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

October 25, 2013

Mr. Mike Butler
Staff Engineer
Lowell Regional Wastewater Utility
451 First Street Boulevard (Route 110)
Lowell, Massachusetts 01850

Re: Quarter 3 Monthly Self-Monitoring Report
July through October 2013
Merrimack Station
Public Service Company of New Hampshire
Bow, New Hampshire

Dear Mr. Butler:

Public Service Company of New Hampshire (PSNH) is pleased to submit the attached **Self-Monitoring Report** (SMR) for the period July 1, 2013 through September 30, 2013. This SMR is intended to satisfy Condition 6 of Industrial Hauled Waste Permit (HWP) No. HW002 issued to PSNH by the Lowell Regional Wastewater Utility (LRWU). The discharged volume of Softened Stream B Wastewater was approximately 120,000 for the monitoring period. Softened Stream B Wastewater was the only approved waste stream discharged to LRWU during the third quarter of 2013. Wastewater flow was estimated based on the actual number of tanker trucks sent to LRWU during the third quarter of 2013 and tanker capacity.

The attached **SMR Summary Sheet** summarizes the analytical results contained in the attached **Analytical Data Reports** for all required parameters as outlined in Condition 6 of the HWP. The attached **Table 1** compares the results to the LRWU's Local Sewer Discharge Limits. The results indicate that pollutant concentrations were within the limits on the day of sampling. The attached **Table 2** summarizes wastewater shipments to LRWU in the third quarter of 2013. The analysis of the Softened Stream B sample collected on August 7, 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 interferences for analysis of certain 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.

As part of a recent sampling effort for the steam electric power generating effluent guidelines rulemaking, EPA developed a draft SOP that was used in conjunction with EPA Method 200.8 to conduct ICP-MS analyses of FGD wastewater. The draft 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 SOPs. For further information, see:

- Standard Operating Procedure for Trace Element Analysis of Flue Gas Desulfurization Wastewaters using Inductively Coupled Plasma/Mass Spectrometry (ICP-MS) Collision/Reaction Cell Procedure. http://water.epa.gov/scitech/wastetech/guide/steam-electric/upload/ICPMS_FGD_Collision-Reaction-Cell-Procedure_draft_03-11-2013.pdf

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

Sincerely,

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

Brad Owens, Station Manager
p:\04jobs\0029300s\04.0029307.00\work\sampling and reporting\reports\lowell\monthly reports\2013\final lowell q3 ltr 101813 docx

Attachments

LOWELL REGIONAL WASTEWATER UTILITY
Industrial Sewer User Self-Monitoring Report Summary Sheet

Facility Information: Company Name: Public Service Company of New Hampshire

Facility Address: 97 River Road, Bow, New Hampshire Permit No.: HW002

Facility Contact: Brad Owens Telephone: (603) 224-4081

Use A Separate Summary Sheet For Each Monitoring Point

Monitoring Report: Monitoring Point: Treated Wastewater Effluent Holding Tanks Submittal Date: 10/25/2013

Reporting Period (circle applicable): Baseline Annually Semi-Annually (Quarterly) Monthly Re-Sample

Reporting Period Start Date: 7/01/2013 Reporting Period End Date: 9/30/2013

Sample Analysis: Certified Analytical Lab: Eastern Analytical, Inc. (EAI)

Authorized Rep.: Lorraine Olashaw Certification No.: 1012

Analytical Sub-Contractor: Eurofins Frontier Global Sciences Certification No.: E87575

Sample Collection: Sampler (Lab/Self/Other): Other: Paul Pepler, GZA GeoEnvironmental, Inc.

Sample Type(s) (circle all that apply): (Grab) Time Composite Flow Composite

Grab Sampling: Sample Date: 08/07/2013 (Softened Stream B WW) Sample Time: 17:00

pH (Standard Units): 8.6 Instantaneous Flow Rate (GPM): N/A

Composite Sampling: Start Date/Time: N/A Stop Date/Time: N/A

No. Aliquots: N/A Aliquot Volume: N/A Sample Volume: N/A

Flow Data: Sample Event Interval Volume (Gal): 8,000 Sample Event Daily Flow Rate (GPD): 16,000

Flow Monitoring Period Average Daily Flow (GPD): 1,319 [ ] Meter [X] Estimate

Flow Monitoring Period Start Date: July 1, 2013 Flow Monitoring Period End Date: September 30, 2013

Refer to Self-Monitoring Report Instructions for details on completing this SMR Summary Sheet

LOWELL REGIONAL WASTEWATER UTILITY
Industrial Sewer User Self-Monitoring Report Summary Sheet

Submit All Chains of Custody and Laboratory Result Sheets With SMR Summary Sheet

Analytical Results: N/A

Parameter	Analysis Date	Result (mg/L)	Parameter	Analysis Date	Result (mg/L)
BOD			Copper		
COD	08/09/2013	2,400	Cyanide (Total)		
O & G 413.1 / 1664	08/14/2013	< 6	Fluoride		
TSS	08/13/2013	230	Lead		
TOC *			Mercury	08/15/2013	0.0000339
TTO ** 624 / 8260B – 625 / 8270			Molybdenum		
Aluminum			Nickel		
Antimony			Nitrogen (Kjeldahl)	08/15/13	55
Arsenic	08/23/2013	0.020	Phenols (Total)		
Barium			Selenium		
Beryllium			Silver	08/30/2013	< 0.001
Cadmium			Thallium		
Chromium (Hexavalent)			Zinc		
Chromium (Total)			Other	See attached Table 1	

BOD = Biochemical Oxygen Demand COD = Chemical Oxygen Demand O & G = Oil & Grease TSS = Total Suspended Solids TTO = Total Toxic Organics
**TOC (Total Organic Carbon) = is the amount of carbon bound in an organic compound and is often used as a non-specific indicator of water quality. TOC measures both the total carbon present as well as the inorganic carbon (IC). Subtracting the inorganic carbon from the total carbon yields TOC.*
***TTO's = Summation of all quantifiable values greater than 0.01 mg/L for toxic organics listed in 40 CFR 413.02(i). TTO's include PCB's (Poly-Chlorinated Biphenyls), VOC's (Volatile Organic Compounds), SVOC's (Semi-Volatile Organic Compounds). PCB's, VOC's and SVOC's shall be analyzed using EPA Methods 608, 624, and 625, respectively.*

Zero Discharge / Self-Monitoring (initial if applicable):

_____ No industrial wastewater from permitted processes has been discharged to sewer during the monitoring period

_____ No sampling has been conducted on permitted sewer discharges during the monitoring period

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."

Brad Owens
Printed Name of Authorized Representative

Station Manager
Title

Signature of Authorized Representative

10/18/13
Date

TABLE 1
SUMMARY OF SOFTENED STREAM B CONCENTRATIONS
COMPARED TO LOWELL SEWER DISCHARGE LIMITS
Q3: JULY - SEPTEMBER 2013

Public Service Company of New Hampshire
Merrimack Station
Bow, New Hampshire

PARAMETER	LOWELL SEWER DISCHARGE LIMITS (mg/L)	SOFTENED STREAM B RESULTS 08/07/2013 (mg/L)
Ammonia	-	0.90
Arsenic	0.556	0.020
Chloride	-	72,000
COD	-	2,400
Mercury	0.004	0.0000339
Nitrate	-	550
Nitrate+Nitrite	-	561.0
Nitrogen(T)	-	616
O&G (HEM)	250	<6
pH	5.0-9.5	8.6
Silver	0.053	<0.001
Sodium	-	39,900
TSS	-	230
TKN	-	55.0
Total Phosphorous	-	<1
CBOD	-	<6
Total Solids	-	210,000

ANALYTICAL DISCUSSION

FGD wastewater requires specialized analytical techniques to overcome matrix interferences for analysis of certain 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.

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 SOPs. For further information, see:

Standard Operating Procedure for Trace Element Analysis of Flue Gas Desulfurization Wastewaters using Inductively Coupled Plasma/Mass Spectrometry (ICP-MS) Collision/Reaction Cell Procedure. http://water.epa.gov/scitech/wastetech/guide/steam-electric/upload/ICPMS_FGD_Collision-Reaction-Cell-Procedure_draft_03-11-2013.pdf

Considering that specialized analytical techniques are necessary to overcome matrix interference for certain analysis of trace metals in FGD wastewater, we recommend any analysis on FGD wastewater be conducted in accordance with the EPA draft SOP for trace metals analysis of FGD wastewater. Accordingly, the analytical methods used to produce the metals data presented above, were performed in accordance with the draft EPA procedure for the analysis of FGD wastewater.

TABLE 2
SUMMARY OF WASTEWATER SHIPMENTS TO LOWELL REGIONAL WASTEWATER UTILITY
JULY - SEPTEMBER 2013
Public Service Company of New Hampshire
Merrimack Station
Bow, New Hampshire

DATE	DAY	TICKET	TRUCKING COMPANY	pH	SOFTENED STREAM A VOLUME (gallons)	SOFTENED STREAM B VOLUME (gallons)	TOTAL DAILY VOLUME (gallons)
8/6/2013	Tuesday	1034	O'Brien	8.24	-	8,000	8,000
8/7/2013	Wednesday	1035	O'Brien	8.74	-	8,000	16,000
		1036	O'Brien	8.6	-	8,000	
8/8/2013	Thursday	1037	O'Brien	8.32	-	8,000	8,000
8/9/2013	Friday	1038	O'Brien	8.38	-	8,000	16,000
		1039	O'Brien	8.35	-	8,000	
8/12/2013	Monday	1040	O'Brien	8	-	8,000	8,000
8/13/2013	Tuesday	1041	O'Brien	8.16	-	8,000	8,000
8/14/2013	Wednesday	1042	O'Brien	8.14	-	8,000	16,000
		1043	O'Brien	7.8	-	8,000	
8/15/2013	Thursday	1044	O'Brien	7.81	-	8,000	8,000
8/16/2013	Friday	1045	O'Brien	8.55	-	8,000	8,000
8/19/2013	Monday	1046	O'Brien	8.81	-	8,000	8,000
8/20/2013	Tuesday	1047	O'Brien	8.65	-	8,000	8,000
8/22/2013	Thursday	1048	O'Brien	8.63	-	8,000	8,000

Shipments (Number of Trucks)	15
Truck Volume (Gallons)	8,000
Total Stream A Volume Discharged (Gallons)	-
Total Stream B Volume Discharged (Gallons)	120,000
Total Volume Discharged (Gallons)	120,000
Maximum Daily Flow (gallons per day)	16,000
Flow Monitoring Period Average Daily Flow	1,319
PERMITTED FLOW (GPD):	70,000

NOTE:
Wastewater was not shipped to the Lowell Regional Wastewater Utility during the months on July and September 2013

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: 123362
Client Identification: PSNH-MK | 3902
Date Received: 8/8/2013

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

9.16.13 — Date

21 — # of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: **123362**

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

Client Designation: **PSNH-MK | 3902**

Temperature upon receipt (°C): 3 **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)
123362.01	Softened Stream B WW	8/8/13	8/7/13	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.
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.
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,20th Edition, 1998 and 22nd Edition, 2012
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#: **123362**

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

Client Designation: **PSNH-MK | 3902**

Sample ID:	Softened Stream B WW
Lab Sample ID:	123362.01
Matrix:	aqueous
Date Sampled:	8/7/13
Date Received:	8/8/13
Units:	mg/L
Date of Extraction/Prep:	8/14/13
Date of Analysis:	8/14/13
Analyst:	SH
Method:	1664A
Dilution Factor:	1
Oil & Grease (HEM)	< 6

Detection limits elevated due to low initial volume.

QC REPORT

EAI ID#: **123362**

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

Batch ID: 635120-67768/A081413OG1661

Client Designation: **PSNH-MK | 3902**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Oil & Grease (HEM)	< 5	36 (90 %R)	36 (90 %R) (0 RPD)	8/14/2013	mg/L	78 - 114	18	1664A

Samples were extracted and analyzed within holding time limits.
Instrumentation was calibrated in accordance with the method requirements.
The method blanks were free of contamination at the reporting limits.
Sample surrogate recoveries met the above stated criteria.
The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.
There were no exceptions in the analyses, unless noted.
*/! Flagged analyte recoveries deviated from the QA/QC limits.

LABORATORY REPORT

EAI ID#: **123362**

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

Client Designation: **PSNH-MK | 3902**

Sample ID: Softened Stream B WW

Lab Sample ID:	123362.01
Matrix:	aqueous
Date Sampled:	8/7/13
Date Received:	8/8/13

		Analysis			
	Units	**Date**	**Time**	**Method**	**Analyst**
Solids Total	mg/L	08/13/13	10:25	2540B-97	SCW
Solids Suspended	mg/L	08/13/13	11:10	2540D-97	SCW
Chloride	mg/L	08/09/13	11:13	4500ClE	KD
Nitrite-N	mg/L	08/09/13	10:32	353.2	KD
Nitrate-N	mg/L	08/09/13	10:45	353.2	KD
Ammonia-N	mg/L	08/13/13	10:15	4500NH3D	SEL
TKN	mg/L	08/15/13	11:27	4500N_{om}C/	SEL
Total Nitrogen	mg/L	08/15/13	14:00	4500N_{om}C/	SEL
Total Phosphorus-P	mg/L	08/12/13	14:24	365.1	SEL
CBOD	mg/L	08/09/13	14:39	5210B-97	SCW
COD	mg/L	08/09/13	11:20	H8000	SCW

Solids Total	**210000**
Solids Suspended	**230**
Chloride	**72000**
Nitrite-N	**11**
Nitrate-N	**550**
Ammonia-N	**0.90**
TKN	**55**
Total Nitrogen	**616**
Total Phosphorus-P	< 1
CBOD	< 6
COD	**2400**

Total Phosphorus-P: Sample has raised reporting limit due to the matrix.
Solids Suspended: The sample was reanalyzed past hold time with extra rinses, due to the high Solid Total. The final result was 37 mg/L.
Total Nitrogen is determined by the addition of Nitrate-N, Nitrite-N and TKN (TKN = Ammonia plus TON) concentrations.

QC REPORT

EAI ID#: **123362**

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

Client Designation: **PSNH-MK | 3902**

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Solids Total	< 10	1100 (102 %R)	NA	mg/L	8/13/13	85 - 115	20	2540B-97
Solids Suspended	< 5	91 (98 %R)	98 (105 %R) (7 RPD)	mg/L	8/13/13	90 - 110	20	2540D-97
Chloride	< 1	26 (103 %R)	26 (103 %R) (0 RPD)	mg/L	8/9/13	90 - 110	20	4500ClE-90
Nitrite-N	< 0.5	5.2 (104 %R)	5.3 (105 %R) (1 RPD)	mg/L	8/9/13	90 - 110	20	353.2
Nitrate-N	< 0.5	4.9 (97 %R)	4.8 (95 %R) (2 RPD)	mg/L	8/9/13	90 - 110	20	353.2
Ammonia-N	< 0.05	2.0 (101 %R)	2.1 (103 %R) (2 RPD)	mg/L	8/13/13	90 - 110	20	4500NH3D
TKN	< 0.5	10 (101 %R)	10 (100 %R) (1 RPD)	mg/L	8/15/13	90 - 110	20	4500N_{org}C/N
Total Phosphorus-P	< 0.01	0.29 (97 %R)	0.29 (96 %R) (1 RPD)	mg/L	8/12/13	90 - 110	20	365.1
CBOD	< 6	390 (98 %R)	400 (101 %R) (3 RPD)	mg/L	8/9/13	60 - 120	20	5210B-97
COD	< 10	92 (92 %R)	95 (95 %R) (3 RPD)	mg/L	8/9/13	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.

eurofins | Frontier Global Sciences

11720 Northcreek Pkwy N, Suite 400
Bothell, WA 98011
425.686.1996 Phone
425.686.3096 Fax

11 September 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 Eurofins 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

eurofins | Frontier Global Sciences

11720 Northcreek Pkwy N, Suite 400
Bothell, WA 98011
425.686.1996 Phone
425.686.3096 Fax

Eastern Analytical, Inc	Project: Merrimack Station 200.8	
25 Chenell Drive	Project Number: 40587	**Reported:**
Concord NH, 03301	Project Manager: Jeff Gagne	11-Sep-13 16:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Softened Stream B	1308229-01	Water	07-Aug-13 17:00	09-Aug-13 09:45
Field Blank	1308229-02	Water	07-Aug-13 00:00	09-Aug-13 09:45

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

eurofins | Frontier Global Sciences

11720 Northcreek Pkwy N, Suite 400
Bothell, WA 98011
425.686.1996 Phone
425.686.3096 Fax

Eastern Analytical, Inc	Project: Merrimack Station 200.8	
25 Chenell Drive	Project Number: 40587	**Reported:**
Concord NH, 03301	Project Manager: Jeff Gagne	11-Sep-13 16:04

REVISED REPORT 9/11/13- Client only wanted Hg analyzed for the associated Field Blank.

SAMPLE RECEIPT

Samples were received at Eurofins Frontier Global Sciences (EFGS) on August 9th, 2013. The samples were received intact, on-ice with temperatures measured at 2.0 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 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.

Liz Siska, Project Manager

EFGS Work Order: 1308229

Sample Receipt Checklist

Eurofins Frontier Global Sciences

Client: Eastern Analytical Date & Time Received: 8/9/13 0945 Date Logged In: 8/12/13 Date Labeled: 8/12/13

Project: 123362 Received By: AMB Logged By: AMB Labeled By: AJ

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

Tracking/Airbill #: 1Z X46 599 01 9844 3520 Coolant: ☐ None/Ambient ☒ Loose Ice ☐ Gel Ice ☐ Dry Ice

Coolant Required: Y (N) Temp Blank Used: Y (N) for Cooler(s): ____

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

TID: 3150 CF: 0.5 °C Date/time: 8/9/13 10:20 By: AMB

Cooler 1:	2.5 °C	w/ CF:	2.0 °C	Cooler 4:	°C	w/ CF:	°C
Cooler 2:	°C	w/ CF:	°C	Cooler 5:	°C	w/ CF:	°C
Cooler 3:	°C	w/ CF:	°C	Cooler 6:	°C	w/ CF:	°C

Chain of Custody: * SEE BELOW	Y/N/NA	Comments
Sample ID/Description:	Y	
Date and time of collection:	Y	* EXCEPT BLANK SAMPLE
Sampled by:	N	AMB 8/12/13
Preservation type:	N/A	
Requested analyses:	Y	
Required signatures:	Y	
Internal COC required:	N	

Sample Condition/Integrity:	Y/N/NA	Comments
Sample containers intact/present:	Y	
Sample labels are present and legible:	Y	
Sample ID on container/bag 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	

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

* Client sent corrected COC for field blank. Used for login. AMB 8/12/13

* Only 1 container sent for field blank. Sample will be split for Hg and TM. AMB 8/12/13

Discussion/Resolution: Client Contacted: ____ Date/Time: ____ Method: ____

1308229

123362

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 Gagne
Address: 25 CHENELL DRIVE CONCORD NH 03301	Phone: Fax:
	E-mail:
Project Name	Contract/PO: 40587
Report To: SAME	Invoice To:
Address: SAME	Address:
Phone: 603-228-0525 Fax:	Phone: Fax:
E-mail: CustomerService@eailabs.com	E-mail:

FGS PM: LIZ SISKA
Date:
TAT (business days): 20 (std) 15 10 5 4 3 2 24 hrs. (For TAT < 10 days, contact PM. Surcharges apply for expedited TAT)
Saturday delivery? ☐ Y ☐ N (If yes, please contact PM)
EDD ☐ Y ☐ N
QA ☐ Standard ☐ High

No.	Engraved Bottle ID	Sample ID	# of Bottles	Matrix	Date & Time	Sampled By	Field Filtered (Y/N)	Field Preserved: HNO₃, HCl BrCl Other (%)	As, Ag, Hg, Na	Method 200.8 Collision Cell					Comments
1	C4691	Softened StreamB	1	AQ	8/7/13 12:00				X						Field Blank – Hg only PA– 9/16/13
2	B6878	Softened StreamB	1	AQ	8/7/13 17:00				X						
3	C5487	Field Blank	1	AQ					X						
4															
5															
6															
7															
8															
9															
10															
11															
12															

For Laboratory Use Only

COC Seal: N/A	Comments:
Cooler Temp: 2.0°C	
Carrier: UPS	
VTSR: 0945	
# of Coolers: 1	

Matrix Codes:
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

Relinquished By:	Received By:	Received By:
[signature]	[signature]	
Name: Nancy Zink	Name: A BAHM	Name:
Organization: EAI	Organization: EFGS	Organization:
Date & Time: 8/8/13 15:30	Date & Time: 8/9/13 0945	Date & Time:

Tracking number:

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: ________

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Bothell, WA 98011
425.686.1996 Phone
425.686.3096 Fax

Eastern Analytical, Inc 25 Chenell Drive Concord NH, 03301	Project: Merrimack Station 200.8 Project Number: 40587 Project Manager: Jeff Gagne	**Reported:** 11-Sep-13 16:04

Softened Stream B

1308229-01

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Sequence	Analyzed	Method	Notes
Sample Preparation: EFGS-052 Closed Vessel Nitric Oven Digestion											
Silver	ND	-	1.00	µg/L	50	F308237	26-Aug-13	3H30001	30-Aug-13	EPA 200.8	R-05, U
Arsenic	20.0	-	7.50	µg/L	50	F308232	16-Aug-13	3H27012	23-Aug-13	EPA 200.8	
Sodium	39900000	-	125000	µg/L	5000	F308151	16-Aug-13	3H22014	21-Aug-13	EPA 200.8	
Sample Preparation: EPA 1631E BrCl Oxidation											
Mercury	33.9	-	5.05	ng/L	10	F308128	14-Aug-13	3H15022	15-Aug-13	EPA 1631E	

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Liz Siska, Project Manager

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Eastern Analytical, Inc 25 Chenell Drive Concord NH, 03301	Project: Merrimack Station 200.8 Project Number: 40587 Project Manager: Jeff Gagne	**Reported:** 11-Sep-13 16:04

Field Blank

1308229-02

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Sequence	Analyzed	Method	Notes
Sample Preparation: EPA 1631E BrCl Oxidation											
Mercury	ND	-	0.50	ng/L	1	F308128	14-Aug-13	3H15022	15-Aug-13	EPA 1631E	U

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Eastern Analytical, Inc	Project: Merrimack Station 200.8	
25 Chenell Drive	Project Number: 40587	**Reported:**
Concord NH, 03301	Project Manager: Jeff Gagne	11-Sep-13 16:04

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F308128 - EPA 1631E BrCl Oxidation											
Blank (F308128-BLK1)					Prepared: 14-Aug-13 Analyzed: 15-Aug-13						
Mercury	ND	-	0.50	ng/L							U
Blank (F308128-BLK2)					Prepared: 14-Aug-13 Analyzed: 15-Aug-13						
Mercury	ND	-	0.50	ng/L							U
Blank (F308128-BLK3)					Prepared: 14-Aug-13 Analyzed: 15-Aug-13						
Mercury	ND	-	0.50	ng/L							U
Blank (F308128-BLK4)					Prepared: 14-Aug-13 Analyzed: 15-Aug-13						
Mercury	ND	-	0.50	ng/L							QB-04, U
LCS (F308128-BS1)					Prepared: 14-Aug-13 Analyzed: 15-Aug-13						
Mercury	15.34	-	0.50	ng/L	15.679		97.8	77-123			
LCS Dup (F308128-BSD1)					Prepared: 14-Aug-13 Analyzed: 15-Aug-13						
Mercury	15.60	-	0.50	ng/L	15.679		99.5	77-123	1.72	24	
Duplicate (F308128-DUP1)		**Source: 1308231-12**			Prepared: 14-Aug-13 Analyzed: 15-Aug-13						
Mercury	1.75	-	0.50	ng/L		1.80			2.39	24	
Matrix Spike (F308128-MS1)		**Source: 1308231-12**			Prepared: 14-Aug-13 Analyzed: 15-Aug-13						
Mercury	6.17	-	0.50	ng/L	5.1000	1.80	85.8	71-125			
Matrix Spike (F308128-MS3)		**Source: 1308231-02RE1**			Prepared: 14-Aug-13 Analyzed: 15-Aug-13						
Mercury	260.0	-	5.05	ng/L	204.00	77.97	89.2	71-125			
Matrix Spike Dup (F308128-MSD1)		**Source: 1308231-12**			Prepared: 14-Aug-13 Analyzed: 15-Aug-13						
Mercury	6.09	-	0.50	ng/L	5.1000	1.80	84.1	71-125	1.40	24	

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Eastern Analytical, Inc	Project: Merrimack Station 200.8	
25 Chenell Drive	Project Number: 40587	**Reported:**
Concord NH, 03301	Project Manager: Jeff Gagne	11-Sep-13 16:04

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F308128 - EPA 1631E BrCl Oxidation											
Matrix Spike Dup (F308128-MSD3)		**Source: 1308231-02RE1**			Prepared: 14-Aug-13 Analyzed: 15-Aug-13						
Mercury	255.0	-	5.05	ng/L	204.00	77.97	86.8	71-125	1.95	24	

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Eastern Analytical, Inc	Project: Merrimack Station 200.8	
25 Chenell Drive	Project Number: 40587	**Reported:**
Concord NH, 03301	Project Manager: Jeff Gagne	11-Sep-13 16:04

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F308151 - EFGS-052 Closed Vessel Nitric Oven Digestion											
Blank (F308151-BLK1)					Prepared: 16-Aug-13 Analyzed: 21-Aug-13						
Sodium	ND	-	25	µg/L							U
Blank (F308151-BLK2)					Prepared: 16-Aug-13 Analyzed: 21-Aug-13						
Sodium	ND	-	25	µg/L							U
Blank (F308151-BLK7)					Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Sodium	ND	-	25	µg/L							U
LCS (F308151-BS1)					Prepared: 16-Aug-13 Analyzed: 21-Aug-13						
Sodium	4572	-	25	µg/L	5000.0		91.4	85-115			
LCS Dup (F308151-BSD1)					Prepared: 16-Aug-13 Analyzed: 21-Aug-13						
Sodium	4504	-	25	µg/L	5000.0		90.1	85-115	1.50	20	
Matrix Spike (F308151-MS1)		**Source: 1308231-01**			Prepared: 16-Aug-13 Analyzed: 21-Aug-13						
Sodium	44110	-	126	µg/L	5050.0	38830	105	70-130			
Matrix Spike (F308151-MS3)		**Source: 1308231-01**			Prepared: 16-Aug-13 Analyzed: 21-Aug-13						
Sodium	47800	-	125	µg/L	10150	38830	88.4	70-130			AS
Matrix Spike (F308151-MS4)		**Source: 1308259-01**			Prepared: 16-Aug-13 Analyzed: 21-Aug-13						
Sodium	54180	-	125	µg/L	10150	49170	49.4	70-130			AS, QM-02
Matrix Spike (F308151-MSA)		**Source: 1308231-01RE2**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Sodium	47890	-	126	µg/L	5050.0	38830	179	70-130			QM-02
Matrix Spike (F308151-MSB)		**Source: 1308259-01RE2**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Sodium	55610	-	251	µg/L	5050.0	51120	89.0	70-130			QM-02

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Eastern Analytical, Inc	Project: Merrimack Station 200.8	
25 Chenell Drive	Project Number: 40587	**Reported:**
Concord NH, 03301	Project Manager: Jeff Gagne	11-Sep-13 16:04

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F308151 - EFGS-052 Closed Vessel Nitric Oven Digestion											
Matrix Spike (F308151-MSC)		**Source: 1308231-01RE2**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Sodium	48920	-	125	µg/L	10150	38830	99.4	70-130			AS, QM-02
Matrix Spike (F308151-MSD)		**Source: 1308259-01RE2**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Sodium	64030	-	250	µg/L	20300	51120	63.6	70-130			AS, QM-02
Matrix Spike Dup (F308151-MSD1)		**Source: 1308231-01**			Prepared: 16-Aug-13 Analyzed: 21-Aug-13						
Sodium	44300	-	126	µg/L	5050.0	38830	108	70-130	0.437	20	
Matrix Spike Dup (F308151-MSD3)		**Source: 1308231-01**			Prepared: 16-Aug-13 Analyzed: 21-Aug-13						
Sodium	47860	-	125	µg/L	10150	38830	88.9	70-130	0.114	20	AS
Matrix Spike Dup (F308151-MSD4)		**Source: 1308259-01**			Prepared: 16-Aug-13 Analyzed: 21-Aug-13						
Sodium	53000	-	125	µg/L	10150	49170	37.7	70-130	2.21	20	AS, QM-02
Matrix Spike Dup (F308151-MSDA)		**Source: 1308231-01RE2**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Sodium	51960	-	126	µg/L	5050.0	38830	260	70-130	8.15	20	QM-02
Matrix Spike Dup (F308151-MSDB)		**Source: 1308259-01RE2**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Sodium	52410	-	251	µg/L	5050.0	51120	25.6	70-130	5.92	20	QM-02
Matrix Spike Dup (F308151-MSDC)		**Source: 1308231-01RE2**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Sodium	56510	-	125	µg/L	10150	38830	174	70-130	14.4	20	AS, QM-02
Matrix Spike Dup (F308151-MSDD)		**Source: 1308259-01RE2**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Sodium	64380	-	250	µg/L	20300	51120	65.3	70-130	0.557	20	AS, QM-02
Batch F308232 - EFGS-052 Closed Vessel Nitric Oven Digestion											
Blank (F308232-BLK1)					Prepared: 16-Aug-13 Analyzed: 23-Aug-13						
Arsenic	ND	-	0.15	µg/L							U

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Liz Siska, Project Manager

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Eastern Analytical, Inc	Project: Merrimack Station 200.8	
25 Chenell Drive	Project Number: 40587	**Reported:**
Concord NH, 03301	Project Manager: Jeff Gagne	11-Sep-13 16:04

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F308232 - EFGS-052 Closed Vessel Nitric Oven Digestion											
Blank (F308232-BLK2)					Prepared: 16-Aug-13 Analyzed: 23-Aug-13						
Arsenic	ND	-	0.15	µg/L							U
LCS (F308232-BS1)					Prepared: 16-Aug-13 Analyzed: 23-Aug-13						
Arsenic	51.21	-	0.15	µg/L	50.040		102	85-115			
LCS Dup (F308232-BSD1)					Prepared: 16-Aug-13 Analyzed: 23-Aug-13						
Arsenic	51.78	-	0.15	µg/L	50.040		103	85-115	1.10	20	
Matrix Spike (F308232-MS1)		**Source: 1308231-01RE1**			Prepared: 16-Aug-13 Analyzed: 23-Aug-13						
Arsenic	43.49	-	0.75	µg/L	50.791	1.00	83.6	70-130			
Matrix Spike (F308232-MS3)		**Source: 1308231-01RE1**			Prepared: 16-Aug-13 Analyzed: 23-Aug-13						
Arsenic	96.05	-	0.75	µg/L	101.50	1.00	93.6	70-130			AS
Matrix Spike (F308232-MS5)		**Source: 1308259-01RE1**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Arsenic	52.40	-	1.51	µg/L	50.791	1.84	99.5	70-130			
Matrix Spike (F308232-MS6)		**Source: 1308259-01RE1**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Arsenic	150.6	-	1.50	µg/L	203.00	1.84	73.3	70-130			AS
Matrix Spike Dup (F308232-MSD1)		**Source: 1308231-01RE1**			Prepared: 16-Aug-13 Analyzed: 23-Aug-13						
Arsenic	44.20	-	0.75	µg/L	50.791	1.00	85.0	70-130	1.63	20	
Matrix Spike Dup (F308232-MSD3)		**Source: 1308231-01RE1**			Prepared: 16-Aug-13 Analyzed: 23-Aug-13						
Arsenic	98.26	-	0.75	µg/L	101.50	1.00	95.8	70-130	2.27	20	AS
Matrix Spike Dup (F308232-MSD5)		**Source: 1308259-01RE1**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Arsenic	47.08	-	1.51	µg/L	50.791	1.84	89.1	70-130	10.7	20	

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Eastern Analytical, Inc	Project: Merrimack Station 200.8	
25 Chenell Drive	Project Number: 40587	**Reported:**
Concord NH, 03301	Project Manager: Jeff Gagne	11-Sep-13 16:04

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F308232 - EFGS-052 Closed Vessel Nitric Oven Digestion											
Matrix Spike Dup (F308232-MSD6)		**Source: 1308259-01RE1**			Prepared: 16-Aug-13 Analyzed: 28-Aug-13						
Arsenic	188.0	-	1.50	µg/L	203.00	1.84	91.7	70-130	22.1	20	AS, QR-08
Batch F308237 - EFGS-052 Closed Vessel Nitric Oven Digestion											
Blank (F308237-BLK1)					Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	ND	-	0.020	µg/L							U
Blank (F308237-BLK2)					Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	ND	-	0.020	µg/L							U
LCS (F308237-BS1)					Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	0.981	-	0.020	µg/L	0.99980		98.2	85-115			
LCS Dup (F308237-BSD1)					Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	0.988	-	0.020	µg/L	0.99980		98.8	85-115	0.680	20	
Matrix Spike (F308237-MS1)		**Source: 1307558-02RE7**			Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	0.960	-	0.101	µg/L	1.0148	0.007	93.9	70-130			
Matrix Spike (F308237-MS2)		**Source: 1308260-01RE2**			Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	0.989	-	0.020	µg/L	1.0148	0.017	95.8	70-130			
Matrix Spike (F308237-MS3)		**Source: 1307558-02RE7**			Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	5.241	-	0.100	µg/L	5.0750	0.007	103	70-130			AS
Matrix Spike (F308237-MS4)		**Source: 1308260-01RE2**			Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	0.933	-	0.020	µg/L	1.0150	0.017	90.3	70-130			AS

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Eastern Analytical, Inc	Project: Merrimack Station 200.8	
25 Chenell Drive	Project Number: 40587	**Reported:**
Concord NH, 03301	Project Manager: Jeff Gagne	11-Sep-13 16:04

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch F308237 - EFGS-052 Closed Vessel Nitric Oven Digestion											
Matrix Spike Dup (F308237-MSD1)		**Source: 1307558-02RE7**			Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	0.977	-	0.101	µg/L	1.0148	0.007	95.5	70-130	1.71	20	
Matrix Spike Dup (F308237-MSD2)		**Source: 1308260-01RE2**			Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	0.973	-	0.020	µg/L	1.0148	0.017	94.3	70-130	1.54	20	
Matrix Spike Dup (F308237-MSD3)		**Source: 1307558-02RE7**			Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	4.340	-	0.100	µg/L	5.0750	0.007	85.4	70-130	18.8	20	AS
Matrix Spike Dup (F308237-MSD4)		**Source: 1308260-01RE2**			Prepared: 26-Aug-13 Analyzed: 27-Aug-13						
Silver	0.986	-	0.020	µg/L	1.0150	0.017	95.5	70-130	5.43	20	AS

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25 Chenell Drive	Project Number: 40587	Reported:
Concord NH, 03301	Project Manager: Jeff Gagne	11-Sep-13 16:04

Notes and Definitions

U	Analyte was not detected and is reported as less than the LOD or as defined by the client. The LOD has been adjusted for any dilution or concentration of the sample.
R-05	The sample was diluted due to the presence of high levels of non-target analytes or particulates resulting in elevated reporting limits.
QR-08	The RPD value for the MS/MSD was outside of acceptance limits. Batch QC acceptable based on matrix duplicate and/or LCS/LCSD RPD values within control limits.
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
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Page 1 of 1

CHAIN-OF-CUSTODY RECORD

123362

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	Oil & Grease 1664	Total Metals (list below)	TSS	NO3	BOD	TKN / NH3 / T. Phos	COD	Total Nitrogen	# of Containers	Notes MeOH Vial #
Softened Stream B WW	8/7/13 Sump	WW	G	X	X	X	X	X	X	X	X	8	(Plus one field blank)
Preservative				S					S	S			

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 #: 3902
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. 3 °C Ice? (Yes) No

Sampler(s): Paul Pepler

Relinquished By	Date	Time	Received By	Date	Time
Paul Pepler	8/8/13	8:22	[signature]	8/8/13	8:22
[signature]	8/8/13	14:30	[signature]		

Metals: 8 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, Hg, Na
FIELD pH:
Please send metals to Frontier for analysis by Method 200.8 MOD (ICP-MS with Collision cell)
Site History:
Suspected Contamination:
Field Readings: