Northeast
Utilities System

Public Service of New Hampshire
Northeast Utilities System
Merrimack Station
97 River Road
Bow, New Hampshire 03304

Phone (603) 224-4081
Fax (603) 634-2334

February 28, 2013

Mr. Bruce Kudrick
Superintendent, Hooksett Sewer Commission
Town of Hooksett
1 Egawes Drive
Hooksett, New Hampshire 03106

Re: January Wastewater Discharge Monitoring Report
Treated Wastewater
Merrimack Station
Public Service Company of New Hampshire
Bow, New Hampshire

Dear Mr. Kudrick:

Public Service Company of New Hampshire is pleased to submit the attached **Wastewater Discharge Monitoring Report** (DMR) for the period January 1, 2013 through January 31, 2013, in accordance with Waste Disposal Agreement WDA-001. Wastewater (Softened Stream A) flow was approximately 80,010 gallons for the monitoring period and was estimated based on the actual number of tanker trucks discharged to the Hooksett Sanitary Sewer System (Hooksett) from January 1, 2013 through January 31, 2013 and metered tanker capacity. Softened Stream A was the only approved waste stream discharged to Hooksett in January 2013.

Table 1 included in the Wastewater DMR summarizes the analytical results contained in the attached **Analytical Data Report**. **Table 2** included in the Wastewater DMR summarizes wastewater shipments to Hooksett in the month of January 2013. The analysis of the Softened Stream A sample collected on January 26, 2013 was performed in accordance with the United States Environmental Protection Agency (EPA) draft Standard Operating Procedure (SOP) for trace metals analysis of flue gas desulfurization (FGD) wastewater. The SOP is described below.

ANALYTICAL DISCUSSION

FGD wastewater requires specialized analytical techniques to overcome matrix interference for certain analysis of trace metals. To assist you in evaluating this issue further, we offer an excerpt below from the EPA web site and a link to their draft SOP for trace metals analysis of FGD wastewater that contains further guidance.

LABORATORY ANALYSIS OF FGD WASTEWATER

Wastewater from FGD systems can contain constituents known to cause matrix interferences. EPA has observed that, during inductively coupled plasma – mass spectrometry (ICP-MS) analysis of FGD wastewater, certain elements commonly present in the wastewater may cause polyatomic interferences that bias the detection and/or quantization of certain elements of interest. These potential interferences may become significant when measuring trace elements at concentrations in the low parts-per-billion range.

Northeast
Utilities System

Public Service of New Hampshire
Northeast Utilities System
Merrimack Station
97 River Road
Bow, New Hampshire 03304

Phone (603) 224-4081
Fax (603) 634-2334

As part of a recent sampling effort for the steam electric power generating effluent guidelines rulemaking, EPA developed an SOP that was used in conjunction with EPA Method 200.8 to conduct ICP MS analyses of FGD wastewater. The SOP describes critical technical and quality assurance procedures that were implemented to mitigate anticipated interferences and generate reliable data for FGD wastewater. EPA regulations at 40 CFR 136.6 already allow the analytical community flexibility to modify approved methods to lower the costs of measurements, overcome matrix interferences, or otherwise improve the analysis. The draft SOP developed for FGD wastewater takes a proactive approach toward looking for and taking steps to mitigate matrix interferences, including using specialized interference check solutions (i.e., a synthetic FGD wastewater matrix). EPA's draft SOP is being made available to laboratories contemplating ICP-MS analysis of FGD wastewater, either for adoption as currently written or to serve as a framework for developing their own laboratory-specific SOP. For further information please see EPA link below:

- Standard Operating Procedure: Inductively Coupled Plasma/Mass Spectrometry for Trace Element Analysis in Flue Gas Desulfurization Wastewaters (30 pp, 174K), *http://water.epa.gov/scitech/wastetech/guide/steam-electric/upload/Steam-Electric_FGD_Draft-SOP_2011.pdf.*

Considering that specialized analytical techniques are necessary to overcome matrix interference for certain analysis of trace metals in FDG wastewater, we recommend any analysis on FGD wastewater be conducted in accordance with the EPA draft SOP for trace metals analysis of FGD wastewater.

Should you have any questions, please contact Ron Breton with GZA at 232-8744 or me at 224-4081.

Sincerely,

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

Brad Owens, Station Manager

p:\04jobs\0029300s\04.0029307.00\work\sampling and reporting\reports\hookset\monthly\jan 2013\final hookset jan rpt 022713.docx

Attachment

CONFIDENTIAL BUSINESS INFORMATION

WASTEWATER DISCHARGE MONITORING REPORT
HOOKSETT WASTEWATER TREATMENT PLANT

Public Service Company of New Hampshire - Merrimack Station
Waste Disposal Agreement No. WDA-001
Issued October 1, 2012
Expires September 30, 2013

FACILITY INFORMATION

Company Name: Public Service Company of New Hampshire - Merrimack Station
Company Owner: Public Service Company of New Hampshire
Facility Address: 97 River Road
Facility Contact: Brad Owens
Telephone: (603) 224-4081

MONITORING REPORT

Submittal Date: 2/27/2013
Monitoring Point: Truck loading station
Reporting Period: January 2013

SAMPLE ANALYSIS

Certified Analytical Laboratory: Eastern Analytical Inc. (EAI) Certification Number 1012
Authorized Representative: Lorraine Olashaw
Analytical Subcontractor: Frontier Global Sciences Certification Number E87575

SAMPLE COLLECTION

Sampler: Paul Pepler, GZA
Sample Type: Grab
Sample Date : 1/26/2013 Sample Time 11:50 AM
pH: 7.79
Waste Stream: Softened Stream A

CATEGORICAL PRETREATMENT STANDARDS

40 CFR 423.16: Steam Electric Power Generating Category
NOTE: There are no numerical pretreatment standards for this source

CERTIFICATION STATEMENT

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Bradley Owens
Printed Name of Authorized Representative

Station Manager
Title

Signature of Authorized Representative

2/27/2013
Date

TABLE 1 - SUMMARY OF ANALYTICAL DATA
Public Service Company of New Hampshire
Merrimack Station
Bow, New Hampshire

PARAMETER	SOFTENED STREAM A RESULTS 1/26/2013 (mg/L)
Arsenic	<0.00150
BOD	<60
Cadmium	0.000548
COD	170
Copper	0.00632
Lead	<0.000400
Mercury	0.0000413
Molybdenum	0.120
Nickel	<0.00100
pH	7.79
Selenium	0.0445
Silver	<0.000200
Sodium	7,190
TDS	23,000
TSS	<5

TABLE 2
SUMMARY OF WASTEWATER SHIPMENTS TO HOOKSETT WASTEWATER TREATMENT PLANT
Public Service Company of New Hampshire
Merrimack Station
Bow, New Hampshire

DATE	DAY	TICKET	TRUCKING COMPANY	pH	VOLUME	TOTAL DAILY VOLUME (gallons)
1/25/2013	Friday	25952	Enpro	7.7	8007	8,007
1/26/2013	Saturday	25955	Enpro	7.98	8003	24,003
		25969	Enpro	7.66	8000	
		25956	Enpro	7.5	8000	
1/27/2013	Sunday	25970	Enpro	7.3	8000	16,000
		25957	Enpro	7.93	8000	
1/28/2013	Monday	25954	Enpro	7.52	8000	32,000
		25953	Enpro	7.5	8000	
		25976	Enpro	7.43	8000	
		25958	Enpro	7.32	8000	

Shipments (Number of Trucks)	10
Truck Volume (Gallons)	8,000
Total Volume Discharged (Gallons)	80,010
Maximum Daily Flow (gallons per day)	32,000
Average Daily Flow (gallons per discharge day)	20,003

PERMITTED FLOW

Treated Blowdown from Flue Gas Desulfurization (FGD) System (Stream A).....100,000 gallons per day
Treated Blowdown from Flue Gas Desulfurization (FGD) System (Softened Stream A)..... 100,000 gallons per day
Noncontact Cooling Water generated in association with the FGD treatment System.....100,000 gallons per day
Distillate generated in association with the FGD treatment system .....100,000 gallons per day

NOTE: The total volume of all waste streams discharged shall not exceed 100,000 gallons per day.

Eastern Analytical, Inc.

professional laboratory & drilling services

Paul Pepler
GZA GeoEnvironmental, Inc. (NH)
380 Harvey Road
Manchester , NH 03103

ACCREDITED IN ACCORDANCE WITH nelac

Subject: Laboratory Report

Eastern Analytical, Inc. ID:	117908
Client Identification:	PSNH-MK
Date Received:	1/28/2013

Dear Mr. Pepler:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted
< : "less than" followed by the reporting limit
> : "greater than" followed by the reporting limit
%R : % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw

Lorraine Olashaw, Lab Director	2.14.13	37
	Date	# of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **117908**

Client: **GZA GeoEnvironmental, Inc. (NH)**

Client Designation: **PSNH-MK**

Temperature upon receipt (°C): 4.4 **Received on ice or cold packs (Yes/No): Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
117908.01	Softened Stream A WW	1/28/13	1/26/13	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater : Inorganics, 19th Edition, 1995; Microbiology, 20th Edition, 1998

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT

EAI ID#: **117908**

Client: **GZA GeoEnvironmental, Inc. (NH)**

Client Designation: **PSNH-MK**

Sample ID:	Softened Stream A WW					
Lab Sample ID:	117908.01					
Matrix:	aqueous					
Date Sampled:	1/26/13					
Date Received:	1/28/13					
			Analysis			
		Units	**Date**	**Time**	**Method**	**Analyst**
Solids Suspended	< 5	mg/L	1/29/13	10:10	2540D	SCW
Solids Dissolved	**23000**	mg/L	1/30/13	15:50	2540C	SCW
BOD	< 60	mg/L	1/28/13	10:45	5210B	SKC
COD	**170**	mg/L	1/31/13	8:35	H8000	SCW

BOD: Although several dilutions were run on sample "Softened", oxygen depletion was not great enough to calculate a valid BOD result. An elevated detection limit has been reported.

QC REPORT

EAI ID#: **117908**

Client: **GZA GeoEnvironmental, Inc. (NH)**

Client Designation: **PSNH-MK**

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Solids Suspended	< 5	96 (96 %R)	93 (93 %R) (3 RPD)	mg/L	1/29/13	90 - 110	20	2540D
Solids Dissolved	< 5	990 (99 %R)	NA	mg/L	1/30/13	85 - 115		2540C
BOD	< 6	410 (102 %R)	420 (106 %R) (4 RPD)	mg/L	1/28/13	84 - 115	20	5210B
COD	< 10	100 (101 %R)	95 (95 %R) (6 RPD)	mg/L	1/31/13	85 - 115	20	H8000

Samples were analyzed within holding times unless noted on the sample results page.
Instrumentation was calibrated in accordance with the method requirements.
The method blanks were free of contamination at the reporting limits.
The associated matrix spikes and/or Laboratory Control Samples met the above stated criteria.
Exceptions to the above statements are flagged or noted above or on the QC Narrative page.
*/! Flagged analyte recoveries deviated from the QA/QC limits.

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

12 February 2013

Jeff Gagne
Eastern Analytical, Inc
25 Chenell Drive
Concord, NH 03301

RE: Merrimack Station 200.8

Enclosed are the analytical results for samples received by Frontier Global Sciences. All quality control measurements are within established control limits and there were no analytical difficulties encountered with the exception of those listed in the case narrative section of this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Liz Siska

Liz Siska
Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

ANALYTICAL REPORT FOR SAMPLES

Laboratory: Eurofins Frontier Global Sciences, Inc. **SDG:**

Client: Eastern Analytical, Inc **Project:** Merrimack Station 200.8

Sample ID	Lab ID	Matrix	Date Sampled	Date Received
Softened Stream A WW	1301407-01	Water	26-Jan-13 11:50	29-Jan-13 09:25
Field Blank Hg	1301407-02	Water	26-Jan-13 11:50	29-Jan-13 09:25

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER™
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

CASE NARRATIVE

SAMPLE RECEIPT
Two (2) water samples were received January 29th, 2013 at Eurofins Frontier Global Sciences (EFGS). The samples were received intact, on-ice within a cooler at 6.0 degrees Celsius.

SAMPLE PREPARATION AND ANALYSIS
Sample preparation and analysis for trace metals was performed in accordance with EPA Method 200.8 with the use of a collison cell.

Sample preparation and analysis for total mercury was performed in accordance with EPA Method 1631E.

ANALYTICAL ISSUES
Liquid spikes were prepared for every preparation as a measure of accuracy. All liquid spikes and certified reference material (if applicable) were within the control limits.

As an additional measure of the accuracy of the methods used and to check for matrix interference, matrix spikes (MS) and matrix spike duplicates (MSD) were digested and analyzed. All of the matrix spike recoveries were within the control limits.

A reasonable measure of the precision of the analytical methods is the relative percent difference (RPD) between a matrix spike recovery and a matrix spike duplicate recovery and between laboratory control sample recovery and laboratory control sample duplicate recoveries. All of the relative percent differences were within the control limits.

Eurofins Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

CHAIN OF CUSTODY FORMS

FGS Work Order: 1301407

Sample Receipt Checklist

Frontier Global Sciences

Client: Eastern Analytical Date & Time Received: 1/29/13 0925 Date Logged In: 1/29/13 Date Labeled: 1/29/13

Project: _____ Received By: CD Logged By: AMB Labeled By: AMB

# of Coolers Received: 1 Samples Arrived By: X Shipping Service ____ Courier ____ Hand ____ Other (Specify: _____)

Tracking/Airbill Number(s): UPS 1Z X46 599 01 9726 7464

Thermal Preservation: ____None (Ambient) X Loose Ice ____Gel/Blue Ice ____Other (Specify: _____) Thermal Preservation Required: Y / (N)

Cooler Information:	Y/N	Comments
The coolers do not appear to be tampered with:	Y	
Custody Seals are present and intact:	N	Not used
Custody seals signed by:	N/A	

Thermometer ID: 3150			CF: -0.1°C	
Cooler 1: 0.4 °C X	Cooler 4: °C	Cooler 7: °C	Cooler 10: °C	
Cooler 2: °C	Cooler 5: °C	Cooler 8: °C	Cooler 11: °C	
Cooler 3: °C	Cooler 6: °C	Cooler 9: °C	Cooler 12: °C	

Chain of Custody:	Y/N	Comments
Sample ID/Description:	Y	
Date/Time of collection:	Y	
Sampled by:	Y	
Preservation type:	N/A	
Requested analyses:	Y	
Required signatures:	Y	
Internal COC required:	N	

Sample Condition/Integrity:	Y/N	Comments
Sample containers intact:	Y	
Sample labels are present and legible:	Y	
Sample ID on container matches COC:	Y	
Correct sample containers used:	Y	
Samples received within holding times:	Y	
Sample volume sufficient for requested analyses:	Y	
Correct preservative used for requested analyses:	N/A	
pH of preserved samples verified and recorded:	N/A	

Client Contacted: _____ Date/Time: _____ Method: _____

Anomalies/Non-conformances (attach additional pages if needed):

Discussion/Resolution:

*Ice was completely melted prior to arrival at EFGS. - CD 1/29/13

Sample bags all had a small bright pink sticker on them that reads: "117908.01 Softened" AMB 1/29/13

FGS Sample Receipt Checklist Revision 2; 07/09/2012

Eurofins Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

CHAIN OF CUSTODY FORMS

FRONTIER GLOBAL SCIENCES

Chain of Custody Record & Laboratory Analysis Request:
Air, Water, Sediments, Plant and Animal Tissue,
Hydrocarbon & Other Samples

Page __ of __

11720 North Creek Parkway N
Bothell, WA 98011
Phone: 425-686-1996
Fax: 425-686-3096
info@FrontierGS.com
http://www.FrontierGS.com

Client: Eastern Analytical, Inc.	Contact: Jeff Bagge		FGS PM: Liz Siska
Address: 25 Chenell Drive Concord, NH 03301	Phone: 603/228-0525 Fax: 603/228-4591		Date: 1/28/2013
	E-mail: jeffg@eailabs.com		TAT (business days): 20 (std) 15 10 5 4 3 2 24 hrs. (For TAT < 10 days, contact PM. Surcharges apply for expedited TAT)
Project Name	Contract/PO: 39862		Saturday delivery? ☐ Y ☐ N (If yes, please contact PM)
Report To: Same as above	Invoice To:		EDD ☑ Y ☐ N
Address: 603/ 603/	Address: Same		QA ☐ Standard ☐ High
Phone: 228-0525 Fax: 228-4591	Phone: Fax:		
E-mail: customerservice@eailabs.com	E-mail:		

No.	Engraved Bottle ID	Sample ID	# of Bottles	Matrix	Date & Time	Sampled By	Field Filtered (Y/N)	Field Preserved: HNO_3 HCl BrCl Other (%)	Analyses Requested: Total Metals	Comments
1	C-6502/6504	Softened Stream A WW	2	AQ	1/24/13 1150	PTP	N	—	✓	Metals include As, Ag, Cd, Cu, Mo, Na, Ni, Pb, Hg, Se 200.8 via Collision cell
2	C-4604	Field Blank Hg	1	AQ	1/24/13 1150	PTP	N	—	Hg	
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										

For Laboratory Use Only		Matrix Codes:	Relinquished By:	Received By:	Received By:
COC Seal: None	Comments:	FW: Fresh Water WW: Waste Water SB: Sea and Brackish Water SS: Soil and Sediment TS: Plant and Animal Tissue HC: Hydrocarbons TR: Trap OT: Other		UPS	
Cooler Temp: 6.0 °C			Name: Chris Johnson	Name:	Name:
Carrier: UPS			Organization: Eastern Analytical	Organization:	Organization: EFGS
VTSR: 0905	TID 3150		Date & Time: 1/28/13 1550	Date & Time:	Date & Time: 1/29/13 0905
# of Coolers:			Tracking number: 1Z X46 599 01 9736 7464		

Sample Disposal:
☐ Return (shipping fees may apply)
☐ Standard Disposal – 30 Days after report
☐ Retain for ____ weeks after report (storage fees may apply)

By signing, you declare that you agree with FGS' terms and conditions, and that you authorize FGS to perform the specified analyses.

Customer Approval: _____ Date: _____

Eurofins Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

FRONTIER™
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

ANALYTICAL RESULTS

Softened Stream A WW

Matrix: Water **Laboratory ID:** 1301407-01

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
Arsenic	ND	0.43	1.50	µg/L	10	F302022	3B08012	02/08/13	EPA 200.8	U
Cadmium	**0.548**	0.032	0.200	µg/L	10	F302022	3B08012	02/08/13	EPA 200.8	
Copper	**6.32**	0.10	1.00	µg/L	10	F301262	3B04004	02/03/13	EPA 200.8	
Lead	ND	0.032	0.400	µg/L	10	F301262	3B04004	02/03/13	EPA 200.8	U
Mercury	**41.3**	0.84	5.05	ng/L	10	F302012	3B05007	02/04/13	EPA 1631E	
Molybdenum	**120**	0.077	1.20	µg/L	10	F301262	3B11008	02/08/13	EPA 200.8	
Nickel	ND	0.12	1.00	µg/L	10	F301262	3B04004	02/03/13	EPA 200.8	U
Selenium	**44.5**	3.15	6.00	µg/L	10	F302063	3B12002	02/12/13	EPA 200.8	
Silver	ND	0.020	0.200	µg/L	10	F302022	3B11007	02/09/13	EPA 200.8	U
Sodium	**7190000**	4990	2500000	µg/L	5000	F301262	3B11001	02/08/13	EPA 200.8	

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

ANALYTICAL RESULTS

Field Blank Hg

Matrix: Water **Laboratory ID:** 1301407-02

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
Mercury	ND	0.08	0.50	ng/L	1	F302012	3B05007	02/04/13	EPA 1631E	U

Eurofins Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1301386-02

Batch: F302012 **Sequence:** 3B05007

Preparation: BrCl Oxidation **Lab Number:** F302012-DUP1

Analyte	Sample Concentration ng/L	Duplicate Concentration ng/L	MRL	% RPD	RPD Limit	Method	Notes
Mercury	66.24	66.08	5.05	0.247	24	EPA 1631E	

Eurofins Frontier Global Sciences, Inc.

Liz Siska, Project Manager

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01

Batch: F301262 **Sequence:** 3B04004

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F301262-MS/MSD1

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Nickel	0.39	4.0600	2.53	52.7	70 - 130	EPA 200.8	QM-07
Copper	6.32	4.0600	8.90	63.5	70 - 130	EPA 200.8	QM-02
Lead	ND	1.5225	1.294	85.0	70 - 130	EPA 200.8	

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Nickel	4.0600	2.30	47.0	9.54	70 - 130	20	EPA 200.8	QM-07
Copper	4.0600	8.40	51.3	5.75	70 - 130	20	EPA 200.8	QM-02
Lead	1.5225	1.335	87.7	3.15	70 - 130	20	EPA 200.8	

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01

Batch: F301262 **Sequence:** 3B04004

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F301262-MS/MSD3

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Nickel	0.39	253.75	198.2	77.9	70 - 130	EPA 200.8	AS
Copper	6.32	253.75	200.9	76.7	70 - 130	EPA 200.8	AS
Lead	ND	50.750	43.61	85.9	70 - 130	EPA 200.8	AS

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Nickel	253.75	196.9	77.4	0.662	70 - 130	20	EPA 200.8	AS
Copper	253.75	204.3	78.0	1.70	70 - 130	20	EPA 200.8	AS
Lead	50.750	44.57	87.8	2.16	70 - 130	20	EPA 200.8	AS

Eurofins Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01RE2

Batch: F301262 **Sequence:** 3B11001

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F301262-MS/MSD7

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Sodium	7186000	507.50	7311000	24700	70 - 130	EPA 200.8	QM-02

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Sodium	507.50	6370000	-161000	13.7	70 - 130	20	EPA 200.8	QM-02

Eurofins Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01RE2

Batch: F301262 **Sequence:** 3B11001

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F301262-MS/MSD8

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Sodium	7186000	10150000	17430000	101	70 - 130	EPA 200.8	AS

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Sodium	10150000	17090000	97.6	1.98	70 - 130	20	EPA 200.8	AS

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01RE3

Batch: F301262 **Sequence:** 3B11008

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F301262-MS/MSD9

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Molybdenum	119.9	2.0300	121.2	67.0	70 - 130	EPA 200.8	QM-02

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Molybdenum	2.0300	121.8	96.5	0.494	70 - 130	20	EPA 200.8	

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01RE3

Batch: F301262 **Sequence:** 3B11008

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F301262-MS/MSDA

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Molybdenum	119.9	101.50	236.7	115	70 - 130	EPA 200.8	AS

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Molybdenum	101.50	232.7	111	1.69	70 - 130	20	EPA 200.8	AS

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301386-02

Batch: F302012 **Sequence:** 3B05007

Preparation: BrCl Oxidation **Lab Number:** F302012-MS/MSD1

Analyte	Sample Concentration (ng/L)	Spike Added (ng/L)	MS Concentration (ng/L)	MS % Recovery	Recovery Limits	Method	Notes
Mercury	66.24	204.00	261.8	95.8	71 - 125	EPA 1631E	

Analyte	Spike Added (ng/L)	MSD Concentration (ng/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury	204.00	265.6	97.7	1.44	71 - 125	24	EPA 1631E	

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1302024-04

Batch: F302012 **Sequence:** 3B05007

Preparation: BrCl Oxidation **Lab Number:** F302012-MS/MSD2

Analyte	Sample Concentration (ng/L)	Spike Added (ng/L)	MS Concentration (ng/L)	MS % Recovery	Recovery Limits	Method	Notes
Mercury	2.43	5.1000	8.19	113	71 - 125	EPA 1631E	

Analyte	Spike Added (ng/L)	MSD Concentration (ng/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury	5.1000	8.15	112	0.497	71 - 125	24	EPA 1631E	

Eurofins Frontier Global Sciences, Inc.

Liz Siska, Project Manager

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01RE2

Batch: F302022 **Sequence:** 3B08012

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F302022-MS/MSD1

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Arsenic	1.21	15.225	17.80	109	70 - 130	EPA 200.8	
Cadmium	0.548	0.81200	1.278	89.9	70 - 130	EPA 200.8	

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Arsenic	15.225	18.30	112	2.74	70 - 130	20	EPA 200.8	
Cadmium	0.81200	1.366	101	6.73	70 - 130	20	EPA 200.8	

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska

Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01RE2

Batch: F302022 **Sequence:** 3B08012

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F302022-MS/MSD2

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Arsenic	1.21	203.00	230.1	113	70 - 130	EPA 200.8	AS
Cadmium	0.548	20.300	21.38	103	70 - 130	EPA 200.8	AS

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Arsenic	203.00	232.6	114	1.05	70 - 130	20	EPA 200.8	AS
Cadmium	20.300	20.90	100	2.29	70 - 130	20	EPA 200.8	AS

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01RE2

Batch: F302022 **Sequence:** 3B11007

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F302022-MS/MSD3

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Silver	ND	1.5225	1.134	74.5	70 - 130	EPA 200.8	

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Silver	1.5225	1.176	77.3	3.66	70 - 130	20	EPA 200.8	

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01RE2

Batch: F302022 **Sequence:** 3B11007

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F302022-MS/MSD4

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Silver	ND	10.150	7.578	74.7	70 - 130	EPA 200.8	AS

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Silver	10.150	7.607	75.0	0.382	70 - 130	20	EPA 200.8	AS

Eurofins Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01RE3

Batch: F302063 **Sequence:** 3B12002

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F302063-MS/MSD1

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Selenium	44.47	30.450	55.00	34.6	70 - 130	EPA 200.8	QM-02

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Selenium	30.450	63.41	62.2	14.2	70 - 130	20	EPA 200.8	QM-02

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY AND RPD

SOURCE: 1301407-01RE3

Batch: F302063 **Sequence:** 3B12002

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F302063-MS/MSD2

Analyte	Sample Concentration (µg/L)	Spike Added (µg/L)	MS Concentration (µg/L)	MS % Recovery	Recovery Limits	Method	Notes
Selenium	44.47	203.00	220.1	86.5	70 - 130	EPA 200.8	

Analyte	Spike Added (µg/L)	MSD Concentration (µg/L)	MSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Selenium	203.00	228.8	90.8	3.89	70 - 130	20	EPA 200.8	

Eurofins Frontier Global Sciences, Inc.

Liz Siska, Project Manager

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

Batch: F301262 **Sequence:** 3B04004

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F301262-BS/BSD1

LCS Source: Blank Spike

Analyte	Spike Added (µg/L)	LCS Concentration (µg/L)	LCS % Recovery	Recovery Limits	Method	Notes
Sodium	500.00	473	94.6	85 - 115	EPA 200.8	
Nickel	4.0000	3.63	90.7	85 - 115	EPA 200.8	
Copper	4.0000	3.70	92.5	85 - 115	EPA 200.8	
Molybdenum	2.0000	1.778	88.9	85 - 115	EPA 200.8	
Lead	1.5000	1.317	87.8	85 - 115	EPA 200.8	

Analyte	Spike Added (µg/L)	LCSD Concentration (µg/L)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Sodium	500.00	471	94.2	0.449	85 - 115	20	EPA 200.8	
Nickel	4.0000	3.60	90.0	0.776	85 - 115	20	EPA 200.8	
Copper	4.0000	3.85	96.2	3.89	85 - 115	20	EPA 200.8	
Molybdenum	2.0000	1.723	86.1	3.14	85 - 115	20	EPA 200.8	
Lead	1.5000	1.361	90.7	3.28	85 - 115	20	EPA 200.8	

Eurofins Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

Batch: F302012
Preparation: BrCl Oxidation
Sequence: 3B05007
Lab Number: F302012-BS/BSD1
LCS Source: NIST

Analyte	Spike Added (ng/L)	LCS Concentration (ng/L)	LCS % Recovery	Recovery Limits	Method	Notes
Mercury	15.679	16.00	102	77 - 123	EPA 1631E	

Analyte	Spike Added (ng/L)	LCSD Concentration (ng/L)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Mercury	15.679	16.19	103	1.17	77 - 123	24	EPA 1631E	

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

Batch: F302022 **Sequence:** 3B08012

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F302022-BS/BSD1

LCS Source: Blank Spike

Analyte	Spike Added (µg/L)	LCS Concentration (µg/L)	LCS % Recovery	Recovery Limits	Method	Notes
Arsenic	15.000	17.06	114	85 - 115	EPA 200.8	
Cadmium	0.80000	0.811	101	85 - 115	EPA 200.8	

Analyte	Spike Added (µg/L)	LCSD Concentration (µg/L)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Arsenic	15.000	17.25	115	1.09	85 - 115	20	EPA 200.8	
Cadmium	0.80000	0.844	105	3.93	85 - 115	20	EPA 200.8	

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER™
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

Batch: F302022 **Sequence:** 3B11007

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F302022-BS/BSD2

LCS Source: Blank Spike

Analyte	Spike Added (µg/L)	LCS Concentration (µg/L)	LCS % Recovery	Recovery Limits	Method	Notes
Silver	1.5000	1.493	99.5	85 - 115	EPA 200.8	

Analyte	Spike Added (µg/L)	LCSD Concentration (µg/L)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Silver	1.5000	1.522	101	1.89	85 - 115	20	EPA 200.8	

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska

Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

LABORATORY CONTROL SAMPLE/ LABORATORY CONTROL SAMPLE DUPLICATE

RECOVERY AND RPD

Batch: F302063 **Sequence:** 3B12002

Preparation: Closed Vessel Nitric Oven Digestion **Lab Number:** F302063-BS/BSD1

LCS Source: Blk Spk

Analyte	Spike Added (µg/L)	LCS Concentration (µg/L)	LCS % Recovery	Recovery Limits	Method	Notes
Selenium	30.000	28.08	93.6	85 - 115	EPA 200.8	

Analyte	Spike Added (µg/L)	LCSD Concentration (µg/L)	LCSD % Recovery	% RPD	Recovery Limits	RPD Limit	Method	Notes
Selenium	30.000	28.15	93.8	0.226	85 - 115	20	EPA 200.8	

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

PREPARATION BLANKS

Instrument: ICPMS-5

Sequence: 3B04004

Preparation: Closed Vessel Nitric Oven Digestion

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F301262-BLK1	Sodium	9	20	µg/L	F301262	EPA 200.8	U
F301262-BLK1	Nickel	0.04	0.10	µg/L	F301262	EPA 200.8	U
F301262-BLK1	Copper	0.03	0.10	µg/L	F301262	EPA 200.8	U
F301262-BLK1	Molybdenum	0.017	0.060	µg/L	F301262	EPA 200.8	U
F301262-BLK1	Lead	0.001	0.040	µg/L	F301262	EPA 200.8	U

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

PREPARATION BLANKS

Instrument: Hg2600-2 **Sequence:** 3B05007

Preparation: BrCl Oxidation

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F302012-BLK1	Mercury	0.007	0.50	ng/L	F302012	EPA 1631E	U
F302012-BLK2	Mercury	-0.01	0.50	ng/L	F302012	EPA 1631E	U
F302012-BLK3	Mercury	-0.003	0.50	ng/L	F302012	EPA 1631E	U
F302012-BLK4	Mercury	0.02	0.50	ng/L	F302012	EPA 1631E	U, QB-04

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

PREPARATION BLANKS

Instrument: ICPMS-3 **Sequence:** 3B08012

Preparation: Closed Vessel Nitric Oven Digestion

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F302022-BLK1	Arsenic	0.05	0.15	µg/L	F302022	EPA 200.8	U
F302022-BLK1	Cadmium	0.0003	0.020	µg/L	F302022	EPA 200.8	U

Eurofins Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

PREPARATION BLANKS

Instrument: ICPMS-6 **Sequence:** 3B11007

Preparation: Closed Vessel Nitric Oven Digestion

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F302022-BLK2	Silver	-0.0008	0.020	µg/L	F302022	EPA 200.8	U

Eurofins Frontier Global Sciences, Inc.

Liz Siska, Project Manager

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

FRONTIER GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

PREPARATION BLANKS

Instrument: ICPMS-6

Sequence: 3B12002

Preparation: Closed Vessel Nitric Oven Digestion

Lab Sample ID	Analyte	Found	MRL	Units	Batch	Method	Notes
F302063-BLK1	Selenium	0.11	0.60	µg/L	F302063	EPA 200.8	U

Eurofins Frontier Global Sciences, Inc.

Liz Siska

Liz Siska, Project Manager

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

FRONTIER
GLOBAL SCIENCES

11720 North Creek Parkway North, Suite 400
Bothell, WA 98011
Ph: 425-686-1996
Fx: 425-686-3096

Notes and Definitions

U	Analyte included in the analysis, but not detected
QM-07	The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on LCS and LCSD recoveries within control limits and, when analysis permits, acceptable AS/ASD.
QM-02	The MS and/or MSD recoveries outside acceptance limits, due to spike concentration less than 1 times the sample concentration. The batch was accepted based on LCS and LCSD recoveries within control limits and, when analysis permits, acceptable AS/ASD.
QB-04	The blank was preserved to 2% BrCl rather than 1%. The control limit for blanks preserved to greater than 1% BrCl is the preservation percentage multiplied by the MRL.
AS	This MS and/or MSD is an analytical spike and/or an analytical spike duplicate.
DET	Analyte Detected
MDL	Minimum Detection Limit
MRL	Minimum Reporting Limit
ND	Analyte Not Detected at or above the reporting limit
wet	Sample results reported on a wet weight basis
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
RSD	Relative Standard Deviation

Eurofins Frontier Global Sciences, Inc.

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Liz Siska

Liz Siska, Project Manager

Page 1 of 1

CHAIN-OF-CUSTODY RECORD

117908

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

SAMPLE I.D.	SAMPLING DATE/TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE/TIME	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	VOC: 524.2; 524.2 BTEX; 524.2 MTBE only; 8260B; 624; VTICs; 1, 4 Dioxane; EDB; DBCP; 8021B; BTEX; HALOS; 8015B GRO; MEGRO; NAPTH	SVOC: 8270D; 625; SVTICs; ABN; A; BN; PAH; TPH 8100; LI; L2; 8015B DRO; MEDRO; PAH/EPH; PEST 608; PCB 608; PEST 608/8; PCB 608/2; OIL & GREASE 1664; TPH 1664	TCLP: TCLP 1311; VOC; ABN; Metals; Pest; Herb	METALS: DISSOLVED METALS (LIST BELOW); TOTAL METALS (LIST BELOW)	INORGANICS: TS; TSS; TDS; SPEC. COND.; Cl; F; SO4; NO3; NO2; CBOD; T. ALK.; TKN; NH3; T. PHOS.; O. PHOS.; pH; T. ALK. CALCIMINE; COD; PHENOLS; TOC; DOC; TOTAL CHROME; TOTAL SULFIDE; REACTIVE CYANIDE; REACTIVE SULFIDE; FLASHPOINT; IGNITABILITY	MICRO: TOTAL COLIFORM; E. COLI; FECAL COLIFORM; ENTEROCOCCI; HETEROTROPHIC PLATE COUNT	OTHER	# OF CONTAINERS	NOTES MEOH VIAL #
filtered Stream A WW	1/26/13 11:50am	X	X					X	X		X	X	5 (plus one field blank)

MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; (WW-WASTE WATER)

PRESERVATIVE: H-HCL; N-HNO_3; S-H_2SO_4; Na-NaOH; M-MEOH

PROJECT MANAGER: Paul Pepler

COMPANY: GZA GeoEnvironmental, Inc.

ADDRESS: 380 Harvey Road

CITY: Manchester STATE: NH ZIP: 03103

PHONE: 603-232-8717 EXT.:

FAX:

E-MAIL: paul.pepler@gza.com

SITE NAME: PSNH- MK

PROJECT #:

STATE: (NH) MA ME VT OTHER:

REGULATORY PROGRAM: NPDES; RGP POTW STORMWATER OR GWP, OIL FUND, BROWNFIELD OR OTHER:

QUOTE #: PO #:

DATE NEEDED: Standard TAT

QA/QC REPORTING LEVEL

A B C

OR

PRESUMPTIVE CERTAINTY

REPORTING OPTIONS

PRELIMS: (YES) OR NO

IF YES: FAX OR PDF

ELECTRONIC OPTIONS

NO FAX E-MAIL (PDF) EQUIS

TEMP. 4.4 °C

ICE? (YES) NO

SAMPLER(S): Paul Pepler, GZA

RELINQUISHED BY:	DATE: 1/26/13	TIME: 10m	RECEIVED BY:
RELINQUISHED BY:	DATE: 11-25-13	TIME: 9:00	RECEIVED BY:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:

METALS: B RCRA 13 PP Fe, Mn Pb, Cu

OTHER METALS:

DISSOLVED METALS FIELD FILTERED? YES NO

NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)

As, Ag, Cd, Cu, Mo, Na, Ni, Pb, Hg, Se

Field pH: 7.79

Please send metals to Frontier for analysis by Method 200.8 MOD (ICP-MS with Collision cell)

SITE HISTORY:

SUSPECTED CONTAMINATION:

FIELD READINGS:

eastern analytical, inc. professional laboratory services
25 CHENELL DRIVE | CONCORD, NH 03301 | TEL: 603.228.0525 | 1.800.287.0525 | FAX: 603.228.4591 | E-MAIL: CUSTOMER_SERVICE@EAILABS.COM | WWW.EAILABS.COM

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

37