distillate sampled 3/14/12

AR-1328

GZA
GeoEnvironmental, Inc.

Engineers and Scientists

VIA EMAIL

June 19, 2012
File No. 04.0029307.00

Ms. Amy Daigneault
Pretreatment Coordinator
Lowell Regional Wastewater Utility
451 First St. Blvd. (Rte 110)
Lowell, Massachusetts 01850

Re: Monthly Self Monitoring Report
May 2012
Merrimack Station
Public Service Company of New Hampshire
Bow, New Hampshire

380 Harvey Road
Manchester
New Hampshire
03103-3347
603-623-3600
FAX 603-624-9463
www.gza.com

Dear Ms. Daigneault:

On behalf of Public Service Company of New Hampshire (PSNH), GZA GeoEnvironmental, Inc. (GZA) is pleased to submit the attached Self-Monitoring Report (SMR) for the period May 1, 2012 through May 31, 2012. This SMR is intended to satisfy Conditions 7 and 8 of the Interim Discharge Authorization (IDA) issued to PSNH by the Lowell Regional Wastewater Utility (LRWU), dated March 29, 2012. The analysis of regular Stream B samples collected on May 4, 2012 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.

The attached **SMR Summary Sheet** summarizes the analytical results for all required parameters as outlined in Condition 8 of the IDA. 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. Wastewater flow was approximately 56,000 gallons for the monitoring period and was estimated based on the actual number of tanker trucks sent to LRWU from May 1, 2012 through May 31, 2012 and tanker capacity.

Also included with this monthly report are two analytical data reports for two additional waste streams (i.e., wastewater distillate, non-contact cooling water) which were recently approved by LRWU for discharge under the IDA dated March 29, 2012. These waste streams were not transported to LRWU in the month of May 2012, but the analytical data reports are being provided as a courtesy. Please note: the sample identification of Evaporator was used on the chain of custody for the distillate sample—these are the same waste streams.

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.

SAMPLE CONDITIONS PAGE

EAI ID#: 108419

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

Client Designation: **MK**

Temperature upon receipt (°C): 18.4 **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)
108419.01	Evaporator	3/14/12	3/14/12	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#: 108419

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

Client Designation: **MK**

Sample ID: Evaporator

Lab Sample ID: 108419.01

Matrix: aqueous

Date Sampled: 3/14/12

Date Received: 3/14/12

		Analysis			
	Units	Date	Time	Method	Analyst
Solids Suspended	< 5	mg/L	3/19/12	13:45	2540D	DLS
Solids Dissolved	**190**	mg/L	3/19/12	15:00	2540C	DLS
Sulfate	**14**	mg/L	3/16/12	20:40	300.0	KL
Chloride	**64**	mg/L	3/16/12	20:40	300.0	KL
pH	**8.6**	SU	3/14/12	17:05	4500H+B	JL

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

ANALYTICAL RESULTS

Evaporator

Matrix: Water **Laboratory ID:** 1203203-02

Analyte	Result	MDL	MRL	Units	Dilution	Batch	Sequence	Analyzed	Method	Notes
Aluminum	**5.0**	0.4	4.0	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	
Antimony	ND	0.005	0.020	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	U
Arsenic	ND	0.05	0.15	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	U
Barium	**1.40**	0.03	0.20	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	
Beryllium	ND	0.023	0.060	µg/L	1	F203260	2C22001	03/21/12	EPA 200.8 Mod	U
Boron	**3230**	10.3	150	µg/L	50	F203260	2C22001	03/21/12	EPA 200.8 Mod	
Cadmium	ND	0.004	0.020	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	U
Calcium	**31700**	162	2000	µg/L	50	F203260	2C22001	03/21/12	EPA 200.8 Mod	
Chromium	**0.42**	0.009	0.10	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	
Copper	**0.39**	0.01	0.10	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	
Iron	**14.9**	1.3	10.0	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	
Lead	ND	0.004	0.040	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	U
Magnesium	**3870**	0.2	2.5	µg/L	1	F203260	2C22001	03/21/12	EPA 200.8 Mod	
Mercury	ND	0.08	0.50	ng/L	1	F203288	2C22016	03/22/12	EPA 1631E	FB-1631, U
Molybdenum	**1.57**	0.006	0.06	µg/L	1	F203260	2C22001	03/21/12	EPA 200.8 Mod	
Nickel	**0.79**	0.008	0.10	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	
Potassium	**181**	4.0	40.0	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	
Selenium	**0.71**	0.19	0.60	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	
Silver	ND	0.006	0.020	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	U
Sodium	**2990**	1	20	µg/L	1	F203260	2C22001	03/21/12	EPA 200.8 Mod	
Thallium	**0.049**	0.002	0.010	µg/L	1	F203289	2C22018	03/22/12	EPA 200.8 Mod	
Zinc	**2.23**	0.02	0.20	µg/L	1	F203232	2C20001	03/19/12	EPA 200.8 Mod	

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.

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MATRIX DUPLICATES/TRIPLICATES

SOURCE: 1203203-01

Batch: F203288 **Sequence:** 2C22016

Preparation: BrCl Oxidation **Lab Number:** F203288-DUP1

Analyte	Sample Concentration ng/L	Duplicate Concentration ng/L	MRL	% RPD	RPD Limit	Method	Notes
Mercury	61.16	58.48	50.5	4.48	24	EPA 1631E	

Frontier Global Sciences, Inc.

Liz Siska, Project Manager