/12 09:02
8	HY.121812.090341	WG416919-08	Initial Calib Blank		1		12/18/12 09:03
9	HY.121812.090542	WG416919-09	CCV		1		12/18/12 09:05
10	HY.121812.090720	WG416919-10	CCB		1		12/18/12 09:07
11	HY.121812.091431	WG415757-04	Method/Prep Blank	40/40	1		12/18/12 09:14
12	HY.121812.091607	WG415757-05	Laboratory Control S	40/40	1		12/18/12 09:16
13	HY.121812.091745	WG415757-01	Reference Sample	40/40	1	L12120033-01	12/18/12 09:17
14	HY.121812.091953	L12120033-02	STORMWATER OUTLET 00	40/40	1		12/18/12 09:19
15	HY.121812.092135	WG415984-02	Post Digestion Spike		1	L12120033-01	12/18/12 09:21
16	HY.121812.092502	L12120033-03	STORMWATER OUTLET 00	36/40	1	WG415757-06	12/18/12 09:25
17	HY.121812.092741	L12120033-04	STORMWATER OUTLET 00	36/40	1	WG415757-07	12/18/12 09:27
18	HY.121812.093009	WG415757-02	Reference Sample	40/40	1	L12120033-05	12/18/12 09:30
19	HY.121812.093149	WG415757-08	Duplicate	40/40	1	L12120033-05	12/18/12 09:31
20	HY.121812.093342	L12120033-06	FIELD BLANK	40/40	1		12/18/12 09:33
21	HY.121812.093528	WG416919-11	CCV		1		12/18/12 09:35
22	HY.121812.093739	WG416919-12	CCB		1		12/18/12 09:37

Page: 1 Approved: December 18, 2012




Microbac Laboratories Inc.

Data Checklist

Date: 04-DEC-2012
 Analyst: PDM
 Analyst: NA
 Method: 7470A/245.1
 Instrument: HYDRA
 Curve Workgroup: 415741
 Runlog ID: 50332
 Analytical Workgroups: 415654

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	0784_0754
Client Forms	X
Level X	
Level 3	
Level 4	0784
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	PDM
Secondary Reviewer	MMB
Comments	

Primary Reviewer:
05-DEC-2012

Secondary Reviewer:
05-DEC-2012

Pierce Morris

Maren Beery



Microbac Laboratories Inc.

Data Checklist

Date: 06-DEC-2012
 Analyst: KHR
 Analyst: NA
 Method: 7470A/245.1
 Instrument: HYDRA
 Curve Workgroup: 416018
 Runlog ID: 50379
 Analytical Workgroups: 415763

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	
Level 3	
Level 4	767, 784
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KHR
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
07-DEC-2012

Secondary Reviewer:
07-DEC-2012

Kim H. Rhodes

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 14-DEC-2012
 Analyst: PDM
 Analyst: NA
 Method: 7470A/245.1
 Instrument: HYDRA
 Curve Workgroup: 416686
 Runlog ID: 50511
 Analytical Workgroups: 415984

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	0784,0082,0054
Client Forms	X
Level X	0054
Level 3	0784
Level 4	0082
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	PDM
Secondary Reviewer	SLP
Comments	

Primary Reviewer:
14-DEC-2012

Secondary Reviewer:
14-DEC-2012

Pierce Morris

Shari L. Bahgat



Microbac Laboratories Inc.

Data Checklist

Date: 17-DEC-2012
 Analyst: PDM
 Analyst: NA
 Method: 7470A/245.1
 Instrument: HYDRA
 Curve Workgroup: 416889
 Runlog ID: 50550
 Analytical Workgroups: 415703

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	
CRI	
Blank/LCS	
MS/MSD	
Post Spike/Serial Dilution	
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	0784
Client Forms	X
Level X	
Level 3	
Level 4	0784
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	PDM
Secondary Reviewer	MMB
Comments	

Primary Reviewer:
18-DEC-2012

Secondary Reviewer:
18-DEC-2012

Pierce Morris

Maren Beery



Microbac Laboratories Inc.

Data Checklist

Date: 18-DEC-2012
 Analyst: PDM
 Analyst: NA
 Method: 7470A/245.1
 Instrument: HYDRA
 Curve Workgroup: 416919
 Runlog ID: 50559
 Analytical Workgroups: 415984

Calibration/Linearity	X
ICV/CCV	X
ICV RSD <= 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	0033
Client Forms	X
Level X	
Level 3	
Level 4	
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	PDM
Secondary Reviewer	MMB
Comments	

Primary Reviewer:
18-DEC-2012

Secondary Reviewer:
18-DEC-2012

Pierce Morris

Maren Beery



Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method:7470A
 Login Number:L12110784

AAB#:WG415703

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
EB-GW-11272012	01	11/27/12					12/04/2012	7	28		12/04/12	7.2	28	
PZ-04-GW-11272012	02	11/27/12					12/04/2012	7	28		12/04/12	7.1	28	
MW-03-GW-11272012	04	11/27/12					12/04/2012	7	28		12/04/12	7.1	28	
PZ-06-GW-11272012	06	11/27/12					12/04/2012	7	28		12/04/12	7.1	28	
PZ-01-GW-11272012	08	11/27/12					12/04/2012	6.9	28		12/17/12	20.1	28	
MW-33-GW-11272012	10	11/27/12					12/04/2012	6.9	28		12/04/12	7.1	28	
MW-33-GW-11272012-MS	12	11/27/12					12/04/2012	6.8	28		12/04/12	7.1	28	
MW-33-GW-11272012-MSD	14	11/27/12					12/04/2012	6.8	28		12/04/12	7.1	28	
BLDG4-PIT-SSP-GW-1127201	16	11/27/12					12/04/2012	6.9	28		12/04/12	7.1	28	
MW-34-GW-11272012	18	11/27/12					12/04/2012	6.8	28		12/04/12	7.1	28	
MW-22-GW-11272012	20	11/27/12					12/04/2012	6.7	28		12/04/12	7	28	
DUP-GW-11272012-01	22	11/27/12					12/04/2012	6.9	28		12/04/12	7.1	28	

* = SEE PROJECT QAPP REQUIREMENTS



Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method: 7470A
 Login Number: L12110784

AAB#: WG415763

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW-32-GW-11272012	24	11/27/12					12/04/2012	6.8	28		12/06/12	9.1	28	
MW-02-GW-11282012	26	11/28/12					12/04/2012	6	28		12/06/12	8.3	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
 PDF File ID: 2686672
 Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method:7470A
Login Number:L12110784

AAB#:WG415984

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW-23-GW-11282012	28	11/28/12					12/05/2012	6.9	28		12/14/12	16.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID:2686672
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method:7470A
 Login Number:L12110784

AAB#:WG415703

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
PZ-04-GW-11272012	03	11/27/12					12/04/2012	7	28		12/04/12	7.1	28	
MW-03-GW-11272012	05	11/27/12					12/04/2012	7	28		12/04/12	7.1	28	
PZ-06-GW-11272012	07	11/27/12					12/04/2012	7	28		12/04/12	7.1	28	
PZ-01-GW-11272012	09	11/27/12					12/04/2012	6.9	28		12/04/12	7.1	28	
BLDG4-PIT-SSP-GW-11272012	17	11/27/12					12/04/2012	6.9	28		12/04/12	7.1	28	
MW-34-GW-11272012	19	11/27/12					12/04/2012	6.8	28		12/04/12	7.1	28	
MW-22-GW-11272012	21	11/27/12					12/04/2012	6.7	28		12/04/12	7	28	
DUP-GW-11272012-01	23	11/27/12					12/04/2012	6.9	28		12/04/12	7.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
 PDF File ID: 2686655
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method: 7470A
 Login Number: L12110784

AAB#: WG415763

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW-33-GW-11272012	11	11/27/12					12/04/2012	7	28		12/06/12	9.3	28	
MW-33-GW-11272012-MS	13	11/27/12					12/04/2012	7	28		12/06/12	9.3	28	
MW-33-GW-11272012-MSD	15	11/27/12					12/04/2012	7	28		12/06/12	9.3	28	
MW-32-GW-11272012	25	11/27/12					12/04/2012	6.8	28		12/06/12	9.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
 PDF File ID: 2686655
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
HOLDING TIMES
 EQUIVALENT TO AFCEE FORM 9

Analytical Method: 7470A
 Login Number: L12110784

AAB#: WG415984

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW-02-GW-11282012	27	11/28/12					12/05/2012	6.9	28		12/14/12	16	28	
MW-23-GW-11282012	29	11/28/12					12/05/2012	6.9	28		12/14/12	16.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
 PDF File ID: 2686655
 Report generated 12/14/2012 16:13



METHOD BLANK SUMMARY

Login Number: L12110784
 Blank File ID: HY.120412.124230
 Prep Date: 12/04/12 09:00
 Analyzed Date: 12/04/12 12:42
 Analyst: PDM

Work Group: WG415703
 Blank Sample ID: WG415654-02
 Instrument ID: HYDRA
 Method: 7470A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG415654-03	HY.120412.124410	12/04/12 12:44	01
MW-33-GW-11272012	L12110784-10	HY.120412.124907	12/04/12 12:49	01
MW-33-GW-11272012-MS	L12110784-12	HY.120412.125043	12/04/12 12:50	01
MW-33-GW-11272012-MSD	L12110784-14	HY.120412.125223	12/04/12 12:52	01
EB-GW-11272012	L12110784-01	HY.120412.125747	12/04/12 12:57	01
PZ-04-GW-11272012	L12110784-02	HY.120412.130320	12/04/12 13:03	01
PZ-04-GW-11272012	L12110784-03	HY.120412.130458	12/04/12 13:04	01
MW-03-GW-11272012	L12110784-04	HY.120412.130649	12/04/12 13:06	01
MW-03-GW-11272012	L12110784-05	HY.120412.130827	12/04/12 13:08	01
PZ-06-GW-11272012	L12110784-06	HY.120412.131004	12/04/12 13:10	01
PZ-06-GW-11272012	L12110784-07	HY.120412.131221	12/04/12 13:12	01
PZ-01-GW-11272012	L12110784-09	HY.120412.131608	12/04/12 13:16	01
BLDG4-PIT-SSP-GW-11272012	L12110784-16	HY.120412.131758	12/04/12 13:17	01
BLDG4-PIT-SSP-GW-11272012	L12110784-17	HY.120412.131937	12/04/12 13:19	01
MW-34-GW-11272012	L12110784-18	HY.120412.141043	12/04/12 14:10	01
MW-34-GW-11272012	L12110784-19	HY.120412.141241	12/04/12 14:12	01
MW-22-GW-11272012	L12110784-20	HY.120412.141448	12/04/12 14:14	01
MW-22-GW-11272012	L12110784-21	HY.120412.141709	12/04/12 14:17	01
DUP-GW-11272012-01	L12110784-22	HY.120412.141906	12/04/12 14:19	01
DUP-GW-11272012-01	L12110784-23	HY.120412.142107	12/04/12 14:21	01
PZ-01-GW-11272012	L12110784-08	HY.121712.130254	12/17/12 13:02	02

Report Name: BLANK_SUMMARY
 PDF File ID: 2686673
 Report generated 12/18/2012 09:50



METHOD BLANK SUMMARY

Login Number: L12110784
 Blank File ID: HY.121412.105943
 Prep Date: 12/05/12 07:14
 Analyzed Date: 12/14/12 10:59
 Analyst: PDM

Work Group: WG415984
 Blank Sample ID: WG415757-04
 Instrument ID: HYDRA
 Method: 7470A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG415757-05	HY.121412.110120	12/14/12 11:01	01
MW-02-GW-11282012	L12110784-27	HY.121412.112130	12/14/12 11:21	01
MW-23-GW-11282012	L12110784-28	HY.121412.112318	12/14/12 11:23	01
MW-23-GW-11282012	L12110784-29	HY.121412.112506	12/14/12 11:25	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2686673
 Report generated 12/18/2012 09:50



METHOD BLANK SUMMARY

Login Number: L12110784 Work Group: WG415703
 Blank File ID: HY.120412.124230 Blank Sample ID: WG415654-02
 Prep Date: 12/04/12 09:00 Instrument ID: HYDRA
 Analyzed Date: 12/04/12 12:42 Method: 7470A
 Analyst: PDM

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG415654-03	HY.120412.124410	12/04/12 12:44	01
MW-33-GW-11272012	L12110784-10	HY.120412.124907	12/04/12 12:49	01
MW-33-GW-11272012-MS	L12110784-12	HY.120412.125043	12/04/12 12:50	01
MW-33-GW-11272012-MSD	L12110784-14	HY.120412.125223	12/04/12 12:52	01
EB-GW-11272012	L12110784-01	HY.120412.125747	12/04/12 12:57	01
PZ-04-GW-11272012	L12110784-02	HY.120412.130320	12/04/12 13:03	01
PZ-04-GW-11272012	L12110784-03	HY.120412.130458	12/04/12 13:04	01
MW-03-GW-11272012	L12110784-04	HY.120412.130649	12/04/12 13:06	01
MW-03-GW-11272012	L12110784-05	HY.120412.130827	12/04/12 13:08	01
PZ-06-GW-11272012	L12110784-06	HY.120412.131004	12/04/12 13:10	01
PZ-06-GW-11272012	L12110784-07	HY.120412.131221	12/04/12 13:12	01
PZ-01-GW-11272012	L12110784-09	HY.120412.131608	12/04/12 13:16	01
BLDG4-PIT-SSP-GW-11272012	L12110784-16	HY.120412.131758	12/04/12 13:17	01
BLDG4-PIT-SSP-GW-11272012	L12110784-17	HY.120412.131937	12/04/12 13:19	01
MW-34-GW-11272012	L12110784-18	HY.120412.141043	12/04/12 14:10	01
MW-34-GW-11272012	L12110784-19	HY.120412.141241	12/04/12 14:12	01
MW-22-GW-11272012	L12110784-20	HY.120412.141448	12/04/12 14:14	01
MW-22-GW-11272012	L12110784-21	HY.120412.141709	12/04/12 14:17	01
DUP-GW-11272012-01	L12110784-22	HY.120412.141906	12/04/12 14:19	01
DUP-GW-11272012-01	L12110784-23	HY.120412.142107	12/04/12 14:21	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2686656
 Report generated 12/14/2012 16:13



METHOD BLANK SUMMARY

Login Number: L12110784 Work Group: WG415763
 Blank File ID: HY.120612.165707 Blank Sample ID: WG415700-02
 Prep Date: 12/04/12 11:19 Instrument ID: HYDRA
 Analyzed Date: 12/06/12 16:57 Method: 7470A
 Analyst: KHR

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG415700-03	HY.120612.170427	12/06/12 17:04	01
MW-33-GW-11272012	L12110784-11	HY.120612.174526	12/06/12 17:45	01
MW-33-GW-11272012-MS	L12110784-13	HY.120612.174704	12/06/12 17:47	01
MW-33-GW-11272012-MSD	L12110784-15	HY.120612.174902	12/06/12 17:49	01
MW-32-GW-11272012	L12110784-24	HY.120612.175040	12/06/12 17:50	01
MW-32-GW-11272012	L12110784-25	HY.120612.175357	12/06/12 17:53	01
MW-02-GW-11282012	L12110784-26	HY.120612.175536	12/06/12 17:55	01

Report Name: BLANK_SUMMARY
 PDF File ID: 2686656
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/04/12 09:00 Sample ID: WG415654-02
Instrument ID: HYDRA Run Date: 12/04/12 12:42 Prep Method: 7470A
File ID: HY.120412.124230 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG415703 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA-04-DEC-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000100	1	U

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 2686674
18-DEC-2012 09:50



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/04/12 11:19 Sample ID: WG415700-02
Instrument ID: HYDRA Run Date: 12/06/12 16:57 Prep Method: 7470A
File ID: HY.120612.165707 Analyst: KHR Method: 7470A
Workgroup (AAB#): WG415763 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA-06-DEC-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000100	1	U

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 2686674
18-DEC-2012 09:50



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/05/12 07:14 Sample ID: WG415757-04
Instrument ID: HYDRA Run Date: 12/14/12 10:59 Prep Method: 7470A
File ID: HY.121412.105943 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG415984 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA-14-DEC-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Mercury	0.000100	0.000200	0.000100	1	U

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 2686674
18-DEC-2012 09:50



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/04/12 09:00 Sample ID: WG415654-02
Instrument ID: HYDRA Run Date: 12/04/12 12:42 Prep Method: 7470A
File ID: HY.120412.124230 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG415703 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA-04-DEC-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Mercury, Dissolved	0.000100	0.000200	0.000100	1	U

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 2686657
14-DEC-2012 16:13



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/04/12 11:19 Sample ID: WG415700-02
Instrument ID: HYDRA Run Date: 12/06/12 16:57 Prep Method: 7470A
File ID: HY.120612.165707 Analyst: KHR Method: 7470A
Workgroup (AAB#): WG415763 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA-06-DEC-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Mercury, Dissolved	0.000100	0.000200	0.000100	1	U

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 2686657
14-DEC-2012 16:13



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L12110784 Prep Date: 12/05/12 07:14 Sample ID: WG415757-04
Instrument ID: HYDRA Run Date: 12/14/12 10:59 Prep Method: 7470A
File ID: HY.121412.105943 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG415984 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: HYDRA-14-DEC-12

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Mercury, Dissolved	0.000100	0.000200	0.000100	1	U

MDL Method Detection Limit
RL Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > RL

Report Name: BLANK
PDF ID: 2686657
14-DEC-2012 16:13



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415654-03
Instrument ID: HYDRA Run Time: 12:44 Prep Method: 7470A
File ID: HY.120412.124410 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG415703 Matrix: Water Units: mg/L
QC Key: WATERLOO Lot#: STD55191 Cal ID: HYDRA-04-DEC-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00413	103	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 2686675
Report generated: 12/18/2012 09:50



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415700-03
Instrument ID: HYDRA Run Time: 17:04 Prep Method: 7470A
File ID: HY.120612.170427 Analyst: KHR Method: 7470A
Workgroup (AAB#): WG415763 Matrix: Water Units: mg/L
QC Key: WATERLOO Lot#: STD55191 Cal ID: HYDRA-06-DEC-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00200	0.00209	105	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 2686675
Report generated: 12/18/2012 09:50



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG415757-05
Instrument ID: HYDRA Run Time: 11:01 Prep Method: 7470A
File ID: HY.121412.110120 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG415984 Matrix: Water Units: mg/L
QC Key: WATERLOO Lot#: STD55206 Cal ID: HYDRA-14-DEC-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury	0.00400	0.00397	99.3	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 2686675
Report generated: 12/18/2012 09:50



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415654-03
Instrument ID: HYDRA Run Time: 12:44 Prep Method: 7470A
File ID: HY.120412.124410 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG415703 Matrix: Water Units: mg/L
QC Key: WATERLOO Lot#: STD55191 Cal ID: HYDRA-04-DEC-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury, Dissolved	0.00400	0.00413	103	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 2686658
Report generated: 12/14/2012 16:13



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG415700-03
Instrument ID: HYDRA Run Time: 17:04 Prep Method: 7470A
File ID: HY.120612.170427 Analyst: KHR Method: 7470A
Workgroup (AAB#): WG415763 Matrix: Water Units: mg/L
QC Key: WATERLOO Lot#: STD55191 Cal ID: HYDRA-06-DEC-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury, Dissolved	0.00200	0.00209	105	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 2686658
Report generated: 12/14/2012 16:13



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG415757-05
Instrument ID: HYDRA Run Time: 11:01 Prep Method: 7470A
File ID: HY.121412.110120 Analyst: PDM Method: 7470A
Workgroup (AAB#): WG415984 Matrix: Water Units: mg/L
QC Key: WATERLOO Lot#: STD55206 Cal ID: HYDRA-14-DEC-12

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury, Dissolved	0.00400	0.00397	99.3	85 - 115	

LCS - Modified 03/06/2008
PDF File ID: 2686658
Report generated: 12/14/2012 16:13



MS/MSD REPORT

Loginum: L12110784 Cal ID: HYDRA- 04-DEC-12 Worknum: WG415703
 Instrument ID: HYDRA Contract #: _____ Prep Method: 7470A
 Parent ID: L12110784-10 File ID: HY.120412.124907 Dil: 1 Method: 7470A
 Sample ID: L12110784-12 MS File ID: HY.120412.125043 Dil: 1 Matrix: Water
 Sample ID: L12110784-14 MSD File ID: HY.120412.125223 Dil: 1 Units: mg/L

Analyte	Parent	MS	MS	MS	MSD	MSD	MSD	%RPD	%Rec Limits	RPD Limit	Q
		Spiked	Found	%Rec	Spiked	Found	%Rec				
Mercury	U	0.00444	0.00456	103	0.00444	0.00431	97	5.51	85 - 115	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT



MS/MSD REPORT

Loginum: L12110784 Cal ID: HYDRA- 06-DEC-12 Worknum: WG415763
 Instrument ID: HYDRA Contract #: _____ Prep Method: 7470A
 Parent ID: L12110784-11 File ID: HY.120612.174526 Dil: 1 Method: 7470A
 Sample ID: L12110784-13 MS File ID: HY.120612.174704 Dil: 1 Matrix: Water
 Sample ID: L12110784-15 MSD File ID: HY.120612.174902 Dil: 1 Units: mg/L

Analyte	Parent	MS	MS	MS	MSD	MSD	MSD	%RPD	%Rec Limits	RPD Limit	Q
		Spiked	Found	%Rec	Spiked	Found	%Rec				
Mercury, Dissolved	U	0.00444	0.00370	83.2	0.00444	0.00361	81.2	2.43	85 - 115	20	*

* FAILS %REC LIMIT

FAILS RPD LIMIT



MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12110784 Cal ID: HYDRA- Worknum: WG415763
 Instrument ID: HYDRA Contract #: _____ Method: 7470A
 Parent ID: WG415700-01 File ID: HY.120612.174526 Dil: 1 Matrix: WATER
 Sample ID: WG415700-04 MS File ID: HY.120612.174704 Dil: 1 Units: mg/L
 Sample ID: WG415700-05 MSD File ID: HY.120612.174902 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Mercury	ND	0.00444	0.00370	83.2	0.00444	0.00361	81.2	2.43	85 - 115	20	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12110784 Cal ID: HYDRA- Worknum: WG415984
 Instrument ID: HYDRA Contract #: _____ Method: 7470A
 Parent ID: WG415757-03 File ID: HY.121412.111229 Dil: 1 Matrix: WATER
 Sample ID: WG415757-09 MS File ID: HY.121412.111436 Dil: 1 Units: mg/L
 Sample ID: WG415757-10 MSD File ID: HY.121412.111623 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Mercury	ND	0.00444	0.00467	105	0.00444	0.00473	107	1.42	85 - 115	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.



MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12110784 Cal ID: HYDRA- Worknum: WG415763
 Instrument ID: HYDRA Contract #: _____ Method: 7470A
 Parent ID: WG415700-01 File ID: HY.120612.174526 Dil: 1 Matrix: WATER
 Sample ID: WG415700-04 MS File ID: HY.120612.174704 Dil: 1 Units: mg/L
 Sample ID: WG415700-05 MSD File ID: HY.120612.174902 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Mercury, Dissolved	ND	0.00444	0.00370	83.2	0.00444	0.00361	81.2	2.43	85 - 115	20	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12110784 Cal ID: HYDRA- Worknum: WG415984
 Instrument ID: HYDRA Contract #: _____ Method: 7470A
 Parent ID: WG415757-03 File ID: HY.121412.111229 Dil: 1 Matrix: WATER
 Sample ID: WG415757-09 MS File ID: HY.121412.111436 Dil: 1 Units: mg/L
 Sample ID: WG415757-10 MSD File ID: HY.121412.111623 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Mercury, Dissolved	ND	0.00444	0.00467	105	0.00444	0.00473	107	1.42	85 - 115	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L12110784 Cal ID: HYDRA- Worknum: WG415703
 Instrument ID: HYDRA Contract #: _____ Method: 7470A
 Parent ID: WG415654-01 File ID: HY.120412.124907 Dil: 1 Matrix: WATER
 Sample ID: WG415654-04 MS File ID: HY.120412.125043 Dil: 1 Units: mg/L
 Sample ID: WG415654-05 MSD File ID: HY.120412.125223 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Mercury, Dissolved	ND	0.00444	0.00456	103	0.00444	0.00431	97.0	5.51	85 - 115	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784

Worknum: WG415703

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG415703-01

File ID: HY.120412.124725

Dil: 1

Units: ug/L

Sample ID: L12120030-01

File ID: HY.120412.124549

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.996		0	U	1	99.6	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2686671
Report generated: 12/18/2012 09:50



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784

Worknum: WG415703

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG415703-02

File ID: HY.120412.125610

Dil: 1

Units: ug/L

Sample ID: L12110754-01

File ID: HY.120412.125423

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	1.40		0	U	1	140.0	85 - 115	N

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2686671
Report generated: 12/18/2012 09:50



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784

Worknum: WG415703

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG415703-03

File ID: HY.120412.142247

Dil: 1

Units: ug/L

Sample ID: L12110784-23

File ID: HY.120412.142107

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.963		0	U	1	96.3	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2686671
Report generated: 12/18/2012 09:50



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784

Worknum: WG415763

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG415763-01

File ID: HY.120612.170952

Dil: 1

Units: ug/L

Sample ID: L12110744-01

File ID: HY.120612.170803

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.866		0	U	1	86.6	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2686671
Report generated: 12/18/2012 09:50



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784

Worknum: WG415763

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG415763-02

File ID: HY.120612.175221

Dil: 1

Units: ug/L

Sample ID: L12110784-24

File ID: HY.120612.175040

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.896		0	U	1	89.6	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2686671
Report generated: 12/18/2012 09:50



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784 Worknum: WG415984
 Instrument ID: HYDRA Method: 7470A
 Post Spike ID: WG415984-01 File ID: HY.121412.110503 Dil: 1 Units: ug/L
 Sample ID: L12120082-01 File ID: HY.121412.110257 Dil: 1 Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	1.05		0	U	1	105.0	85 - 115	

N = % Recovery exceeds control limits
 F = Result is between MDL and RL
 U = Sample result is below MDL. A value of zero is used in the calculation



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784 Worknum: WG415703
 Instrument ID: HYDRA Method: 7470A
 Post Spike ID: WG415703-01 File ID: HY.120412.124725 Dil: 1 Units: ug/L
 Sample ID: L12120030-01 File ID: HY.120412.124549 Dil: 1 Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.996		0	U	1	99.6	85 - 115	

N = % Recovery exceeds control limits
 F = Result is between MDL and RL
 U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
 PDF File ID: 2686654
 Report generated: 12/14/2012 16:13



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784
 Instrument ID: HYDRA
 Post Spike ID: WG415703-02
 Sample ID: L12110754-01

Worknum: WG415703
 Method: 7470A
 Units: ug/L
 Matrix: Water

File ID: HY.120412.125610 Dil: 1
 File ID: HY.120412.125423 Dil: 1

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	1.40		0	U	1	140.0	85 - 115	N

N = % Recovery exceeds control limits
 F = Result is between MDL and RL
 U = Sample result is below MDL. A value of zero is used in the calculation



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784

Worknum: WG415703

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG415703-03

File ID: HY.120412.142247

Dil: 1

Units: ug/L

Sample ID: L12110784-23

File ID: HY.120412.142107

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.963		0	U	1	96.3	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2686654
Report generated: 12/14/2012 16:13



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784

Worknum: WG415763

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG415763-01

File ID: HY.120612.170952

Dil: 1

Units: ug/L

Sample ID: L12110744-01

File ID: HY.120612.170803

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.866		0	U	1	86.6	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2686654
Report generated: 12/14/2012 16:13



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784

Worknum: WG415763

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG415763-02

File ID: HY.120612.175221

Dil: 1

Units: ug/L

Sample ID: L12110784-24

File ID: HY.120612.175040

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	0.896		0	U	1	89.6	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2686654
Report generated: 12/14/2012 16:13



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L12110784

Worknum: WG415984

Instrument ID: HYDRA

Method: 7470A

Post Spike ID: WG415984-01

File ID: HY.121412.110503

Dil: 1

Units: ug/L

Sample ID: L12120082-01

File ID: HY.121412.110257

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MERCURY	1.05		0	U	1	105.0	85 - 115	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 2686654
Report generated: 12/14/2012 16:13



Microbac Laboratories Inc.
 INITIAL CALIBRATION SUMMARY

Login Number: L12110784
 Analytical Method: 7470A
 ICAL Worknum: WG415741

Workgroup (AAB#): WG415703
 Instrument ID: HYDRA
 Initial Calibration Date: 12/04/2012 12:00

Analyte	WG415741-01		WG415741-02		WG415741-03		WG415741-04		WG415741-05		WG415741-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	-2439	0.200	14737	1.00	58130	2.00	130700	5.00	302167	10.0	608825

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
 PDF File ID: 2686677
 Report generated 12/18/2012 09:50



Login Number: L12110784
Analytical Method: 7470A
ICAL Worknum: WG415741

Workgroup (AAB#): WG415703
Instrument ID: HYDRA
Initial Calibration Date: 12/04/2012 12:00

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
 INITIAL CALIBRATION SUMMARY

Login Number: L12110784
 Analytical Method: 7470A
 ICAL Worknum: WG416018

Workgroup (AAB#): WG415763
 Instrument ID: HYDRA
 Initial Calibration Date: 12/06/2012 16:48

Analyte	WG416018-01		WG416018-02		WG416018-03		WG416018-04		WG416018-05		WG416018-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	1135	0.200	17419	1.00	61340	2.00	115079	5.00	297318	10.0	591091

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
 PDF File ID: 2686677
 Report generated 12/18/2012 09:50



Login Number: L12110784
Analytical Method: 7470A
ICAL Worknum: WG416018

Workgroup (AAB#): WG415763
Instrument ID: HYDRA
Initial Calibration Date: 12/06/2012 16:48

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
 INITIAL CALIBRATION SUMMARY

Login Number: L12110784
 Analytical Method: 7470A
 ICAL Worknum: WG416686

Workgroup (AAB#): WG415984
 Instrument ID: HYDRA
 Initial Calibration Date: 12/14/2012 10:45

Analyte	WG416686-01		WG416686-02		WG416686-03		WG416686-04		WG416686-05		WG416686-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	1857	0.200	18908	1.00	103060	2.00	208446	5.00	514521	10.0	996650

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
 PDF File ID: 2686677
 Report generated 12/18/2012 09:50



Login Number: L12110784
Analytical Method: 7470A
ICAL Worknum: WG416686

Workgroup (AAB#): WG415984
Instrument ID: HYDRA
Initial Calibration Date: 12/14/2012 10:45

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2686677
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
 INITIAL CALIBRATION SUMMARY

Login Number: L12110784
 Analytical Method: 7470A
 ICAL Worknum: WG416889

Workgroup (AAB#): WG415703
 Instrument ID: HYDRA
 Initial Calibration Date: 12/17/2012 12:40

Analyte	WG416889-01		WG416889-02		WG416889-03		WG416889-04		WG416889-05		WG416889-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	-4264	0.200	24525	1.00	91934	2.00	184409	5.00	476368	10.0	920493

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
 PDF File ID: 2686677
 Report generated 12/18/2012 09:50



Login Number: L12110784
Analytical Method: 7470A
ICAL Worknum: WG416889

Workgroup (AAB#): WG415703
Instrument ID: HYDRA
Initial Calibration Date: 12/17/2012 12:40

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
 INITIAL CALIBRATION SUMMARY

Login Number: L12110784
 Analytical Method: 7470A
 ICAL Worknum: WG415741

Workgroup (AAB#): WG415703
 Instrument ID: HYDRA
 Initial Calibration Date: 12/04/2012 12:00

Analyte	WG415741-01		WG415741-02		WG415741-03		WG415741-04		WG415741-05		WG415741-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	-2439	0.200	14737	1.00	58130	2.00	130700	5.00	302167	10.0	608825

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
 PDF File ID: 2686659
 Report generated 12/14/2012 16:13



Login Number: L12110784
Analytical Method: 7470A
ICAL Worknum: WG415741

Workgroup (AAB#): WG415703
Instrument ID: HYDRA
Initial Calibration Date: 12/04/2012 12:00

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
 INITIAL CALIBRATION SUMMARY

Login Number: L12110784
 Analytical Method: 7470A
 ICAL Worknum: WG416018

Workgroup (AAB#): WG415763
 Instrument ID: HYDRA
 Initial Calibration Date: 12/06/2012 16:48

Analyte	WG416018-01		WG416018-02		WG416018-03		WG416018-04		WG416018-05		WG416018-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	1135	0.200	17419	1.00	61340	2.00	115079	5.00	297318	10.0	591091

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
 PDF File ID: 2686659
 Report generated 12/14/2012 16:13



Login Number: L12110784
Analytical Method: 7470A
ICAL Worknum: WG416018

Workgroup (AAB#): WG415763
Instrument ID: HYDRA
Initial Calibration Date: 12/06/2012 16:48

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2686659
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
 INITIAL CALIBRATION SUMMARY

Login Number: L12110784
 Analytical Method: 7470A
 ICAL Worknum: WG416686

Workgroup (AAB#): WG415984
 Instrument ID: HYDRA
 Initial Calibration Date: 12/14/2012 10:45

Analyte	WG416686-01		WG416686-02		WG416686-03		WG416686-04		WG416686-05		WG416686-06	
	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT	STD	INT
Mercury	0	1857	0.200	18908	1.00	103060	2.00	208446	5.00	514521	10.0	996650

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
 PDF File ID: 2686659
 Report generated 12/14/2012 16:13



Login Number: L12110784
Analytical Method: 7470A
ICAL Worknum: WG416686

Workgroup (AAB#): WG415984
Instrument ID: HYDRA
Initial Calibration Date: 12/14/2012 10:45

Analyte	R	Q
Mercury	1.000	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_HG_FU - Modified 03/06/2008
PDF File ID: 2686659
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-08
Instrument ID: HYDRA Run Time: 12:08 Method: 7470A
File ID: HY.120412.120810 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

ICB - Modified 07/14/2009
PDF File ID: 2686679
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/17/2012 Sample ID: WG416889-09
Instrument ID: HYDRA Run Time: 12:47 Method: 7470A
File ID: HY.121712.124732 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 17-DEC-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

ICB - Modified 07/14/2009
PDF File ID: 2686679
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-08
Instrument ID: HYDRA Run Time: 16:52 Method: 7470A
File ID: HY.120612.165203 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.173	F

ICB - Modified 07/14/2009
PDF File ID: 2686679
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-09
Instrument ID: HYDRA Run Time: 10:53 Method: 7470A
File ID: HY.121412.105339 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

ICB - Modified 07/14/2009
PDF File ID: 2686679
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-08
Instrument ID: HYDRA Run Time: 12:08 Method: 7470A
File ID: HY.120412.120810 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

ICB - Modified 07/14/2009
PDF File ID: 2686661
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-08
Instrument ID: HYDRA Run Time: 16:52 Method: 7470A
File ID: HY.120612.165203 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.173	F

ICB - Modified 07/14/2009
PDF File ID: 2686661
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-09
Instrument ID: HYDRA Run Time: 10:53 Method: 7470A
File ID: HY.121412.105339 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MERCURY	.1	.2	.1	U

ICB - Modified 07/14/2009
PDF File ID: 2686661
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-10
Instrument ID: HYDRA Run Time: 12:11 Method: 7470A
File ID: HY.120412.121158 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-12
Instrument ID: HYDRA Run Time: 13:01 Method: 7470A
File ID: HY.120412.130104 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-14
Instrument ID: HYDRA Run Time: 13:23 Method: 7470A
File ID: HY.120412.132335 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	-0.178	F

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-18
Instrument ID: HYDRA Run Time: 14:01 Method: 7470A
File ID: HY.120412.140151 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-20
Instrument ID: HYDRA Run Time: 14:26 Method: 7470A
File ID: HY.120412.142603 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	-0.145	F

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/17/2012 Sample ID: WG416889-13
Instrument ID: HYDRA Run Time: 12:55 Method: 7470A
File ID: HY.121712.125548 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 17-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/17/2012 Sample ID: WG416889-15
Instrument ID: HYDRA Run Time: 13:06 Method: 7470A
File ID: HY.121712.130638 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 17-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-10
Instrument ID: HYDRA Run Time: 16:55 Method: 7470A
File ID: HY.120612.165527 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

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PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-12
Instrument ID: HYDRA Run Time: 17:21 Method: 7470A
File ID: HY.120612.172119 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-14
Instrument ID: HYDRA Run Time: 17:43 Method: 7470A
File ID: HY.120612.174316 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-16
Instrument ID: HYDRA Run Time: 18:32 Method: 7470A
File ID: HY.120612.183218 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-11
Instrument ID: HYDRA Run Time: 10:57 Method: 7470A
File ID: HY.121412.105745 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-13
Instrument ID: HYDRA Run Time: 11:19 Method: 7470A
File ID: HY.121412.111953 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-15
Instrument ID: HYDRA Run Time: 11:42 Method: 7470A
File ID: HY.121412.114205 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686681
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-10
Instrument ID: HYDRA Run Time: 12:11 Method: 7470A
File ID: HY.120412.121158 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-12
Instrument ID: HYDRA Run Time: 13:01 Method: 7470A
File ID: HY.120412.130104 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-14
Instrument ID: HYDRA Run Time: 13:23 Method: 7470A
File ID: HY.120412.132335 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	-0.178	F

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-18
Instrument ID: HYDRA Run Time: 14:01 Method: 7470A
File ID: HY.120412.140151 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-20
Instrument ID: HYDRA Run Time: 14:26 Method: 7470A
File ID: HY.120412.142603 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	-0.145	F

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-10
Instrument ID: HYDRA Run Time: 16:55 Method: 7470A
File ID: HY.120612.165527 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-12
Instrument ID: HYDRA Run Time: 17:21 Method: 7470A
File ID: HY.120612.172119 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-14
Instrument ID: HYDRA Run Time: 17:43 Method: 7470A
File ID: HY.120612.174316 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-16
Instrument ID: HYDRA Run Time: 18:32 Method: 7470A
File ID: HY.120612.183218 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-11
Instrument ID: HYDRA Run Time: 10:57 Method: 7470A
File ID: HY.121412.105745 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-13
Instrument ID: HYDRA Run Time: 11:19 Method: 7470A
File ID: HY.121412.111953 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-15
Instrument ID: HYDRA Run Time: 11:42 Method: 7470A
File ID: HY.121412.114205 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Mercury	0.100	0.200	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 2686663
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-07
Instrument ID: HYDRA Run Time: 12:06 Method: 7470A
File ID: HY.120412.120612 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	1.94	97.0	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12110784 Run Date: 12/17/2012 Sample ID: WG416889-08
Instrument ID: HYDRA Run Time: 12:45 Method: 7470A
File ID: HY.121712.124556 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 17-DEC-12
QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.01	101	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-07
Instrument ID: HYDRA Run Time: 16:50 Method: 7470A
File ID: HY.120612.165023 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.13	107	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-08
Instrument ID: HYDRA Run Time: 10:51 Method: 7470A
File ID: HY.121412.105123 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.09	105	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12110784 Run Date: 12/18/2012 Sample ID: WG416919-07
Instrument ID: HYDRA Run Time: 09:02 Method: 7470A
File ID: HY.121812.090202 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 18-DEC-12
QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.03	102	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-07
Instrument ID: HYDRA Run Time: 12:06 Method: 7470A
File ID: HY.120412.120612 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	1.94	97.0	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-07
Instrument ID: HYDRA Run Time: 16:50 Method: 7470A
File ID: HY.120612.165023 Analyst: KHR Units: ug/L
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.13	107	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-08
Instrument ID: HYDRA Run Time: 10:51 Method: 7470A
File ID: HY.121412.105123 Analyst: PDM Units: ug/L
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
QC Key: WATERLOO

Analyte	Expected	Found	%REC	LIMITS	Q
Mercury	2	2.09	105	90 - 110	

* Exceeds LIMITS Limit



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-09
 Instrument ID: HYDRA Run Time: 12:10 Method: 7470A
 File ID: HY.120412.121007 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00187	mg/L	93.5	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686680
 Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-11
 Instrument ID: HYDRA Run Time: 12:59 Method: 7470A
 File ID: HY.120412.125924 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00194	mg/L	97.0	80 - 120	

* Exceeds LIMITS Criteria

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 PDF File ID: 2686680
 Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-13
 Instrument ID: HYDRA Run Time: 13:21 Method: 7470A
 File ID: HY.120412.132136 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00199	mg/L	99.5	80 - 120	

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-17
Instrument ID: HYDRA Run Time: 14:00 Method: 7470A
File ID: HY.120412.140014 Analyst: PDM QC Key: WATERLOO
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00179	mg/L	89.5	80 - 120	

* Exceeds LIMITS Criteria

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PDF File ID: 2686680
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-19
 Instrument ID: HYDRA Run Time: 14:24 Method: 7470A
 File ID: HY.120412.142425 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00226	mg/L	113	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686680
 Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/17/2012 Sample ID: WG416889-12
 Instrument ID: HYDRA Run Time: 12:53 Method: 7470A
 File ID: HY.121712.125359 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415703 Cal ID: HYDRA - 17-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00195	mg/L	97.5	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686680
 Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/17/2012 Sample ID: WG416889-14
 Instrument ID: HYDRA Run Time: 13:04 Method: 7470A
 File ID: HY.121712.130430 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415703 Cal ID: HYDRA - 17-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00209	mg/L	105	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686680
 Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-09
 Instrument ID: HYDRA Run Time: 16:53 Method: 7470A
 File ID: HY.120612.165349 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00222	mg/L	111	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686680
 Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-11
Instrument ID: HYDRA Run Time: 17:19 Method: 7470A
File ID: HY.120612.171907 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00219	mg/L	110	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2686680
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-13
 Instrument ID: HYDRA Run Time: 17:41 Method: 7470A
 File ID: HY.120612.174134 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00198	mg/L	99.0	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-15
 Instrument ID: HYDRA Run Time: 18:30 Method: 7470A
 File ID: HY.120612.183026 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00219	mg/L	110	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686680
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-10
Instrument ID: HYDRA Run Time: 10:56 Method: 7470A
File ID: HY.121412.105608 Analyst: PDM QC Key: WATERLOO
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00194	mg/L	97.0	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2686680
Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-12
 Instrument ID: HYDRA Run Time: 11:18 Method: 7470A
 File ID: HY.121412.111815 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00225	mg/L	113	80 - 120	

* Exceeds LIMITS Criteria

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 Report generated 12/18/2012 09:50



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-14
Instrument ID: HYDRA Run Time: 11:39 Method: 7470A
File ID: HY.121412.113935 Analyst: PDM QC Key: WATERLOO
Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00203	mg/L	102	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-09
Instrument ID: HYDRA Run Time: 12:10 Method: 7470A
File ID: HY.120412.121007 Analyst: PDM QC Key: WATERLOO
Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00187	mg/L	93.5	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2686662
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-11
 Instrument ID: HYDRA Run Time: 12:59 Method: 7470A
 File ID: HY.120412.125924 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00194	mg/L	97.0	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686662
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-13
 Instrument ID: HYDRA Run Time: 13:21 Method: 7470A
 File ID: HY.120412.132136 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00199	mg/L	99.5	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686662
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-17
 Instrument ID: HYDRA Run Time: 14:00 Method: 7470A
 File ID: HY.120412.140014 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00179	mg/L	89.5	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686662
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/04/2012 Sample ID: WG415741-19
 Instrument ID: HYDRA Run Time: 14:24 Method: 7470A
 File ID: HY.120412.142425 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415703 Cal ID: HYDRA - 04-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00226	mg/L	113	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686662
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-09
Instrument ID: HYDRA Run Time: 16:53 Method: 7470A
File ID: HY.120612.165349 Analyst: KHR QC Key: WATERLOO
Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00222	mg/L	111	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 2686662
Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-11
 Instrument ID: HYDRA Run Time: 17:19 Method: 7470A
 File ID: HY.120612.171907 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00219	mg/L	110	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686662
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-13
 Instrument ID: HYDRA Run Time: 17:41 Method: 7470A
 File ID: HY.120612.174134 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00198	mg/L	99.0	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686662
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/06/2012 Sample ID: WG416018-15
 Instrument ID: HYDRA Run Time: 18:30 Method: 7470A
 File ID: HY.120612.183026 Analyst: KHR QC Key: WATERLOO
 Workgroup (AAB#): WG415763 Cal ID: HYDRA - 06-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00219	mg/L	110	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686662
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-10
 Instrument ID: HYDRA Run Time: 10:56 Method: 7470A
 File ID: HY.121412.105608 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00194	mg/L	97.0	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686662
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-12
 Instrument ID: HYDRA Run Time: 11:18 Method: 7470A
 File ID: HY.121412.111815 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00225	mg/L	113	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686662
 Report generated 12/14/2012 16:13



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L12110784 Run Date: 12/14/2012 Sample ID: WG416686-14
 Instrument ID: HYDRA Run Time: 11:39 Method: 7470A
 File ID: HY.121412.113935 Analyst: PDM QC Key: WATERLOO
 Workgroup (AAB#): WG415984 Cal ID: HYDRA - 14-DEC-12
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Mercury, Total	0.00200	0.00203	mg/L	102	80 - 120	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 2686662
 Report generated 12/14/2012 16:13



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
December 20, 2012

ADC - ANTHONY D. CANTER	AJF - AMANDA J. FICKIESEN	AML - TONY M. LONG
AZH - AFTER HOURS	BAF - BRICE A. FENTON	BLG - BRENDA L. GREENWALT
BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN	CAF - CHERYL A. FLOWERS
CEB - CHAD E. BARNES	CLC - CHRYS L. CRAWFORD	CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS	CSH - CHRIS S. HILL
CTB - CHRIS T. BUCINA	DDE - DEBRA D. ELLIOTT	DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON	DLB - DAVID L. BUMGARNER
DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH	DSM - DAVID S. MOSSOR
ECL - ERIC C. LAWSON	EDL - ERIN D. LONG	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR	HJR - HOLLY J. REED
JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON	JKS - JANE K. SCHAAD
JLL - JOHN L. LENT	JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES
JYH - JI Y. HU	KEB - KATIE E. BARNES	KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON	LKN - LINDA K. NEDEFF	LSB - LESLIE S. BUCINA
MDA - MIKE D. ALBERTSON	MDC - MIKE D. COCHRAN	MES - MARY E. SCHILLING
MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON
PDM - PIERCE D. MORRIS	QX - QIN XU	RAH - ROY A. HALSTEAD
REK - BOB E. KYER	RLB - BOB BUCHANAN	RS - ROSEMARY SCOTT
RWC - RODNEY W. CAMPBELL	SEP - SUZANNE J. PAUGH	SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF	TIP - TAE I. PARRISH	TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS	VC - VICKI COLLIER	WJB - WILL J. BEASLEY
WTD - WADE T. DELONG	XXX - UNAVAILABLE OR SUBCONTRACT	

December 20, 2012

Qualkey: WATERLOO

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 detected in the 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
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to interference.
E	Semiquantitative result (out of calibration range)
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	Estimated concentration.
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,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	Not detected at or above the reporting limit (RL).
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
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.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UJ	Undetected; the analyte was analyzed for, but not detected.
UQ	Undetected; the analyte was analyzed for, but not detected.
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



Microbac Laboratories Inc.
Internal Chain of Custody Report

Login: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-01 131515 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-01 131516 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:40	JKS	ERP	

**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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-02 131517 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-02 131518 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:40	JKS	ERP	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L12110784-03 131519 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:40	JKS	ERP	

**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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-04 131520 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-04 131521 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		>2
Comments:Added 5ml HNO3 to the above sample ID's. Lot#: RGT 17948 11/29/12 @ 1							
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	04-DEC-2012 10:47	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:40	JKS	ERP	

***Sample extract/digestate/leachate**

Samplenum **Container ID** **Products**
L12110784-05 131522 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		>2
Comments:Added 5ml HNO3 to the above sample ID's. Lot#: RGT 17948 11/29/12 @ 1							
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	04-DEC-2012 10:47	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:40	JKS	ERP	

***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



Internal Chain of Custody Report

Login: L12110784

Account: 2736

Project: 2736.125

Samples: 30

Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-06 131523 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-06 131524 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:40	JKS	ERP	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L12110784-07 131525 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:40	JKS	ERP	

**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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-08 131526 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-08 131527 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:40	JKS	ERP	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L12110784-09 131528 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:40	JKS	ERP	

**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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-10 131529 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	

Samplenum **Container ID** **Products**
L12110784-10 131530 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:40	JKS	ERP	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L12110784-11 131531 AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D CR-AX-D CU

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	04-DEC-2012 10:47	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

**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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-12 131532 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-12 131533 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:41	JKS	ERP	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L12110784-13 131534 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	04-DEC-2012 10:47	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

**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



Internal Chain of Custody Report

Login: L12110784

Account: 2736

Project: 2736.125

Samples: 30

Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-14 131535 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-14 131536 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:41	JKS	ERP	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L12110784-15 131537 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	04-DEC-2012 10:47	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

**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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-16 131538 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	29-NOV-2012 16:30	CLS		<2
2	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-16 131539 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		>2
Comments:Added 5ml HNO3 to the above sample ID's. Lot#: RGT 17948 11/29/12 @ 1							
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:41	JKS	ERP	

****Sample extract/digestate/leachate***

Samplenum **Container ID** **Products**
L12110784-17 131540 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		>2
Comments:Added 5ml HNO3 to the above sample ID's. Lot#: RGT 17948 11/29/12 @ 1							
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:41	JKS	ERP	

****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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum Container ID Products
L12110784-18 131541 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:11	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Samplenum Container ID Products
L12110784-18 131542 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	04-DEC-2012 13:41	JKS	ERP	

**Sample extract/digestate/leachate*

Samplenum Container ID Products
L12110784-19 131543 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

**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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-20 131544 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-20 131545 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L12110784-21 131546 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

**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



Internal Chain of Custody Report

Login: L12110784

Account: 2736

Project: 2736.125

Samples: 30

Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-22 131547 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:34	MRT	JKT	

Samplenum **Container ID** **Products**
L12110784-22 131548 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		>2
Comments:Added 5ml HNO3 to the above sample ID's. Lot#: RGT 17948 11/29/12 @ 1							
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	03-DEC-2012 12:35	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

***Sample extract/digestate/leachate**

Samplenum **Container ID** **Products**
L12110784-23 131549 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		>2
Comments:Added 5ml HNO3 to the above sample ID's. Lot#: RGT 17948 11/29/12 @ 1							
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	04-DEC-2012 11:38	PDM	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

***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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-24 131550 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-24 131551 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		>2
Comments:Added 5ml HNO3 to the above sample ID's. Lot#: RGT 17948 11/29/12 @ 1							
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	05-DEC-2012 07:34	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

***Sample extract/digestate/leachate**

Samplenum **Container ID** **Products**
L12110784-25 131552 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		>2
Comments:Added 5ml HNO3 to the above sample ID's. Lot#: RGT 17948 11/29/12 @ 1							
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	05-DEC-2012 07:34	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

***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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-26 131553 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-26 131554 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		>2
Comments:Added 5ml HNO3 to the above sample ID's. Lot#: RGT 17948 11/29/12 @ 1							
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	05-DEC-2012 07:34	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

***Sample extract/digestate/leachate**

Samplenum **Container ID** **Products**
L12110784-27 131555 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		>2
Comments:Added 5ml HNO3 to the above sample ID's. Lot#: RGT 17948 11/29/12 @ 1							
2	PREP	W1	DIG	03-DEC-2012 06:03	REK	AZH	
3	ANALYZ*	DIG	METALS	05-DEC-2012 11:10	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

***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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-28 131556 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

Samplenum **Container ID** **Products**
L12110784-28 131557 AG AL AS-MS BA BE-AX CA CD-AX CO CR-AX CU FE F

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	05-DEC-2012 11:10	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

****Sample extract/digestate/leachate***

Samplenum **Container ID** **Products**
L12110784-29 131558 AG-D AL-D AS-MSD BA-D BE-AXD CA-D CD-AXD CO-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	29-NOV-2012 16:30	CLS		
2	PREP	W1	DIG	03-DEC-2012 06:02	REK	AZH	
3	ANALYZ*	DIG	METALS	05-DEC-2012 11:10	KHR	REK	
4	STORE	DIG	A2	06-DEC-2012 13:08	CLS	ERP	

****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: L12110784
Account: 2736
Project: 2736.125
Samples: 30
Due Date: 13-DEC-2012

Samplenum **Container ID** **Products**
L12110784-30 131559 826-SPE

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	29-NOV-2012 16:30	CLS		<2
2	ANALYZ	V1	ORG4	30-NOV-2012 08:35	MRT	JKT	
3	STORE	ORG4	A2	13-DEC-2012 08:10	JKS	MRT	

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



NELAP Addendum - March 4, 2011

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVL NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Sulfate (SO₄) - 9038
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO₃)
Thiodiglycol (TDG-LCMS)

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL HPLC02/HPLC-UV

Nitroglycerin
Nitroguanidine
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVL KNITRO-C-WUV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVL MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVL RSK01/GC-FID

Isobutane
n-Butane
Propane
Propylene
Propyne

OVL HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

SOLID AND HAZARDOUS CHEMICALS

OVL HPLCOS-HPLC-UV

Nitroguanidine

OVL KNITRO-C-S/UV-VIS

Nitrocellulose

OVL MSS01/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVL MSV01/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)