

**DES Waste Management Division
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095**

**REMEDATION GENERAL PERMIT EFFLUENT LIMITATION
VIOLATION DOCUMENTATION
DARTMOUTH COLLEGE, RENNIE FARM SITE
HANOVER CENTER ROAD
HANOVER, NEW HAMPSHIRE
NHDES SITE NO. 201111109
DES PROJECT NO. 277737**

**Prepared For:
Dartmouth College Office of Environmental Health and Safety
37 Dewey Field Road, Suite 6216
Hanover, NH 03755
Phone Number: (603) 603.646.1762
RP Contact Name: Maureen O'Leary, PhD, MBA, CBSP
Assistant Director of Environmental Health & Safety
RP Contact Email: Maureen.O'Leary@Dartmouth.EDU**

**Prepared By:
GZA GeoEnvironmental, Inc.
5 Commerce Park North, Suite 201
Bedford, New Hampshire 03110
Phone Number: (603) 232-8732
Contact Name: Mr. James M. Wieck, P.G.
Contact Email: James.wieck@gza.com
GZA Project No. 04.0190030.02**

Date of Report: November 9, 2017



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5 Commerce Park North

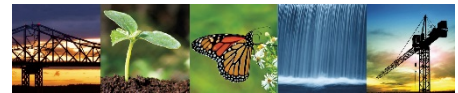
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Bedford, NH 03110

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November 9, 2017
File No. 04.0190030.02

Mr. Paul Rydel, P.G.
New Hampshire Department of Environmental Services
Hazardous Waste Remediation Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

Re: Remediation General Permit Effluent Limitation Violation Documentation
Rennie Farm Site
Dartmouth College
Hanover, New Hampshire
Permit No. NHG910071
NHDES Site No. 201111109, DES Project No. 277737

Dear Mr. Rydel:

As requested, GZA GeoEnvironmental, Inc. (GZA) has written this letter to convey the attached letters and analytical laboratory reports to the New Hampshire Department of Environmental Services (NHDES) for posting on the NHDES's OneStop website. The letters were prepared by GZA on behalf of Dartmouth College (Dartmouth) to provide notification and required documentation related to a violation of the total cyanide effluent limitation of the Remediation General Permit (RGP) related to the groundwater treatment system discharge at the Rennie Farm Site. The laboratory reports are associated with the sample results described in the letters.

The letters and laboratory reports were previously submitted to the United States Environmental Protection Agency, Region I and NHDES as separate submittals, and include:

- A letter dated August 21, 2017 titled "Notification of Remediation General Permit Effluent Limitation Violation, Rennie Farm Site, Dartmouth College, Hanover, New Hampshire, Permit No. NHG910071, NHDES Site No. 201111109, DES Project No. 277737;
- A letter dated October 2, 2017 August 2017 Discharge Monitoring Report, Remediation General Permit Effluent Limitation Violation, Rennie Farm Site, Dartmouth College, Hanover, New Hampshire, Permit No. NHG910071, NHDES Site No. 201111109, DES Project No. 277737; and
- Analytical laboratory reports prepared by Eastern Analytical, Inc, of Concord, New Hampshire summarizing the results of required and supplemental sampling by GZA on August 8, 17, and 22, 2017 and September 1, 8, and 13, 2017 (EAI ID#s 171986, 172404, 172527, 172908, 173216, and 173423).

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On behalf of Dartmouth, GZA trusts that the information herein meets your needs. Should you have any questions, or require additional information, please do not hesitate to call.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read "James M. Wieck", is written over a faint, light-colored signature line.

James M. Wieck, P.G.
Senior Project Manager

JMW:kr

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Attachments

cc: Maureen O'Leary, PhD, MBA, CBSP; Dartmouth College

**Notification of Remediation General Permit Effluent
Limitation Violation, dated August 21, 2017**



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August 21, 2017
File No. 04.0190030.02

Ms. Teresa Ptak
New Hampshire Department of Environmental Services
Hazardous Waste Remediation Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

Re: Notification of Remediation General Permit Effluent Limitation Violation
Rennie Farm Site
Dartmouth College
Hanover, New Hampshire
Permit No. NHG910071
NHDES Site No. 201111109, DES Project No. 277737

Dear Ms. Ptak:

On behalf of Dartmouth College (Dartmouth), GZA GeoEnvironmental, Inc. (GZA) has prepared this correspondence to provide the United States Environmental Protection Agency, Region I (EPA) and the New Hampshire Department of Environmental Services (NHDES) notification of a violation of the total cyanide (cyanide) effluent limitation of the Remediation General Permit (RGP) for the above-referenced site. The cyanide concentration of the discharge from the groundwater treatment system at the site exceeded 5.2 micrograms per liter ($\mu\text{g/L}$), which is the cyanide Effluent Limitation for the site, in the August 2017 monthly water quality monitoring sample collected at 11:00 a.m. on August 8, 2017. The concentration of cyanide detected in the treatment system effluent sample was 6 $\mu\text{g/L}$. Our actions and responses to this violation condition have been consistent with the RGP and discussions with you and are therefore in compliance with RGP requirements.

The violation was identified based on monthly sampling of the treatment system required by the RGP. The laboratory report for the August 2017 monthly sample was provided to GZA via email on August 16, 2017. The treatment system was remotely shut down by GZA on August 16, 2017, following receipt of the laboratory report. Verbal notification of the violation was made to the NHDES and EPA during the morning of August 17, 2017.

The groundwater treatment system at the site includes extraction of groundwater from seven wells screened in overburden and five open wells with boreholes intersecting fractured bedrock. Due to dewatering of overburden, associated with the operation of the system, the bulk of the groundwater treated by the system is currently extracted from the five wells in fractured bedrock. The bedrock wells are identified as RW-1, RW-5, RW-7, RW-8, and RW-11. Due to the induced dewatering of the extraction area, the total flow rate of the system has decreased from approximately 15 gallons per minute (gpm) at the startup of the system on May 1, 2017 to a rate of approximately 4 gpm. Approximately 1.5 to 2 gpm is extracted from RW-7 which is located approximately

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400 feet downgradient of the source area.¹ Wells RW-1, RW-5, RW-8, and RW-11 are located proximate to the source area and contribute a combined approximately 2.5 to 2 gpm.

At the time the August monthly sample was collected on August 8, 2017, well RW-7 (which is located furthest from the source area), was not running due to a pump malfunction. Given the location of RW-7, collection of the monthly sample with RW-7 not in operation was considered a conservative sampling approach relative to the system's ability to remove the site's only² groundwater contaminant (1,4-dioxane). Cyanide has not been identified as a site contaminant and the detected concentrations of cyanide are well below the State of New Hampshire Ambient Groundwater Quality Standard (AGQS) of 200 µg/L. RW-7 was subsequently returned to operation.

To evaluate the cause of the elevated cyanide concentration (relative to the Effluent Limitation of 5.2 µg/L) and potential changes to the system that could be made to reduce the potential for a reoccurrence of the elevated concentration, groundwater samples were collected from each of the five wells, including RW-7, within fractured bedrock on August 17, 2017. The samples were submitted to Eastern Analytical, Inc. (EAI) of Concord, New Hampshire for laboratory analysis of cyanide (total cyanide via ASTM D7511). Results of the analyses of each of the samples did not detect cyanide above EAI's reporting limit of 5 µg/L.

It is our opinion, based on the available cyanide data and our understanding of site conditions, that cyanide is present in groundwater captured by one or more of the five fractured bedrock groundwater extraction wells. The concentration of cyanide is likely on average less than 5 µg/L, but fluctuates to concentrations above 5 µg/L. As evidenced by the effluent data collected since startup of the system on May 1, 2017, under typical operating conditions the concentration remains below the effluent limitation. Exceedance of the cyanide effluent limitation is anticipated to have occurred when, due to RW-7 being off, the water quality of the system was affected by a concentration above the average in one or more of the other extraction wells operating at the time. This opinion considers the relative proportion of the total groundwater flow normally pumped from RW-7.

While conservative, relative to the assessment of the treatment systems ability to remove the site contaminant, the results of the sample collected on August 8, 2017 are not representative of the concentration of cyanide with each of the wells operating (i.e., including RW-7).

Based on the above, GZA and Dartmouth plan to restart the system on August 22, 2017 including completion of the applicable sampling required under RGP Part 4.3, which includes sampling and analysis for cyanide. Future operation of the system will include temporary shutdown of the treatment system as necessary to maintain operation of each of the extraction wells within fractured bedrock, to keep the effluent concentration as representative of the anticipated average cyanide concentration as practicable and below the Effluent Limitation for cyanide. Specifically, the treatment system will be temporarily shut down if one or more of the bedrock groundwater extraction wells listed above malfunctions and cannot be returned to operation within 72 hours of identification of the malfunction.

Based on our understanding of site conditions and the sampling results described, as well as the AGQS and the surface water standards included in Env-Ws 1703.21 for cyanide, the proposed plan to restart the system and sample in accordance with the RGP is considered protective of human health.

¹ Source area refers to source of the site contaminant 1,4-dioxane/former animal carcass burial plots.

² Relative to exceedance of State of New Hampshire Ambient Groundwater Quality Standards defined in State of New Hampshire Code of Administrative Rules Env-Or 603.03 (Ambient Groundwater Quality Standards).



August 21, 2017

04.0190030.02

Rennie Farm – Notification of RGP Effluent Limitation Violation

Page | 3

On behalf of Dartmouth, GZA greatly appreciates EPA's and NHDES's review of this letter, and trusts that the information herein meets your needs and the requirements of the RGP. Should you have any questions, or require additional information, please do not hesitate to call.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read "James M. Wieck", written in a cursive style.

James M. Wieck, P.G.
Senior Project Manager

A handwritten signature in black ink, appearing to read "Steven R. Lamb", written in a cursive style.

Steven R. Lamb, P.G., C.G.W.P.
Principal

JMW/SRL:kr

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cc: Ms. Joy Hilton; U.S. Environmental Protection Agency, Region I
Mr. Paul Rydel, P.G.; NHDES
Maureen O'Leary, PhD, MBA, CBSP; Dartmouth College

August 2017 Discharge Monitoring Report



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5 Commerce Park North

Suite 201

Bedford, NH 03110

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October 2, 2017
File No. 04.0190030.02

Ms. Teresa Ptak
New Hampshire Department of Environmental Services
Hazardous Waste Remediation Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

Re: August 2017 Discharge Monitoring Report
Remediation General Permit Effluent Limitation Violation
Rennie Farm Site
Dartmouth College
Hanover, New Hampshire
Permit No. NHG910071
NHDES Site No. 201111109, DES Project No. 277737

Dear Ms. Ptak:

On behalf of Dartmouth College (Dartmouth), GZA GeoEnvironmental, Inc. (GZA) is pleased to submit to the United States Environmental Protection Agency, Region I (EPA) and the New Hampshire Department of Environmental Services (NHDES) a copy of the August 2017 Discharge Monitoring Report (DMR) associated with the Remedial General Permit (RGP) for the above-referenced site. A copy of the August DMR was requested by NHDES following notification of a violation of the total cyanide (cyanide) effluent limitation of the RGP. The cyanide concentration of the discharge from the groundwater treatment system at the site exceeded 5.2 micrograms per liter ($\mu\text{g/L}$), which is the cyanide Effluent Limitation for the site, in the August 2017 monthly water quality monitoring sample collected at 11:00 a.m. on August 8, 2017. The concentration of cyanide detected in the treatment system effluent sample was 6 $\mu\text{g/L}$.

GZA submitted a written Notification of Remediation General Permit Effluent Limitation Violation (attached) to NHDES and EPA on August 21, 2017 to explain the probable cause of the exceedance and actions taken to correct the violation.

The groundwater treatment system was restarted on August 22, 2017. Sampling of the discharge from the treatment system following the restarting of the system did not detect cyanide above the laboratory reporting limit of 5 $\mu\text{g/L}$.

To further evaluate the cause of the elevated cyanide concentration (relative to the Effluent Limitation of 5.2 $\mu\text{g/L}$), and thereby reduce the potential for a reoccurrence of the elevated concentration, groundwater samples were collected from each of the five wells¹ that withdraw groundwater within fractured bedrock on September 1, 2017, and

¹ Wells are designated RW-2, RW-5, RW-7, RW-8, and RW-12.



September 8, 2017. The samples were submitted to Eastern Analytical, Inc. (EAI) of Concord, New Hampshire for laboratory analysis of cyanide (total cyanide via ASTM D7511). Results of the analyses of each of the samples did not detect cyanide above EAI's reporting limit of 5 µg/L, with the exceptions of the samples collected from well RW-5 on September 1 (6 ug/L), and well RW-7 on September 8 (5 ug/L). As reported in our August 21, 2017 letter, samples were also collected from each of these wells on August 17, 2017 for cyanide analysis, with cyanide not detected in the samples above EAI's reporting limit of 5 µg/L.

It is GZA's opinion that the results of the supplemental analyses for cyanide support GZA's conclusion regarding the cause of the effluent limitation described in our August 21, 2017 letter. Specifically, that cyanide is present in groundwater captured by one or more of the five fractured bedrock groundwater extraction wells. The concentration of cyanide is likely on average less than 5 µg/L, but fluctuates to concentrations above 5 µg/L. Under typical operating conditions the concentration remains below the effluent limitation. Exceedance of the cyanide effluent limitation is anticipated to have occurred when, due to RW-7 being off, the water quality of the system was affected by a concentration above the average in one or more of the other extraction wells operating at the time. Copies of the analytical laboratory reports are included with the DMRs for the site.

On behalf of Dartmouth, GZA greatly appreciates EPA's and NHDES's review of this letter and the attached August DMR, and trusts that the information herein meets your needs and the requirements of the RGP. Should you have any questions, or require additional information, please do not hesitate to call.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read 'James M. Wieck'.

James M. Wieck, P.G.
Senior Project Manager

A handwritten signature in black ink, appearing to read 'Steven R. Lamb'.

Steven R. Lamb, P.G., C.G.W.P.
Principal

JMW/SRL:kr

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Attachments: August 2017 Discharge Monitoring Report
Notification of Remediation General Permit Effluent Limitation Violation,
dated August 21, 2017

cc: Ms. Joy Hilton; U.S. Environmental Protection Agency, Region I
Mr. Paul Rydel, P.G.; NHDES
Maureen O'Leary, PhD, MBA, CBSP; Dartmouth College

NATIONAL DISCHARGE ELIMINATION SYSTEM
DISCHARGE MONITORING REPORT

Facility or Discharge Location

Name Rennie Farm
Street Hanover Center Road
City Hanover
State/Zip code NH 03755

Form Approved
OMB NO. 158-R0073

Telephone number (including area code)

(03-3)	(04-16)
NH	NHG910071
ST	PERMIT NUMBER

(17-19)
System Effluent
D/S

REPORTING PERIOD: FROM


(20-21)	(22-23)	(24-25)
1 7	0 8	0 1
YEAR	MO	DAY

TO

(26-27)	(28-29)	(30-31)
1 7	0 8	3 1
YEAR	MO	DAY

REMARKS: Verbal notification of the violation of the Permit condition for cyanide was made to NHDES and EPA on August 17, 2017. The cyanide violation was explained in a letter dated August 21, 2017 and sent to NHDES and EPA. Sampling was performed by a GZA employee. Analysis for cyanide was performed by Eastern Analytical, Inc., of Concord, New Hampshire. Monthly sample collected on August 8, 2017. Additional sample collected after restart of system on August 22, 2017.

PARAMETER	REPORTED PERMIT CONDITION	QUANTITY				CONCENTRATION					FREQUENCY OF ANALYSIS	SAMPLE TYPE	
		MINIMUM	AVERAGE	MAXIMUM	UNITS	NO. EX	MINIMUM	AVERAGE	MAXIMUM	UNITS			NO. EX
Flow	0.000 0.005 0.008	0.000	0.005	0.008	MGD	0						Daily	-
pH	- -	-	-	-	-	-	7.5	-	7.5	Standard Units	0	2 of 31 days	Grab
Methylene Chloride	- -	-	-	-	-	-	<1	-	<1	ug/L	0	2 of 31 days	Grab
Benzene	- -	-	-	-	-	-	<1	-	<1	ug/L	0	2 of 31 days	Grab
Total BTEX	- -	-	-	-	-	-	<5	-	<5	ug/L	0	2 of 31 days	Grab
Phenol	- -	-	-	-	-	-	<1	-	<1	ug/L	0	2 of 31 days	Grab
TSS	- -	-	-	-	-	-	<5	-	<5	mg/L	0	2 of 31 days	Grab
Chloride	- -	-	-	-	-	-	3	3.5	4	ug/L	0	2 of 31 days	Grab
Cyanide	- -	-	-	-	-	-	<5	-	6	ug/L	1	2 of 31 days	Grab
Ammonia	- -	-	-	-	-	-	<0.05	-	<0.05	mg/L	0	2 of 31 days	Grab
Antimony	- -	-	-	-	-	-	<0.5	-	<0.5	ug/L	0	2 of 31 days	Grab
Arsenic (As)	- -	-	-	-	-	-	<1	-	<1	ug/L	0	2 of 31 days	Grab
Cadmium (Cd)	- -	-	-	-	-	-	<0.1	-	<0.1	ug/L	0	2 of 31 days	Grab
Copper (Cu)	- -	-	-	-	-	-	<0.1	-	0.1	ug/L	0	2 of 31 days	Grab
Iron (Fe)	- -	-	-	-	-	-	<50	-	<50	ug/L	0	2 of 31 days	Grab
Lead (Pb)	- -	-	-	-	-	-	<0.1	-	<0.1	ug/L	0	2 of 31 days	Grab
Mercury	- -	-	-	-	-	-	<0.1	-	<0.1	ug/L	0	2 of 31 days	Grab
Nickel (Ni)	- -	-	-	-	-	-	0.7	0.9	1.1	ug/L	0	2 of 31 days	Grab
Selenium	- -	-	-	-	-	-	<1	-	<1	ug/L	0	2 of 31 days	Grab
Silver	- -	-	-	-	-	-	<0.1	-	<0.1	ug/L	0	2 of 31 days	Grab
Zinc (Zn)	- -	-	-	-	-	-	<2	-	<2	ug/L	0	2 of 31 days	Grab

NAME OF PRINCIPAL EXECUTIVE OFFICER			TITLE OF THE OFFICER			DATE			 <small>I certify that I am familiar with the information contained in this report and that to the best of my knowledge and belief such information is true, complete and accurate.</small>	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZING AGENT
LAST	FIRST	MI	TITLE	YEAR	MO	DAY				
Wieck	James	M	Sr Project Manager	11	7	01	9	01		

Analytical Laboratory Reports



Eastern Analytical, Inc.

professional laboratory and drilling services

Jim Wieck
GZA GeoEnvironmental, Inc. (NH)
5 Commerce Park North, Suite 201
Bedford, NH 03110



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 171986
Client Identification: Rennie Farm | 04.0190030.02
Date Received: 8/8/2017

Dear Mr. Wieck :

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

B-16-17
Date

32
of pages (excluding cover letter)



SAMPLE CONDITIONS PAGE

EAI ID#: 171986

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

Client Designation: **Rennie Farm | 04.0190030.02**

Temperature upon receipt (°C): **3.3**

Received on ice or cold packs (Yes/No): **Y**

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date	Date	Sample	% Dry	Exceptions/Comments (other than thermal preservation)
		Received	Sampled	Matrix	Weight	
171986.01	System Influent	8/8/17	8/8/17	aqueous		Adheres to Sample Acceptance Policy
171986.02	System Effluent	8/8/17	8/8/17	aqueous		Adheres to Sample Acceptance Policy

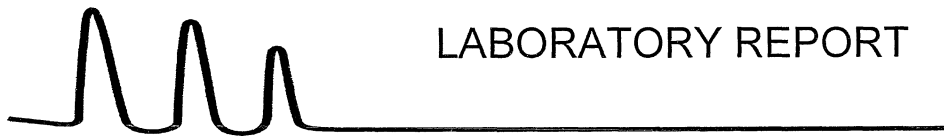
Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

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#: 171986

Client: **GZA GeoEnvironmental, Inc. (NH)**
 Client Designation: **Rennie Farm | 04.0190030.02**

Sample ID: System Influent

Lab Sample ID: 171986.01
 Matrix: aqueous
 Date Sampled: 8/8/17
 Date Received: 8/8/17
 Date of Extraction/Prep:
 Dilution Factor: 1

Units: ug/L
 Date of Analysis: 8/10/17
 Method: 624
 Analyst: BML

Parameter	Result	RL	Parameter	Result	RL
Chloromethane	< 2	2	1,2-Dichlorobenzene	< 1	1
Vinyl chloride	< 1	1	Total Dichlorobenzenes	< 3	3
Bromomethane	< 2	2	4-Bromofluorobenzene (surr)	106 %R	
Chloroethane	< 5	5	1,2-Dichlorobenzene-d4 (surr)	101 %R	
Trichlorofluoromethane	< 5	5	Toluene-d8 (surr)	103 %R	
Acetone	< 10	10			
1,1-Dichloroethene	< 1	1			
Methylene chloride	< 1	1			
Methyl-t-butyl ether(MTBE)	< 5	5			
trans-1,2-Dichloroethene	< 1	1			
Vinyl acetate	< 10	10			
1,1-Dichloroethane	< 1	1			
cis-1,2-Dichloroethene	< 1	1			
2-Butanone(MEK)	< 10	10			
Chloroform	< 1	1			
1,1,1-Trichloroethane	< 1	1			
Carbon tetrachloride	< 1	1			
Benzene	< 1	1			
1,2-Dichloroethane	< 1	1			
Trichloroethene	< 1	1			
1,2-Dichloropropane	< 1	1			
Bromodichloromethane	< 2	2			
2-Chloroethylvinylether	< 2	2			
4-Methyl-2-pentanone(MIBK)	< 10	10			
cis-1,3-Dichloropropene	< 2	2			
Toluene	< 1	1			
trans-1,3-Dichloropropene	< 2	2			
1,1,2-Trichloroethane	< 1	1			
2-Hexanone	< 10	10			
Tetrachloroethene	< 1	1			
Dibromochloromethane	< 1	1			
Chlorobenzene	< 1	1			
Ethylbenzene	< 1	1			
mp-Xylene	< 1	1			
o-Xylene	< 1	1			
Styrene	< 1	1			
Bromoform	< 2	2			
1,1,2,2-Tetrachloroethane	< 1	1			
1,3-Dichlorobenzene	< 1	1			
1,4-Dichlorobenzene	< 1	1			

A Matrix Spike and Matrix Spike Duplicate analysis performed on this sample yielded high recovery for Styrene. The associated quality control was within acceptable limits for this analyte. Sample matrix interference is suspected.



LABORATORY REPORT

EAI ID#: 171986

Client: **GZA GeoEnvironmental, Inc. (NH)**
 Client Designation: **Rennie Farm | 04.0190030.02**

Sample ID: System Effluent

Lab Sample ID: 171986.02
 Matrix: aqueous
 Date Sampled: 8/8/17
 Date Received: 8/8/17
 Date of Extraction/Prep:
 Dilution Factor: 1

Units: ug/L
 Date of Analysis: 8/10/17
 Method: 624
 Analyst: BML

Parameter	Result	RL	Parameter	Result	RL
Chloromethane	< 2	2	1,2-Dichlorobenzene	< 1	1
Vinyl chloride	< 1	1	Total Dichlorobenzenes	< 3	3
Bromomethane	< 2	2	4-Bromofluorobenzene (surr)	108 %R	
Chloroethane	< 5	5	1,2-Dichlorobenzene-d4 (surr)	103 %R	
Trichlorofluoromethane	< 5	5	Toluene-d8 (surr)	103 %R	
Acetone	< 10	10			
1,1-Dichloroethene	< 1	1			
Methylene chloride	< 1	1			
Methyl-t-butyl ether(MTBE)	< 5	5			
trans-1,2-Dichloroethene	< 1	1			
Vinyl acetate	< 10	10			
1,1-Dichloroethane	< 1	1			
cis-1,2-Dichloroethene	< 1	1			
2-Butanone(MEK)	< 10	10			
Chloroform	< 1	1			
1,1,1-Trichloroethane	< 1	1			
Carbon tetrachloride	< 1	1			
Benzene	< 1	1			
1,2-Dichloroethane	< 1	1			
Trichloroethene	< 1	1			
1,2-Dichloropropane	< 1	1			
Bromodichloromethane	< 2	2			
2-Chloroethylvinylether	< 2	2			
4-Methyl-2-pentanone(MIBK)	< 10	10			
cis-1,3-Dichloropropene	< 2	2			
Toluene	< 1	1			
trans-1,3-Dichloropropene	< 2	2			
1,1,2-Trichloroethane	< 1	1			
2-Hexanone	< 10	10			
Tetrachloroethene	< 1	1			
Dibromochloromethane	< 1	1			
Chlorobenzene	< 1	1			
Ethylbenzene	< 1	1			
mp-Xylene	< 1	1			
o-Xylene	< 1	1			
Styrene	< 1	1			
Bromoform	< 2	2			
1,1,2,2-Tetrachloroethane	< 1	1			
1,3-Dichlorobenzene	< 1	1			
1,4-Dichlorobenzene	< 1	1			

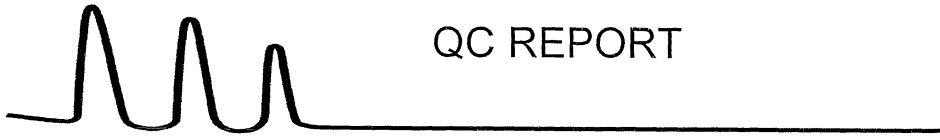


QC REPORT

EAI ID#: 171986

Client: **GZA GeoEnvironmental, Inc. (NH)**
 Client Designation: **Rennie Farm | 04.0190030.02**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	22 (110 %R)	22 (109 %R) (0 RPD)	8/11/2017	ug/L	0 - 273	20	624
Vinyl chloride	< 1	20 (102 %R)	20 (101 %R) (2 RPD)	8/11/2017	ug/L	0 - 251	20	624
Bromomethane	< 2	18 (92 %R)	19 (93 %R) (1 RPD)	8/11/2017	ug/L	0 - 242	20	624
Chloroethane	< 5	20 (100 %R)	19 (95 %R) (5 RPD)	8/11/2017	ug/L	14 - 230	20	624
Trichlorofluoromethane	< 5	21 (105 %R)	21 (104 %R) (1 RPD)	8/11/2017	ug/L	17 - 181	20	624
Acetone	< 10	10 (75 %R)	10 (75 %R) (0 RPD)	8/11/2017	ug/L	40 - 160	20	624
1,1-Dichloroethene	< 1	18 (92 %R)	18 (92 %R) (0 RPD)	8/11/2017	ug/L	0 - 234	20	624
Methylene chloride	< 1	19 (97 %R)	19 (96 %R) (1 RPD)	8/11/2017	ug/L	0 - 221	20	624
Methyl-t-butyl ether(MTBE)	< 5	18 (91 %R)	19 (95 %R) (5 RPD)	8/11/2017	ug/L	70 - 130	20	624
trans-1,2-Dichloroethene	< 1	18 (91 %R)	20 (99 %R) (9 RPD)	8/11/2017	ug/L	54 - 156	20	624
Vinyl acetate	< 10	10 (73 %R)	20 (83 %R) (13 RPD)	8/11/2017	ug/L	40 - 160	20	624
1,1-Dichloroethane	< 1	18 (89 %R)	18 (89 %R) (1 RPD)	8/11/2017	ug/L	59 - 155	20	624
cis-1,2-Dichloroethene	< 1	18 (88 %R)	17 (83 %R) (6 RPD)	8/11/2017	ug/L	70 - 130	20	624
2-Butanone(MEK)	< 10	20 (89 %R)	20 (89 %R) (0 RPD)	8/11/2017	ug/L	40 - 160	20	624
Chloroform	< 1	19 (96 %R)	19 (93 %R) (2 RPD)	8/11/2017	ug/L	51 - 138	20	624
1,1,1-Trichloroethane	< 1	21 (107 %R)	21 (105 %R) (2 RPD)	8/11/2017	ug/L	52 - 162	20	624
Carbon tetrachloride	< 1	22 (112 %R)	22 (110 %R) (1 RPD)	8/11/2017	ug/L	70 - 140	20	624
Benzene	< 1	19 (97 %R)	19 (95 %R) (2 RPD)	8/11/2017	ug/L	37 - 151	20	624
1,2-Dichloroethane	< 1	19 (95 %R)	19 (94 %R) (1 RPD)	8/11/2017	ug/L	49 - 155	20	624
Trichloroethene	< 1	20 (98 %R)	19 (96 %R) (1 RPD)	8/11/2017	ug/L	71 - 151	20	624
1,2-Dichloropropane	< 1	19 (94 %R)	18 (92 %R) (2 RPD)	8/11/2017	ug/L	0 - 210	20	624
Bromodichloromethane	< 2	21 (106 %R)	21 (106 %R) (0 RPD)	8/11/2017	ug/L	35 - 155	20	624
2-Chloroethylvinylether	< 2	22 (110 %R)	25 (123 %R) (11 RPD)	8/11/2017	ug/L	0 - 305	20	624
4-Methyl-2-pentanone(MIBK)	< 10	20 (109 %R)	20 (109 %R) (1 RPD)	8/11/2017	ug/L	40 - 160	20	624
cis-1,3-Dichloropropene	< 2	18 (90 %R)	18 (89 %R) (1 RPD)	8/11/2017	ug/L	0 - 227	20	624
Toluene	< 1	21 (103 %R)	20 (99 %R) (4 RPD)	8/11/2017	ug/L	47 - 150	20	624
trans-1,3-Dichloropropene	< 2	19 (96 %R)	19 (95 %R) (1 RPD)	8/11/2017	ug/L	17 - 183	20	624
1,1,2-Trichloroethane	< 1	19 (97 %R)	19 (95 %R) (2 RPD)	8/11/2017	ug/L	52 - 150	20	624
2-Hexanone	< 10	20 (110 %R)	20 (109 %R) (0 RPD)	8/11/2017	ug/L	40 - 160	20	624
Tetrachloroethene	< 1	18 (89 %R)	17 (85 %R) (4 RPD)	8/11/2017	ug/L	64 - 148	20	624
Dibromochloromethane	< 1	19 (95 %R)	19 (93 %R) (3 RPD)	8/11/2017	ug/L	53 - 149	20	624
Chlorobenzene	< 1	20 (100 %R)	19 (96 %R) (4 RPD)	8/11/2017	ug/L	37 - 160	20	624
Ethylbenzene	< 1	22 (108 %R)	21 (105 %R) (3 RPD)	8/11/2017	ug/L	37 - 162	20	624
mp-Xylene	< 1	42 (105 %R)	41 (101 %R) (3 RPD)	8/11/2017	ug/L	70 - 130	20	624
o-Xylene	< 1	20 (101 %R)	19 (97 %R) (4 RPD)	8/11/2017	ug/L	70 - 130	20	624
Styrene	< 1	21 (107 %R)	20 (102 %R) (5 RPD)	8/11/2017	ug/L	70 - 130	20	624
Bromoform	< 2	18 (92 %R)	18 (88 %R) (4 RPD)	8/11/2017	ug/L	46 - 169	20	624
1,1,2,2-Tetrachloroethane	< 1	20 (100 %R)	19 (96 %R) (3 RPD)	8/11/2017	ug/L	46 - 157	20	624
1,3-Dichlorobenzene	< 1	19 (96 %R)	19 (93 %R) (3 RPD)	8/11/2017	ug/L	59 - 156	20	624
1,4-Dichlorobenzene	< 1	19 (97 %R)	19 (94 %R) (3 RPD)	8/11/2017	ug/L	18 - 190	20	624
1,2-Dichlorobenzene	< 1	19 (96 %R)	19 (93 %R) (3 RPD)	8/11/2017	ug/L	18 - 190	20	624
Total Dichlorobenzenes	< 3	(%R N/A)	(%R N/A) (RPD N/A)	8/11/2017	ug/L	59 - 156	20	624
4-Bromofluorobenzene (surr)	105 %R	108 %R	105 %R	8/11/2017	% Rec	70 - 130	20	624
1,2-Dichlorobenzene-d4 (surr)	103 %R	105 %R	105 %R	8/11/2017	% Rec	70 - 130	20	624
Toluene-d8 (surr)	102 %R	102 %R	101 %R	8/11/2017	% Rec	70 - 130	20	624



QC REPORT

EAI ID#: 171986

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

Client Designation: **Rennie Farm | 04.0190030.02**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
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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.

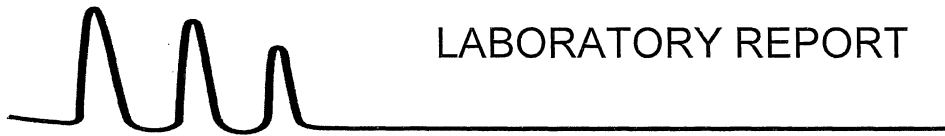
Sample surrogate recoveries met the above stated criteria.

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. Unless noted below, flagged analytes that exceed acceptance limits in the Quality Control sample were not detected in the field samples.

Analytes that exceed limits high but are not detected in the field samples do not impact the data. For analytes that show low recovery and are not detected in the field samples, a low point calibration standard has been analyzed to support the reporting limit.



LABORATORY REPORT

EAI ID#: 171986

Client: **GZA GeoEnvironmental, Inc. (NH)**
 Client Designation: **Rennie Farm | 04.0190030.02**

Client Sample ID: System Influent
Lab Sample ID: 171986.01
Matrix: aqueous
Date Sampled: 8/8/17
Date Received: 8/8/17

	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Date Prepared	Method	Analyst
Phenol	< 1	1	1	ug/L	8/9/17 21:28	8/9/17	625	JMR
2-Fluorophenol (surr)	41 %R			%	8/9/17 21:28	8/9/17	625	JMR
Phenol-d6 (surr)	27 %R			%	8/9/17 21:28	8/9/17	625	JMR
2,4,6-Tribromophenol (surr)	81 %R			%	8/9/17 21:28	8/9/17	625	JMR



LABORATORY REPORT

EAI ID#: 171986

Client: **GZA GeoEnvironmental, Inc. (NH)**
 Client Designation: **Rennie Farm | 04.0190030.02**

Client Sample ID: System Effluent
 Lab Sample ID: 171986.02
 Matrix: aqueous
 Date Sampled: 8/8/17
 Date Received: 8/8/17

	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Date Prepared	Method	Analyst
Phenol	< 1	1	1	ug/L	8/9/17 21:50	8/9/17	625	JMR
2-Fluorophenol (surr)	48 %R			%	8/9/17 21:50	8/9/17	625	JMR
Phenol-d6 (surr)	31 %R			%	8/9/17 21:50	8/9/17	625	JMR
2,4,6-Tribromophenol (surr)	85 %R			%	8/9/17 21:50	8/9/17	625	JMR



QC REPORT

EAI ID#: 171986

Client: GZA GeoEnvironmental, Inc. (NH)

Batch ID: 636378-71534/A080917E6251

Client Designation: Rennie Farm | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
alpha-Terpineol	< 5	17 (70 %R)	19 (78 %R) (11 RPD)	8/9/2017	ug/L	40 - 140	20	625
Phenol	< 1	15 (29 %R)	17 (33 %R) (13 RPD)	8/9/2017	ug/L	5 - 112	23	625
2-Chlorophenol	< 1	29 (58 %R)	34 (68 %R) (16 RPD)	8/9/2017	ug/L	23 - 134	29	625
2,4-Dichlorophenol	< 1	35 (70 %R)	40 (80 %R) (13 RPD)	8/9/2017	ug/L	39 - 135	26	625
2,4,5-Trichlorophenol	< 1	41 (82 %R)	42 (84 %R) (2 RPD)	8/9/2017	ug/L	30 - 130	20	625
2,4,6-Trichlorophenol	< 1	40 (81 %R)	43 (85 %R) (5 RPD)	8/9/2017	ug/L	37 - 144	32	625
Pentachlorophenol	< 5	46 (92 %R)	44 (87 %R) (5 RPD)	8/9/2017	ug/L	14 - 176	49	625
2-Nitrophenol	< 5	32 (64 %R)	38 (75 %R) (17 RPD)	8/9/2017	ug/L	29 - 182	35	625
4-Nitrophenol	< 5	20 (41 %R)	19 (38 %R) (8 RPD)	8/9/2017	ug/L	1 - 132	47	625
2,4-Dinitrophenol	< 10	46 (92 %R)	44 (88 %R) (4 RPD)	8/9/2017	ug/L	1 - 191	50	625
2-Methylphenol	< 1	30 (59 %R)	34 (68 %R) (13 RPD)	8/9/2017	ug/L	30 - 130	20	625
3/4-Methylphenol	< 1	31 (62 %R)	35 (69 %R) (11 RPD)	8/9/2017	ug/L	30 - 130	20	625
2,4-Dimethylphenol	< 1	34 (69 %R)	39 (77 %R) (11 RPD)	8/9/2017	ug/L	32 - 119	26	625
4-Chloro-3-methylphenol	< 1	41 (82 %R)	43 (85 %R) (4 RPD)	8/9/2017	ug/L	22 - 147	37	625
4,6-Dinitro-2-methylphenol	< 5	48 (95 %R)	45 (90 %R) (5 RPD)	8/9/2017	ug/L	1 - 181	93	625
Benzoic Acid	< 50	< 50 (31 %R)	< 50 (29 %R) (4 RPD)	8/9/2017	ug/L	15 - 130	50	625
N-Nitrosodimethylamine	< 1	11 (42 %R)	13 (50 %R) (17 RPD)	8/9/2017	ug/L	15 - 140	20	625
n-Nitroso-di-n-propylamine	< 1	18 (71 %R)	20 (81 %R) (12 RPD)	8/9/2017	ug/L	1 - 230	55	625
n-Nitrosodiphenylamine	< 1	21 (84 %R)	20 (80 %R) (4 RPD)	8/9/2017	ug/L	40 - 140	20	625
bis(2-Chloroethyl)ether	< 1	15 (59 %R)	18 (70 %R) (17 RPD)	8/9/2017	ug/L	12 - 158	55	625
bis(2-chloroisopropyl)ether	< 1	14 (57 %R)	17 (68 %R) (18 RPD)	8/9/2017	ug/L	36 - 166	46	625
bis(2-Chloroethoxy)methane	< 1	17 (67 %R)	19 (77 %R) (15 RPD)	8/9/2017	ug/L	33 - 184	34	625
1,3-Dichlorobenzene	< 1	12 (48 %R)	15 (60 %R) (21 RPD)	8/9/2017	ug/L	1 - 172	42	625
Acetophenone	< 1	17 (66 %R)	19 (76 %R) (14 RPD)	8/9/2017	ug/L	40 - 140	20	625
1,4-Dichlorobenzene	< 1	12 (49 %R)	15 (61 %R) (21 RPD)	8/9/2017	ug/L	20 - 124	32	625
1,2-Dichlorobenzene	< 1	13 (51 %R)	16 (63 %R) (21 RPD)	8/9/2017	ug/L	32 - 129	31	625
1,2,4-Trichlorobenzene	< 1	14 (57 %R)	17 (69 %R) (19 RPD)	8/9/2017	ug/L	44 - 142	28	625
2-Chloronaphthalene	< 1	17 (69 %R)	19 (76 %R) (11 RPD)	8/9/2017	ug/L	60 - 118	13	625
4-Chlorophenyl-phenylether	< 1	21 (83 %R)	21 (83 %R) (1 RPD)	8/9/2017	ug/L	25 - 158	33	625
4-Bromophenyl-phenylether	< 1	22 (86 %R)	21 (83 %R) (4 RPD)	8/9/2017	ug/L	53 - 127	23	625
Hexachloroethane	< 1	12 (47 %R)	15 (60 %R) (23 RPD)	8/9/2017	ug/L	40 - 113	24	625
Hexachlorobutadiene	< 1	14 (56 %R)	18 (70 %R) (23 RPD)	8/9/2017	ug/L	24 - 116	26	625
Hexachlorocyclopentadiene	< 5	11 (45 %R)	14 (56 %R) (21 RPD) !	8/9/2017	ug/L	15 - 140	20	625
Hexachlorobenzene	< 1	22 (88 %R)	21 (84 %R) (5 RPD)	8/9/2017	ug/L	1 - 152	25	625
4-Chloroaniline	< 1	18 (74 %R)	20 (81 %R) (10 RPD)	8/9/2017	ug/L	15 - 140	20	625
2,3-Dichloroaniline	< 1	18 (73 %R)	20 (79 %R) (7 RPD)	8/9/2017	ug/L	40 - 140	20	625
2-Nitroaniline	< 5	21 (84 %R)	21 (83 %R) (1 RPD)	8/9/2017	ug/L	40 - 140	20	625
3-Nitroaniline	< 5	22 (87 %R)	20 (82 %R) (6 RPD)	8/9/2017	ug/L	40 - 140	20	625
4-Nitroaniline	< 5	22 (88 %R)	21 (82 %R) (7 RPD)	8/9/2017	ug/L	40 - 140	20	625
Aniline	< 1	16 (64 %R)	18 (73 %R) (14 RPD)	8/9/2017	ug/L	40 - 140	20	625
Benzyl alcohol	< 10	16 (66 %R)	19 (75 %R) (13 RPD)	8/9/2017	ug/L	40 - 140	20	625
Nitrobenzene	< 1	16 (63 %R)	19 (74 %R) (17 RPD)	8/9/2017	ug/L	35 - 180	39	625
Isophorone	< 1	18 (72 %R)	20 (79 %R) (10 RPD)	8/9/2017	ug/L	21 - 196	63	625
2,4-Dinitrotoluene	< 5	23 (91 %R)	21 (84 %R) (7 RPD)	8/9/2017	ug/L	39 - 139	22	625
2,6-Dinitrotoluene	< 5	21 (85 %R)	21 (83 %R) (3 RPD)	8/9/2017	ug/L	50 - 158	30	625
Benzidine (estimated)	< 5	13 (51 %R)	15 (61 %R) (18 RPD)	8/9/2017	ug/L	1 - 200	50	625



QC REPORT

EAI ID#: 171986

Client: GZA GeoEnvironmental, Inc. (NH)

Batch ID: 636378-71534/A080917E6251

Client Designation: Rennie Farm | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
3,3'-Dichlorobenzidine	< 1	22 (89 %R)	20 (82 %R) (8 RPD)	8/9/2017	ug/L	1 - 262	71	625
Pyridine	< 5	10 (40 %R)	13 (51 %R) (25 RPD) !	8/9/2017	ug/L	15 - 140	20	625
Azobenzene	< 1	21 (83 %R)	20 (81 %R) (3 RPD)	8/9/2017	ug/L	40 - 140	20	625
Carbazole	< 1	22 (90 %R)	21 (84 %R) (7 RPD)	8/9/2017	ug/L	40 - 140	20	625
Dimethylphthalate	< 1	22 (88 %R)	21 (84 %R) (5 RPD)	8/9/2017	ug/L	1 - 112	23	625
Diethylphthalate	< 5	23 (90 %R)	21 (85 %R) (6 RPD)	8/9/2017	ug/L	1 - 114	26	625
Di-n-butylphthalate	< 5	23 (92 %R)	22 (86 %R) (7 RPD)	8/9/2017	ug/L	1 - 118	17	625
Butylbenzylphthalate	< 5	22 (88 %R)	21 (83 %R) (6 RPD)	8/9/2017	ug/L	1 - 152	23	625
bis(2-Ethylhexyl)phthalate	< 5	22 (86 %R)	20 (80 %R) (8 RPD)	8/9/2017	ug/L	8 - 158	41	625
Di-n-octylphthalate	< 5	22 (88 %R)	21 (83 %R) (6 RPD)	8/9/2017	ug/L	4 - 146	31	625
Dibenzofuran	< 1	20 (80 %R)	20 (81 %R) (1 RPD)	8/9/2017	ug/L	40 - 140	20	625
Naphthalene	< 0.1	15 (60 %R)	18 (70 %R) (16 RPD)	8/9/2017	ug/L	21 - 133	30	625
2-Methylnaphthalene	< 0.1	16 (66 %R)	19 (75 %R) (13 RPD)	8/9/2017	ug/L	40 - 140	20	625
1-Methylnaphthalene	< 0.1	18 (70 %R)	20 (80 %R) (12 RPD)	8/9/2017	ug/L	40 - 140	20	625
Acenaphthylene	< 0.1	18 (74 %R)	19 (77 %R) (4 RPD)	8/9/2017	ug/L	33 - 145	40	625
Acenaphthene	< 0.1	19 (74 %R)	19 (77 %R) (3 RPD)	8/9/2017	ug/L	47 - 145	28	625
Fluorene	< 0.1	21 (82 %R)	20 (81 %R) (1 RPD)	8/9/2017	ug/L	59 - 121	21	625
Phenanthrene	< 0.1	22 (86 %R)	20 (81 %R) (6 RPD)	8/9/2017	ug/L	54 - 120	21	625
Anthracene	< 0.1	22 (87 %R)	20 (81 %R) (7 RPD)	8/9/2017	ug/L	27 - 133	32	625
Fluoranthene	< 0.2	23 (90 %R)	21 (82 %R) (9 RPD)	8/9/2017	ug/L	26 - 137	33	625
Pyrene	< 0.1	22 (87 %R)	20 (82 %R) (6 RPD)	8/9/2017	ug/L	52 - 115	25	625
Benzo[a]anthracene	< 0.1	21 (85 %R)	20 (78 %R) (8 RPD)	8/9/2017	ug/L	33 - 143	28	625
Chrysene	< 0.1	22 (89 %R)	21 (83 %R) (7 RPD)	8/9/2017	ug/L	17 - 168	48	625
Benzo[b]fluoranthene	< 0.1	22 (87 %R)	20 (81 %R) (7 RPD)	8/9/2017	ug/L	24 - 159	39	625
Benzo[k]fluoranthene	< 0.1	22 (87 %R)	20 (80 %R) (8 RPD)	8/9/2017	ug/L	11 - 162	32	625
Benzo[a]pyrene	< 0.1	22 (86 %R)	20 (80 %R) (8 RPD)	8/9/2017	ug/L	17 - 163	39	625
Indeno[1,2,3-cd]pyrene	< 0.1	23 (92 %R)	21 (85 %R) (8 RPD)	8/9/2017	ug/L	1 - 171	45	625
Dibenz[a,h]anthracene	< 0.1	23 (92 %R)	21 (85 %R) (8 RPD)	8/9/2017	ug/L	1 - 227	70	625
Benzo[g,h,i]perylene	< 0.1	23 (91 %R)	21 (83 %R) (8 RPD)	8/9/2017	ug/L	1 - 219	59	625
n-Decane	< 5	10 (42 %R)	13 (53 %R) (22 RPD) !	8/9/2017	ug/L	40 - 140	20	625
n-Octadecane	< 5	20 (79 %R)	19 (77 %R) (2 RPD)	8/9/2017	ug/L	40 - 140	20	625
2-Fluorophenol (surr)	40 %R	36 %R	42 %R	8/9/2017	% Rec	21 - 110		625
Phenol-d6 (surr)	30 %R	28 %R	31 %R	8/9/2017	% Rec	15 - 94		625
2,4,6-Tribromophenol (surr)	92 %R	90 %R	85 %R	8/9/2017	% Rec	15 - 110		625
Nitrobenzene-D5 (surr)	68 %R	64 %R	75 %R	8/9/2017	% Rec	35 - 114		625
2-Fluorobiphenyl (surr)	73 %R	68 %R	74 %R	8/9/2017	% Rec	43 - 116		625
p-Terphenyl-D14 (surr)	89 %R	94 %R	87 %R	8/9/2017	% Rec	33 - 130		625

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. Unless noted below, flagged analytes that exceed acceptance limits in the Quality Control sample were not detected in the field samples.



LABORATORY REPORT

EAI ID#: 171986

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

Client Designation: **Rennie Farm | 04.0190030.02**

Sample ID: System Influent System Effluent

Lab Sample ID: 171986.01 171986.02

Matrix: aqueous aqueous

Date Sampled: 8/8/17 8/8/17

Date Received: 8/8/17 8/8/17

Solids Suspended	< 5	< 5
Chloride	4	4
Cyanide Total	0.007	0.006
Ammonia-N	< 0.05	< 0.05

		Analysis				
	RL	Units	Date	Time	Method	Analyst
	5	mg/L	8/10/17	9:30	2540D-97	HE
	1	mg/L	8/10/17	9:15	4500CIE-97	KD
	0.005	mg/L	8/11/17	16:28	ASTM D7511	KD
	0.05	mg/L	8/10/17	13:06	TM NH3-001	SEL



QC REPORT

EAI ID#: 171986

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Solids Suspended	< 5	960 (101 %R)	950 (100 %R) (0 RPD)	mg/L	8/10/17	90 - 110	20	2540D-97
Chloride	< 1	25 (100 %R)	26 (105 %R) (5 RPD)	mg/L	8/10/17	90 - 110	20	4500CIE-97
Cyanide Total	< 0.005	0.097 (97 %R)	0.092 (92 %R) (5 RPD)	mg/L	8/11/17	84 - 116	20	ASTM D7511
Ammonia-N	< 0.05	2.0 (99 %R)	2.0 (102 %R) (2 RPD)	mg/L	8/10/17	90 - 110	20	TM NH3-001

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.



LABORATORY REPORT

EAI ID#: 171986

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Sample ID: System Influent System Effluent

Lab Sample ID: 171986.01 171986.02

Matrix: aqueous aqueous

Date Sampled: 8/8/17 8/8/17

Date Received: 8/8/17 8/8/17

	System Influent	System Effluent
Antimony	< 0.0005	< 0.0005
Arsenic	< 0.001	< 0.001
Cadmium	< 0.0001	< 0.0001
Chromium	< 0.001	< 0.001
Copper	0.0005	0.0001
Iron	1.5	< 0.05
Lead	< 0.0001	< 0.0001
Mercury	< 0.0001	< 0.0001
Nickel	0.0011	0.0011
Selenium	< 0.001	< 0.001
Silver	< 0.0002	< 0.0002
Zinc	< 0.002	< 0.002
Chromium (III)	< 0.01	< 0.01
Chromium (VI)	< 0.01	< 0.01

RL	Analytical		Analysis		
	Matrix	Units	Date	Method	Analyst
0.0005	AqTot	mg/L	8/09/17	200.8	DS
0.001	AqTot	mg/L	8/09/17	200.8	DS
0.001	AqTot	mg/L	8/09/17	200.8	DS
0.001	AqTot	mg/L	8/09/17	200.8	DS
0.0001	AqTot	mg/L	8/09/17	200.8	DS
0.05	AqTot	mg/L	8/09/17	200.8	DS
0.0001	AqTot	mg/L	8/09/17	200.8	DS
0.0001	AqTot	mg/L	8/09/17	200.8	DS
0.0001	AqTot	mg/L	8/09/17	200.8	DS
0.001	AqTot	mg/L	8/09/17	200.8	DS
0.0001	AqTot	mg/L	8/09/17	200.8	DS
0.001	AqTot	mg/L	8/09/17	200.8	DS
0.01	AqTot	mg/L	8/09/17	200.8	DS
0.01	AqTot	mg/L	8/09/17	7196A	RJ



QC REPORT

EAI ID#: 171986

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

Client Designation: **Rennie Farm | 04.0190030.02**

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Antimony	< 0.0005	0.92 (92 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Arsenic	< 0.001	0.98 (98 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Cadmium	< 0.0001	0.91 (91 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Chromium	< 0.001	0.90 (90 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Copper	< 0.0001	0.86 (86 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Iron	< 0.05	10 (92 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Lead	< 0.0001	0.93 (93 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Mercury	< 0.0001	0.0009 (95 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Nickel	< 0.0001	0.91 (91 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Selenium	< 0.001	1.0 (100 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Silver	< 0.0001	0.10 (104 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Zinc	< 0.001	0.94 (94 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
Chromium (VI)	< 0.01	0.22 (98 %R)	NA	mg/L	8/9/17	95 - 105	20	7196A

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.



August 15, 2017

Alison Blay
Eastern Analytical
25 Chenell Dr.
Concord, NH 03301

RE: Project: #171986
Pace Project No.: 7026696

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on August 09, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Stu Murrell
stu.murrell@pacelabs.com
(631)694-3040
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



CERTIFICATIONS

Project: #171986
Pace Project No.: 7026696

Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435

Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: #171986
 Pace Project No.: 7026696

Sample: SYSTEM INFLUENT		Lab ID: 7026696001	Collected: 08/08/17 10:45	Received: 08/09/17 10:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Method: EPA 1624B							
Acetone	<10.0	ug/L	10.0	1		08/15/17 14:13	67-64-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	84	%	53-183	1		08/15/17 14:13	17060-07-0	
4-Bromofluorobenzene (S)	99	%	63-140	1		08/15/17 14:13	460-00-4	
Toluene-d8 (S)	88	%	60-135	1		08/15/17 14:13	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: #171986
Pace Project No.: 7026696

Sample: SYSTEM EFFLUENT		Lab ID: 7026696002	Collected: 08/08/17 11:00	Received: 08/09/17 10:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Method: EPA 1624B							
Acetone	<10.0	ug/L	10.0	1		08/15/17 13:49	67-64-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	84	%.	53-183	1		08/15/17 13:49	17060-07-0	
4-Bromofluorobenzene (S)	100	%.	63-140	1		08/15/17 13:49	460-00-4	
Toluene-d8 (S)	88	%.	60-135	1		08/15/17 13:49	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: #171986
 Pace Project No.: 7026696

QC Batch: 35385 Analysis Method: EPA 1624B
 QC Batch Method: EPA 1624B Analysis Description: 1624B MSV
 Associated Lab Samples: 7026696001, 7026696002

METHOD BLANK: 165121 Matrix: Water
 Associated Lab Samples: 7026696001, 7026696002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acetone	ug/L	<10.0	10.0	08/15/17 13:03	
1,2-Dichloroethane-d4 (S)	%	86	53-183	08/15/17 13:03	
4-Bromofluorobenzene (S)	%	98	63-140	08/15/17 13:03	
Toluene-d8 (S)	%	91	60-135	08/15/17 13:03	

LABORATORY CONTROL SAMPLE: 165122

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	50	67.7	135	20-200	
1,2-Dichloroethane-d4 (S)	%			79	53-183	
4-Bromofluorobenzene (S)	%			103	63-140	
Toluene-d8 (S)	%			90	60-135	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 165157 165158

Parameter	Units	7026696001		165157		165158		% Rec	% Rec	% Rec Limits	RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					
Acetone	ug/L	<10.0		50	50	70.4	68.8	141	138	20-187	2	
1,2-Dichloroethane-d4 (S)	%							76	79	53-183		
4-Bromofluorobenzene (S)	%							99	98	63-140		
Toluene-d8 (S)	%							94	94	60-135		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: #171986
Pace Project No.: 7026696

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: #171986
Pace Project No.: 7026696

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7026696001	SYSTEM INFLUENT	EPA 1624B	35385		
7026696002	SYSTEM EFFLUENT	EPA 1624B	35385		

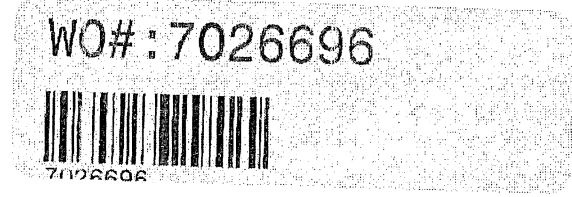
REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services

EAI ID# 171986

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
System Influent	8/8/2017 10:45	aqueous	Subcontract - EPA Method 1624 Isotope Dilution	
System Effluent	8/8/2017 11:00	aqueous	Subcontract - EPA Method 1624 Isotope Dilution	



EAI ID# 171986

Project State: NH

Project ID: 4965

Company PACE ANALYTICAL

Address 575 BROAD HOLLOW ROAD

Address MELVILLE, NY 11747

Account #

Phone # (631)694-3040

Fax Number

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

1-800-287-0525

Fax: (603)228-4591

Results Needed by: Preferred date

QC Deliverables

A A+ B B+ C P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

**4 DAY TAT
Acetone Only**

PO #: 46645

EAI ID# 171986

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by: Chris Johnson 8/8/17 1650 UPS
 Relinquished by 8/9/17 10:00 Date/Time Received by Spelman
 Relinquished by _____ Date/Time Received by _____

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees



Sample Condition Upon

WO#: 7026696

Client Name: Eastern

PM: SWM Due Date: 08/15/17
CLIENT: EASTA

Courier: Fed UPS USPS Client Commercial Pace Other

Tracking #: 1Z 446 999 01 9777 7261

Custody Seal on Cooler/Box Present: Yes No Seats Intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Ziploc None Other Type of Ice: Wet Blue None

Thermometer Used: TH082 Correction Factor: 0 Samples on ice, cooling process has begun

Cooler Temperature (°C): 10.9 Cooler Temperature Corrected (°C): 10.9 Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil N/A, water sample

Date and Initials of person examining contents: OK SWM

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? YES NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input type="checkbox"/> No	7.
Sufficient Volume: (Triple volume provided for MS/MSD):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact:	<input type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes date/time/ID/Analysis Matrix <u>SL/W/OIL</u>		
All containers needing preservation have been checked:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
pH paper Lot #		Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl, NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Initial when completed:	Lot # of added preservative:	Date/Time preservative added:
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. Positive for Res. Chlorine? Y N
Residual chlorine strips Lot #		
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if applicable):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted:

Date/Time:

Comments/ Resolution:

Client was notified about temperature issue



Monday, August 14, 2017

Attn: Front Office
Eastern Analytical
25 Chenell Drive
Concord, NH 03301

Project ID: 171986
Sample ID#s: BY80931 - BY80932

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,


Phyllis/Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

August 14, 2017

FOR: Attn: Front Office
 Eastern Analytical
 25 Chenell Drive
 Concord, NH 03301

Sample Information

Matrix: DRINKING WATER
 Location Code: EASTANAL
 Rush Request: 72 Hour
 P.O.#: 46646

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

08/08/17
 08/09/17

Time

10:45
 10:49

Laboratory Data

SDG ID: GBY80931
 Phoenix ID: BY80931

Project ID: 171986
 Client ID: SYTEM INFLUENT

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Extraction for 1,4-Dioxane	Completed							08/09/17	H/H	EPA522	1
<u>1,4-dioxane</u>											
1,4-dioxane	35	0.50	2	ug/l				08/11/17	LA	EPA522	1
<u>QA/QC Surrogates</u>											
% 1,4-dioxane-d8	81		1	%	NA	NA	NA	08/10/17	LA	30 - 130 %	

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
-----------	--------	------------	-----	-------	----	-----	------	-----------	----	-----------

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)

AL = Action Level MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

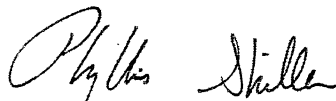
Maximum Contaminant Level (MCL): 40 CFR Part 141. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Action Level (AL): 40 CFR Part 141.80.

Secondary DW Maximum Contaminant Level Goal (MCLG): (Lower of): 40 CFR Part 141; 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

If there are any questions regarding this data, please call Phoenix Client Services.

This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

August 14, 2017

Reviewed and Released by: Bobbi Aloisa, Vice President



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

August 14, 2017

FOR: Attn: Front Office
 Eastern Analytical
 25 Chenell Drive
 Concord, NH 03301

Sample Information

Matrix: DRINKING WATER
 Location Code: EASTANAL
 Rush Request: 72 Hour
 P.O.#: 46646

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date Time

08/08/17 11:00
 08/09/17 10:49

Laboratory Data

SDG ID: GBY80931
 Phoenix ID: BY80932

Project ID: 171986
 Client ID: SYTEM EFFLUENT

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference	
Extraction for 1,4-Dioxane	Completed							08/09/17	H/H	EPA522	1
<u>1,4-dioxane</u>											
1,4-dioxane	ND	0.25	1	ug/l				08/10/17	LA	EPA522	1
<u>QA/QC Surrogates</u>											
% 1,4-dioxane-d8	79		1	%	NA	NA	NA	08/10/17	LA	30 - 130 %	

Parameter	Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	By	Reference
-----------	--------	------------	-----	-------	----	-----	------	-----------	----	-----------

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)

AL = Action Level MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

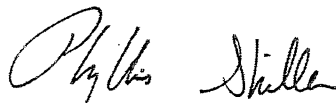
Maximum Contaminant Level (MCL): 40 CFR Part 141. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Action Level (AL): 40 CFR Part 141.80.

Secondary DW Maximum Contaminant Level Goal (MCLG): (Lower of): 40 CFR Part 141; 40 CFR Part 143. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

If there are any questions regarding this data, please call Phoenix Client Services.

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Phyllis Shiller, Laboratory Director

August 14, 2017

Reviewed and Released by: Bobbi Aloisa, Vice President



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823



QA/QC Report

August 14, 2017

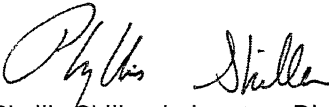
QA/QC Data

SDG I.D.: GBY80931

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
QA/QC Batch 397064 (ug/l), QC Sample No: BY80932 (BY80931, BY80932)										
<u>1,4dioxane - Drinking Water</u>										
1,4-dioxane	ND	0.25	92	99	7.3	94			30 - 130	20
% 1,4-dioxane-d8	68	%	79	87	9.6	86			30 - 130	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

- RPD - Relative Percent Difference
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MS Dup - Matrix Spike Duplicate
- NC - No Criteria
- Intf - Interference


 Phyllis/Shiller, Laboratory Director
 August 14, 2017

Monday, August 14, 2017

Sample Criteria Exceedances Report

GBY80931 - EASTANAL

Criteria: NH: DW

State: NH

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
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*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedances. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedance information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Environmental Laboratories, Inc.

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Analysis Comments

August 14, 2017

SDG I.D.: GBY80931

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

3.7WQ DE

CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services

EAI ID# 171986

Page 1

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
System Influent	8/8/2017 10:45	aqueous	1,4 Dioxane by EPA Method 522 (PEL)	80931
System Effluent	8/8/2017 11:00	aqueous	1,4 Dioxane by EPA Method 522 (PEL)	80932

EAI ID# 171986

Project State: NH

Project ID: 4965

Company Phoenix Environmental Labs

Address 587 East Middle Turnpike

Address Manchester, CT 06040

Account #

Phone # (860) 645-1102

Fax Number 860 645-0823

Results Needed by: Preferred date

QC Deliverables

A A+ B B+ C P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

4 DAY TAT

PO #: 46646

EAI ID# 171986

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

<i>Chris Johnson</i>	8/8/17 16:50	UPS
Relinquished by	Date/Time	Received by
UPS	TICOMA	8/11/17 10:40
Relinquished by	Date/Time	Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

1-800-287-0525

Fax: (603)228-4591

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees

CHAIN-OF-CUSTODY RECORD

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		SVOC		TCCLP METALS	INORGANICS										OTHER		NOTES MeOH Vial #			
				524.2 BTEX	524.2 MTBE ONLY	8210B GRO	8210B GRO		TCCLP METALS	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)	TS	BR	BOD	TURB	pH	COD	TOTAL CHLORIDE	REACTIVE CHLORIDE	FLASHPOINT		TOTAL COLIFORM	FECAL COLIFORM	Ammonia
system Influent	8-8-17 10:45	GW	G	X		X			X	X	X						X					X	13	
System Effluent	8-8-17 11:00	GW	G	X		X			X	X	X						X					X	13	
MATRIX: A-Air; S-Soil; GW-Ground Water; SW-Surface Water; DW-Drinking Water; WW-Waste Water				-H	-				N	-	-						SH							
PRESERVATIVE: H-HCL; N-HNO ₃ ; S-H ₂ SO ₄ ; Na-NAOH; M-MEOH																								

PROJECT MANAGER: Jim Wieck
 COMPANY: GZA
 ADDRESS: 5 Commerce Park North
 CITY: Bedford STATE: N.H. ZIP: 03110
 PHONE: 603 232 8732 EXT.:
 FAX:
 E-MAIL: James.Wieck@gza.com
 SITE NAME: Rennie Farm RGP *
 PROJECT #: 04.0190030.02
 STATE: NH MA ME VT OTHER:
 REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR
 GWP, OIL FUND, BROWNFIELD OR OTHER:
 QUOTE #: PO #: past history

DATE NEEDED: 5-Day

QA/QC REPORTING LEVEL: A B C
 OR
 PRESUMPTIVE CERTAINTY

REPORTING OPTIONS
 PRELIMS: YES OR NO

ELECTRONIC OPTIONS
 E-MAIL PDF EQUIS EXCEL

SAMPLER(S): Al Jacobsen
al.jacobsen 8-8-17 10:22

RELINQUISHED BY: DATE: TIME: RECEIVED BY:

RELINQUISHED BY: DATE: TIME: RECEIVED BY:

RELINQUISHED BY: DATE: TIME: RECEIVED BY:

TEMP. 3.3 °C
 ICE? YES NO

METALS: 8 RCRA 13 PP Fe, Mn Pb, Cu
 OTHER METALS: Antimony Arsenic Cadmium Mercury Wickel Selenium Silver Zinc

SAMPLES FIELD FILTERED? YES NO

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

* Past history

SITE HISTORY:

SUSPECTED CONTAMINATION:

FIELD READINGS:



Eastern Analytical, Inc.

professional laboratory and drilling services

Jim Wieck
GZA GeoEnvironmental, Inc. (NH)
5 Commerce Park North, Suite 201
Bedford, NH 03110



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 172404
Client Identification: Rennie Farm | 04.0190030.02
Date Received: 8/17/2017

Dear Mr. Wieck :

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, Lab Director

8-18-17

Date

4

of pages (excluding cover letter)



SAMPLE CONDITIONS PAGE

EAI ID#: 172404

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Temperature upon receipt (°C): 6.5

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)
172404.01	RW-2	8/17/17	8/17/17	aqueous		Adheres to Sample Acceptance Policy
172404.02	RW-5	8/17/17	8/17/17	aqueous		Adheres to Sample Acceptance Policy
172404.03	RW-7	8/17/17	8/17/17	aqueous		Adheres to Sample Acceptance Policy
172404.04	RW-8	8/17/17	8/17/17	aqueous		Adheres to Sample Acceptance Policy
172404.05	RW-12	8/17/17	8/17/17	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, Ignitability, 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

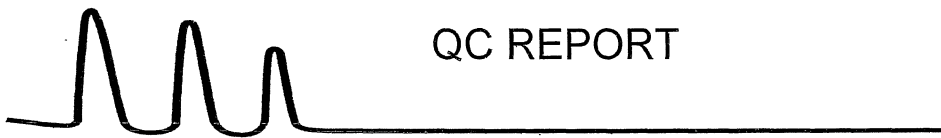
EAI ID#: 172404

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

Client Designation: **Rennie Farm | 04.0190030.02**

Sample ID:	RW-2	RW-5	RW-7			Analysis				
Lab Sample ID:	172404.01	172404.02	172404.03							
Matrix:	aqueous	aqueous	aqueous							
Date Sampled:	8/17/17	8/17/17	8/17/17							
Date Received:	8/17/17	8/17/17	8/17/17	RL	Units	Date	Time	Method	Analyst	
Cyanide Total	< 0.005	< 0.005	< 0.005	0.005	mg/L	8/18/17	11:06	ASTM D7511	SCW	

Sample ID:	RW-8	RW-12			Analysis					
Lab Sample ID:	172404.04	172404.05								
Matrix:	aqueous	aqueous								
Date Sampled:	8/17/17	8/17/17								
Date Received:	8/17/17	8/17/17			RL	Units	Date	Time	Method	Analyst
Cyanide Total	< 0.005	< 0.005			0.005	mg/L	8/18/17	11:06	ASTM D7511-09	SCW



QC REPORT

EAI ID#: 172404

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Cyanide Total	< 0.005	0.10 (103 %R)	0.10 (102 %R) (0 RPD)	mg/L	8/18/17	84 - 116	20	ASTM D7511

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.



Eastern Analytical, Inc.

professional laboratory and drilling services

Jim Wieck
GZA GeoEnvironmental, Inc. (NH)
5 Commerce Park North, Suite 201
Bedford, NH 03110



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 172527
Client Identification: Rennie Farm RGP | 04.0190030.02
Date Received: 8/22/2017

Dear Mr. Wieck :

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.

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- > : "greater than" followed by the reporting limit
- %R : % Recovery


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

Sincerely,


Lorraine Olashaw, Lab Director

8.30.17
Date

30
of pages (excluding cover letter)



SAMPLE CONDITIONS PAGE

EAI ID#: 172527

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP | 04.0190030.02

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)
172527.01	System Influent	8/22/17	8/22/17	aqueous		Adheres to Sample Acceptance Policy
172527.02	System Effluent	8/22/17	8/22/17	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, Ignitability, 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#: 172527

Client: **GZA GeoEnvironmental, Inc. (NH)**
 Client Designation: **Rennie Farm RGP | 04.0190030.02**

Sample ID: System Influent

Lab Sample ID: 172527.01
 Matrix: aqueous
 Date Sampled: 8/22/17
 Date Received: 8/22/17
 Date of Extraction/Prep:
 Dilution Factor: 1

Units: ug/L
 Date of Analysis: 8/23/17
 Method: 624
 Analyst: BAM

Parameter	Result	RL	Parameter	Result	RL
Chloromethane	< 2	2	1,2-Dichlorobenzene	< 1	1
Vinyl chloride	< 1	1	Total Dichlorobenzenes	< 3	3
Bromomethane	< 2	2	4-Bromofluorobenzene (surr)	97 %R	
Chloroethane	< 5	5	1,2-Dichlorobenzene-d4 (surr)	99 %R	
Trichlorofluoromethane	< 5	5	Toluene-d8 (surr)	102 %R	
Acetone	< 10	10			
1,1-Dichloroethene	< 1	1			
Methylene chloride	< 1	1			
Methyl-t-butyl ether(MTBE)	< 5	5			
trans-1,2-Dichloroethene	< 1	1			
Vinyl acetate	< 10	10			
1,1-Dichloroethane	< 1	1			
cis-1,2-Dichloroethene	< 1	1			
2-Butanone(MEK)	< 10	10			
Chloroform	< 1	1			
1,1,1-Trichloroethane	< 1	1			
Carbon tetrachloride	< 1	1			
Benzene	< 1	1			
1,2-Dichloroethane	< 1	1			
Trichloroethene	< 1	1			
1,2-Dichloropropane	< 1	1			
Bromodichloromethane	< 2	2			
2-Chloroethylvinylether	< 2	2			
4-Methyl-2-pentanone(MIBK)	< 10	10			
cis-1,3-Dichloropropene	< 2	2			
Toluene	< 1	1			
trans-1,3-Dichloropropene	< 2	2			
1,1,2-Trichloroethane	< 1	1			
2-Hexanone	< 10	10			
Tetrachloroethene	< 1	1			
Dibromochloromethane	< 1	1			
Chlorobenzene	< 1	1			
Ethylbenzene	< 1	1			
mp-Xylene	< 1	1			
o-Xylene	< 1	1			
Styrene	< 1	1			
Bromoform	< 2	2			
1,1,2,2-Tetrachloroethane	< 1	1			
1,3-Dichlorobenzene	< 1	1			
1,4-Dichlorobenzene	< 1	1			



LABORATORY REPORT

EAI ID#: 172527

Client: **GZA GeoEnvironmental, Inc. (NH)**
 Client Designation: **Rennie Farm RGP | 04.0190030.02**

Sample ID: System Effluent

Lab Sample ID: 172527.02
 Matrix: aqueous
 Date Sampled: 8/22/17
 Date Received: 8/22/17
 Date of Extraction/Prep:
 Dilution Factor: 1

Units: ug/L
 Date of Analysis: 8/23/17
 Method: 624
 Analyst: BAM

Parameter	Result	RL	Parameter	Result	RL
Chloromethane	< 2	2	1,2-Dichlorobenzene	< 1	1
Vinyl chloride	< 1	1	Total Dichlorobenzenes	< 3	3
Bromomethane	< 2	2	4-Bromofluorobenzene (surr)	97 %R	
Chloroethane	< 5	5	1,2-Dichlorobenzene-d4 (surr)	96 %R	
Trichlorofluoromethane	< 5	5	Toluene-d8 (surr)	102 %R	
Acetone	< 10	10			
1,1-Dichloroethene	< 1	1			
Methylene chloride	< 1	1			
Methyl-t-butyl ether(MTBE)	< 5	5			
trans-1,2-Dichloroethene	< 1	1			
Vinyl acetate	< 10	10			
1,1-Dichloroethane	< 1	1			
cis-1,2-Dichloroethene	< 1	1			
2-Butanone(MEK)	< 10	10			
Chloroform	< 1	1			
1,1,1-Trichloroethane	< 1	1			
Carbon tetrachloride	< 1	1			
Benzene	< 1	1			
1,2-Dichloroethane	< 1	1			
Trichloroethene	< 1	1			
1,2-Dichloropropane	< 1	1			
Bromodichloromethane	< 2	2			
2-Chloroethylvinylether	< 2	2			
4-Methyl-2-pentanone(MIBK)	< 10	10			
cis-1,3-Dichloropropene	< 2	2			
Toluene	< 1	1			
trans-1,3-Dichloropropene	< 2	2			
1,1,2-Trichloroethane	< 1	1			
2-Hexanone	< 10	10			
Tetrachloroethene	< 1	1			
Dibromochloromethane	< 1	1			
Chlorobenzene	< 1	1			
Ethylbenzene	< 1	1			
mp-Xylene	< 1	1			
o-Xylene	< 1	1			
Styrene	< 1	1			
Bromoform	< 2	2			
1,1,2,2-Tetrachloroethane	< 1	1			
1,3-Dichlorobenzene	< 1	1			
1,4-Dichlorobenzene	< 1	1			



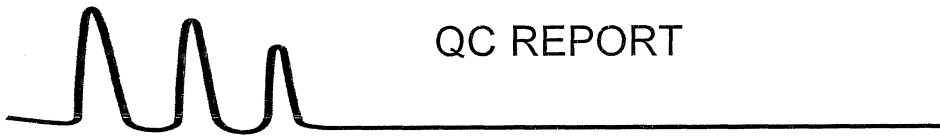
QC REPORT

EAI ID#: 172527

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	20 (100 %R)	20 (102 %R) (3 RPD)	8/22/2017	ug/L	0 - 273	20	624
Vinyl chloride	< 1	25 (125 %R)	26 (129 %R) (3 RPD)	8/22/2017	ug/L	0 - 251	20	624
Bromomethane	< 2	23 (116 %R)	25 (123 %R) (6 RPD)	8/22/2017	ug/L	0 - 242	20	624
Chloroethane	< 5	21 (104 %R)	22 (108 %R) (4 RPD)	8/22/2017	ug/L	14 - 230	20	624
Trichlorofluoromethane	< 5	18 (90 %R)	18 (92 %R) (2 RPD)	8/22/2017	ug/L	17 - 181	20	624
Acetone	< 10	20 (92 %R)	20 (95 %R) (4 RPD)	8/22/2017	ug/L	40 - 160	20	624
1,1-Dichloroethene	< 1	20 (99 %R)	20 (101 %R) (3 RPD)	8/22/2017	ug/L	0 - 234	20	624
Methylene chloride	< 1	19 (95 %R)	20 (99 %R) (4 RPD)	8/22/2017	ug/L	0 - 221	20	624
Methyl-t-butyl ether(MTBE)	< 5	19 (97 %R)	19 (97 %R) (1 RPD)	8/22/2017	ug/L	70 - 130	20	624
trans-1,2-Dichloroethene	< 1	20 (98 %R)	21 (103 %R) (5 RPD)	8/22/2017	ug/L	54 - 156	20	624
Vinyl acetate	< 10	20 (78 %R)	10 (72 %R) (7 RPD)	8/22/2017	ug/L	40 - 160	20	624
1,1-Dichloroethane	< 1	18 (92 %R)	19 (94 %R) (2 RPD)	8/22/2017	ug/L	59 - 155	20	624
cis-1,2-Dichloroethene	< 1	19 (94 %R)	20 (98 %R) (4 RPD)	8/22/2017	ug/L	70 - 130	20	624
2-Butanone(MEK)	< 10	20 (95 %R)	20 (96 %R) (1 RPD)	8/22/2017	ug/L	40 - 160	20	624
Chloroform	< 1	19 (93 %R)	19 (97 %R) (4 RPD)	8/22/2017	ug/L	51 - 138	20	624
1,1,1-Trichloroethane	< 1	19 (95 %R)	20 (98 %R) (3 RPD)	8/22/2017	ug/L	52 - 162	20	624
Carbon tetrachloride	< 1	19 (96 %R)	20 (100 %R) (4 RPD)	8/22/2017	ug/L	70 - 140	20	624
Benzene	< 1	20 (99 %R)	20 (101 %R) (3 RPD)	8/22/2017	ug/L	37 - 151	20	624
1,2-Dichloroethane	< 1	18 (88 %R)	18 (91 %R) (3 RPD)	8/22/2017	ug/L	49 - 155	20	624
Trichloroethene	< 1	19 (94 %R)	20 (98 %R) (3 RPD)	8/22/2017	ug/L	71 - 151	20	624
1,2-Dichloropropane	< 1	19 (95 %R)	19 (97 %R) (3 RPD)	8/22/2017	ug/L	0 - 210	20	624
Bromodichloromethane	< 2	20 (100 %R)	21 (103 %R) (3 RPD)	8/22/2017	ug/L	35 - 155	20	624
2-Chloroethylvinylether	< 2	22 (110 %R)	22 (112 %R) (2 RPD)	8/22/2017	ug/L	0 - 305	20	624
4-Methyl-2-pentanone(MIBK)	< 10	20 (112 %R)	20 (114 %R) (2 RPD)	8/22/2017	ug/L	40 - 160	20	624
cis-1,3-Dichloropropene	< 2	20 (101 %R)	21 (104 %R) (3 RPD)	8/22/2017	ug/L	0 - 227	20	624
Toluene	< 1	20 (102 %R)	22 (108 %R) (6 RPD)	8/22/2017	ug/L	47 - 150	20	624
trans-1,3-Dichloropropene	< 2	20 (98 %R)	20 (101 %R) (3 RPD)	8/22/2017	ug/L	17 - 183	20	624
1,1,2-Trichloroethane	< 1	19 (96 %R)	20 (98 %R) (2 RPD)	8/22/2017	ug/L	52 - 150	20	624
2-Hexanone	< 10	20 (95 %R)	20 (95 %R) (0 RPD)	8/22/2017	ug/L	40 - 160	20	624
Tetrachloroethene	< 1	21 (103 %R)	21 (107 %R) (4 RPD)	8/22/2017	ug/L	64 - 148	20	624
Dibromochloromethane	< 1	21 (106 %R)	22 (109 %R) (3 RPD)	8/22/2017	ug/L	53 - 149	20	624
Chlorobenzene	< 1	21 (104 %R)	21 (107 %R) (3 RPD)	8/22/2017	ug/L	37 - 160	20	624
Ethylbenzene	< 1	21 (107 %R)	23 (113 %R) (5 RPD)	8/22/2017	ug/L	37 - 162	20	624
mp-Xylene	< 1	41 (104 %R)	43 (107 %R) (3 RPD)	8/22/2017	ug/L	70 - 130	20	624
o-Xylene	< 1	21 (106 %R)	22 (108 %R) (2 RPD)	8/22/2017	ug/L	70 - 130	20	624
Styrene	< 1	21 (105 %R)	22 (111 %R) (6 RPD)	8/22/2017	ug/L	70 - 130	20	624
Bromoform	< 2	22 (110 %R)	22 (111 %R) (1 RPD)	8/22/2017	ug/L	46 - 169	20	624
1,1,2,2-Tetrachloroethane	< 1	24 (118 %R)	23 (115 %R) (2 RPD)	8/22/2017	ug/L	46 - 157	20	624
1,3-Dichlorobenzene	< 1	22 (108 %R)	22 (108 %R) (0 RPD)	8/22/2017	ug/L	59 - 156	20	624
1,4-Dichlorobenzene	< 1	22 (109 %R)	22 (108 %R) (1 RPD)	8/22/2017	ug/L	18 - 190	20	624
1,2-Dichlorobenzene	< 1	21 (106 %R)	21 (106 %R) (0 RPD)	8/22/2017	ug/L	18 - 190	20	624
Total Dichlorobenzenes	< 3			8/22/2017	ug/L	59 - 156	20	624
4-Bromofluorobenzene (surr)	99 %R	99 %R	99 %R	8/22/2017	% Rec	70 - 130	20	624
1,2-Dichlorobenzene-d4 (surr)	99 %R	97 %R	97 %R	8/22/2017	% Rec	70 - 130	20	624
Toluene-d8 (surr)	99 %R	100 %R	101 %R	8/22/2017	% Rec	70 - 130	20	624



QC REPORT

EAI ID#: 172527

Client: **GZA GeoEnvironmental, Inc. (NH)**
Client Designation: **Rennie Farm RGP | 04.0190030.02**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
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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. Unless noted below, flagged analytes that exceed acceptance limits in the Quality Control sample were not detected in the field samples.
Analytes that exceed limits high but are not detected in the field samples do not impact the data. For analytes that show low recovery and are not detected in the field samples, a low point calibration standard has been analyzed to support the reporting limit.



LABORATORY REPORT

EAI ID#: 172527

Client: **GZA GeoEnvironmental, Inc. (NH)**
 Client Designation: **Rennie Farm RGP | 04.0190030.02**

Client Sample ID: System Influent
Lab Sample ID: 172527.01
Matrix: aqueous
Date Sampled: 8/22/17
Date Received: 8/22/17

	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Date Prepared	Method	Analyst
Phenol	< 1	1	1	ug/L	8/30/17 2:06	8/28/17	625	JMR
2-Fluorophenol (surr)	48 %R			%	8/30/17 2:06	8/28/17	625	JMR
Phenol-d6 (surr)	32 %R			%	8/30/17 2:06	8/28/17	625	JMR
2,4,6-Tribromophenol (surr)	78 %R			%	8/30/17 2:06	8/28/17	625	JMR



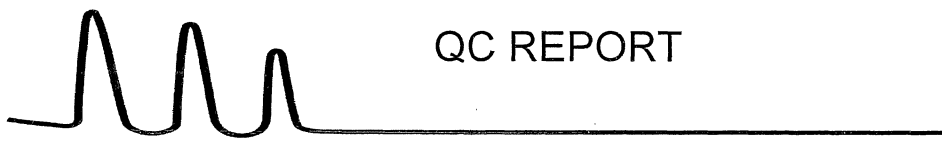
LABORATORY REPORT

EAI ID#: 172527

Client: **GZA GeoEnvironmental, Inc. (NH)**
 Client Designation: **Rennie Farm RGP | 04.0190030.02**

Client Sample ID: System Effluent
 Lab Sample ID: 172527.02
 Matrix: aqueous
 Date Sampled: 8/22/17
 Date Received: 8/22/17

	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Date Prepared	Method	Analyst
Phenol	< 1	1	1	ug/L	8/30/17 2:28	8/28/17	625	JMR
2-Fluorophenol (surr)	45 %R			%	8/30/17 2:28	8/28/17	625	JMR
Phenol-d6 (surr)	30 %R			%	8/30/17 2:28	8/28/17	625	JMR
2,4,6-Tribromophenol (surr)	71 %R			%	8/30/17 2:28	8/28/17	625	JMR



QC REPORT

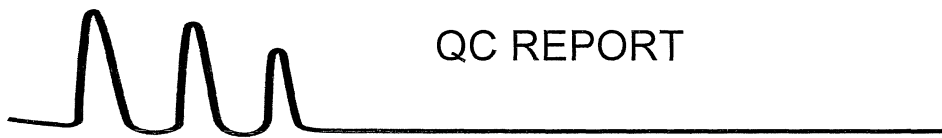
EAI ID#: 172527

Client: GZA GeoEnvironmental, Inc. (NH)

Batch ID: 636395-09356/A082817E6251

Client Designation: Rennie Farm RGP | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
alpha-Terpineol	< 5	24 (95 %R)	22 (89 %R) (7 RPD)	8/29/2017	ug/L	40 - 140	20	625
Phenol	< 1	18 (36 %R)	17 (34 %R) (6 RPD)	8/29/2017	ug/L	5 - 112	23	625
2-Chlorophenol	< 1	35 (69 %R)	31 (63 %R) (10 RPD)	8/29/2017	ug/L	23 - 134	29	625
2,4-Dichlorophenol	< 1	39 (79 %R)	37 (74 %R) (7 RPD)	8/29/2017	ug/L	39 - 135	26	625
2,4,5-Trichlorophenol	< 1	41 (83 %R)	39 (79 %R) (5 RPD)	8/29/2017	ug/L	30 - 130	20	625
2,4,6-Trichlorophenol	< 1	43 (85 %R)	40 (80 %R) (6 RPD)	8/29/2017	ug/L	37 - 144	32	625
Pentachlorophenol	< 5	34 (69 %R)	33 (66 %R) (5 RPD)	8/29/2017	ug/L	14 - 176	49	625
2-Nitrophenol	< 5	37 (74 %R)	34 (68 %R) (9 RPD)	8/29/2017	ug/L	29 - 182	35	625
4-Nitrophenol	< 5	19 (38 %R)	18 (37 %R) (2 RPD)	8/29/2017	ug/L	1 - 132	47	625
2,4-Dinitrophenol	< 10	39 (78 %R)	38 (77 %R) (1 RPD)	8/29/2017	ug/L	1 - 191	50	625
2-Methylphenol	< 1	36 (72 %R)	34 (68 %R) (5 RPD)	8/29/2017	ug/L	30 - 130	20	625
3/4-Methylphenol	< 1	37 (73 %R)	35 (70 %R) (4 RPD)	8/29/2017	ug/L	30 - 130	20	625
2,4-Dimethylphenol	< 1	41 (81 %R)	38 (75 %R) (8 RPD)	8/29/2017	ug/L	32 - 119	26	625
4-Chloro-3-methylphenol	< 1	43 (86 %R)	42 (83 %R) (3 RPD)	8/29/2017	ug/L	22 - 147	37	625
4,6-Dinitro-2-methylphenol	< 5	43 (86 %R)	41 (83 %R) (4 RPD)	8/29/2017	ug/L	1 - 181	93	625
Benzoic Acid	< 50	< 50 (22 %R)	< 50 (29 %R) (27 RPD)	8/29/2017	ug/L	15 - 130	50	625
N-Nitrosodimethylamine	< 1	14 (57 %R)	13 (52 %R) (9 RPD)	8/29/2017	ug/L	15 - 140	20	625
n-Nitroso-di-n-propylamine	< 1	22 (88 %R)	20 (82 %R) (7 RPD)	8/29/2017	ug/L	1 - 230	55	625
n-Nitrosodiphenylamine	< 1	22 (87 %R)	21 (84 %R) (4 RPD)	8/29/2017	ug/L	40 - 140	20	625
bis(2-Chloroethyl)ether	< 1	19 (77 %R)	17 (69 %R) (11 RPD)	8/29/2017	ug/L	12 - 158	55	625
bis(2-chloroisopropyl)ether	< 1	23 (93 %R)	21 (84 %R) (10 RPD)	8/29/2017	ug/L	36 - 166	46	625
bis(2-Chloroethoxy)methane	< 1	21 (85 %R)	20 (79 %R) (7 RPD)	8/29/2017	ug/L	33 - 184	34	625
1,3-Dichlorobenzene	< 1	14 (57 %R)	13 (51 %R) (11 RPD)	8/29/2017	ug/L	1 - 172	42	625
Acetophenone	< 1	19 (77 %R)	18 (71 %R) (9 RPD)	8/29/2017	ug/L	40 - 140	20	625
1,4-Dichlorobenzene	< 1	14 (58 %R)	13 (52 %R) (11 RPD)	8/29/2017	ug/L	20 - 124	32	625
1,2-Dichlorobenzene	< 1	15 (60 %R)	13 (54 %R) (11 RPD)	8/29/2017	ug/L	32 - 129	31	625
1,2,4-Trichlorobenzene	< 1	16 (63 %R)	14 (57 %R) (10 RPD)	8/29/2017	ug/L	44 - 142	28	625
2-Chloronaphthalene	< 1	20 (78 %R)	18 (73 %R) (7 RPD)	8/29/2017	ug/L	60 - 118	13	625
4-Chlorophenyl-phenylether	< 1	20 (80 %R)	19 (76 %R) (6 RPD)	8/29/2017	ug/L	25 - 158	33	625
4-Bromophenyl-phenylether	< 1	20 (81 %R)	19 (78 %R) (4 RPD)	8/29/2017	ug/L	53 - 127	23	625
Hexachloroethane	< 1	14 (58 %R)	13 (52 %R) (10 RPD)	8/29/2017	ug/L	40 - 113	24	625
Hexachlorobutadiene	< 1	14 (58 %R)	13 (52 %R) (11 RPD)	8/29/2017	ug/L	24 - 116	26	625
Hexachlorocyclopentadiene	< 5	10 (40 %R)	9 (36 %R) (10 RPD)	8/29/2017	ug/L	15 - 140	20	625
Hexachlorobenzene	< 1	19 (78 %R)	18 (74 %R) (5 RPD)	8/29/2017	ug/L	1 - 152	25	625
4-Chloroaniline	< 1	21 (85 %R)	21 (84 %R) (2 RPD)	8/29/2017	ug/L	15 - 140	20	625
2,3-Dichloroaniline	< 1	21 (84 %R)	20 (79 %R) (6 RPD)	8/29/2017	ug/L	40 - 140	20	625
2-Nitroaniline	< 5	24 (98 %R)	23 (93 %R) (5 RPD)	8/29/2017	ug/L	40 - 140	20	625
3-Nitroaniline	< 5	22 (88 %R)	22 (87 %R) (1 RPD)	8/29/2017	ug/L	40 - 140	20	625
4-Nitroaniline	< 5	21 (85 %R)	20 (81 %R) (5 RPD)	8/29/2017	ug/L	40 - 140	20	625
Aniline	< 1	20 (81 %R)	19 (76 %R) (6 RPD)	8/29/2017	ug/L	40 - 140	20	625
Benzyl alcohol	< 10	20 (78 %R)	19 (75 %R) (4 RPD)	8/29/2017	ug/L	40 - 140	20	625
Nitrobenzene	< 1	20 (80 %R)	18 (72 %R) (10 RPD)	8/29/2017	ug/L	35 - 180	39	625
Isophorone	< 1	22 (89 %R)	21 (83 %R) (7 RPD)	8/29/2017	ug/L	21 - 196	63	625
2,4-Dinitrotoluene	< 5	21 (83 %R)	20 (79 %R) (5 RPD)	8/29/2017	ug/L	39 - 139	22	625
2,6-Dinitrotoluene	< 5	21 (84 %R)	20 (82 %R) (3 RPD)	8/29/2017	ug/L	50 - 158	30	625
Benzidine (estimated)	< 5	21 (82 %R)	19 (75 %R) (9 RPD)	8/29/2017	ug/L	1 - 200	50	625



QC REPORT

EAI ID#: 172527

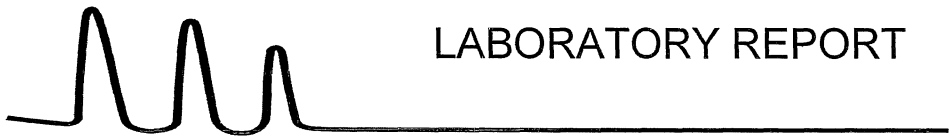
Client: GZA GeoEnvironmental, Inc. (NH)

Batch ID: 636395-09356/A082817E6251

Client Designation: Rennie Farm RGP | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Pyridine	< 5	14 (57 %R)	13 (52 %R) (10 RPD)	8/29/2017	ug/L	15 - 140	20	625
Azobenzene	< 1	26 (105 %R)	25 (100 %R) (5 RPD)	8/29/2017	ug/L	40 - 140	20	625
Carbazole	< 1	23 (92 %R)	22 (87 %R) (5 RPD)	8/29/2017	ug/L	40 - 140	20	625
Dimethylphthalate	< 1	22 (87 %R)	21 (82 %R) (5 RPD)	8/29/2017	ug/L	1 - 112	23	625
Diethylphthalate	< 5	22 (89 %R)	21 (85 %R) (5 RPD)	8/29/2017	ug/L	1 - 114	26	625
Di-n-butylphthalate	< 5	25 (99 %R)	24 (95 %R) (4 RPD)	8/29/2017	ug/L	1 - 118	17	625
Butylbenzylphthalate	< 5	25 (99 %R)	24 (94 %R) (5 RPD)	8/29/2017	ug/L	1 - 152	23	625
bis(2-Ethylhexyl)phthalate	< 5	25 (100 %R)	24 (96 %R) (4 RPD)	8/29/2017	ug/L	8 - 158	41	625
Di-n-octylphthalate	< 5	25 (101 %R)	24 (98 %R) (4 RPD)	8/29/2017	ug/L	4 - 146	31	625
Dibenzofuran	< 1	21 (83 %R)	20 (79 %R) (6 RPD)	8/29/2017	ug/L	40 - 140	20	625
Naphthalene	< 0.1	18 (70 %R)	16 (64 %R) (9 RPD)	8/29/2017	ug/L	21 - 133	30	625
2-Methylnaphthalene	< 0.1	18 (74 %R)	17 (69 %R) (6 RPD)	8/29/2017	ug/L	40 - 140	20	625
1-Methylnaphthalene	< 0.1	20 (79 %R)	19 (74 %R) (6 RPD)	8/29/2017	ug/L	40 - 140	20	625
Acenaphthylene	< 0.1	20 (81 %R)	19 (76 %R) (6 RPD)	8/29/2017	ug/L	33 - 145	40	625
Acenaphthene	< 0.1	20 (82 %R)	19 (77 %R) (6 RPD)	8/29/2017	ug/L	47 - 145	28	625
Fluorene	< 0.1	21 (83 %R)	20 (79 %R) (5 RPD)	8/29/2017	ug/L	59 - 121	21	625
Phenanthrene	< 0.1	22 (87 %R)	21 (83 %R) (6 RPD)	8/29/2017	ug/L	54 - 120	21	625
Anthracene	< 0.1	22 (86 %R)	21 (83 %R) (4 RPD)	8/29/2017	ug/L	27 - 133	32	625
Fluoranthene	< 0.1	21 (85 %R)	20 (80 %R) (6 RPD)	8/29/2017	ug/L	26 - 137	33	625
Pyrene	< 0.1	22 (88 %R)	21 (84 %R) (5 RPD)	8/29/2017	ug/L	52 - 115	25	625
Benzo[a]anthracene	< 0.1	21 (84 %R)	20 (80 %R) (4 RPD)	8/29/2017	ug/L	33 - 143	28	625
Chrysene	< 0.1	22 (88 %R)	21 (84 %R) (4 RPD)	8/29/2017	ug/L	17 - 168	48	625
Benzo[b]fluoranthene	< 0.1	21 (85 %R)	21 (83 %R) (2 RPD)	8/29/2017	ug/L	24 - 159	39	625
Benzo[k]fluoranthene	< 0.1	21 (84 %R)	20 (80 %R) (5 RPD)	8/29/2017	ug/L	11 - 162	32	625
Benzo[a]pyrene	< 0.1	21 (84 %R)	20 (81 %R) (4 RPD)	8/29/2017	ug/L	17 - 163	39	625
Indeno[1,2,3-cd]pyrene	< 0.1	22 (86 %R)	21 (83 %R) (4 RPD)	8/29/2017	ug/L	1 - 171	45	625
Dibenz[a,h]anthracene	< 0.1	22 (86 %R)	21 (82 %R) (4 RPD)	8/29/2017	ug/L	1 - 227	70	625
Benzo[g,h,i]perylene	< 0.1	21 (85 %R)	20 (82 %R) (3 RPD)	8/29/2017	ug/L	1 - 219	59	625
n-Decane	< 5	16 (65 %R)	15 (59 %R) (9 RPD)	8/29/2017	ug/L	40 - 140	20	625
n-Octadecane	< 5	28 (110 %R)	26 (105 %R) (5 RPD)	8/29/2017	ug/L	40 - 140	20	625
2-Fluorophenol (surr)	40 %R	45 %R	41 %R	8/29/2017	% Rec	21 - 110		625
Phenol-d6 (surr)	30 %R	33 %R	31 %R	8/29/2017	% Rec	15 - 94		625
2,4,6-Tribromophenol (surr)	66 %R	75 %R	71 %R	8/29/2017	% Rec	15 - 110		625
Nitrobenzene-D5 (surr)	65 %R	79 %R	72 %R	8/29/2017	% Rec	35 - 114		625
2-Fluorobiphenyl (surr)	69 %R	77 %R	72 %R	8/29/2017	% Rec	43 - 116		625
p-Terphenyl-D14 (surr)	77 %R	87 %R	84 %R	8/29/2017	% Rec	33 - 130		625

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. Unless noted below, flagged analytes that exceed acceptance limits in the Quality Control sample were not detected in the field samples.



LABORATORY REPORT

EAI ID#: 172527

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP | 04.0190030.02

Sample ID: System Influent System Effluent

Lab Sample ID: 172527.01 172527.02

Matrix: aqueous aqueous

Date Sampled: 8/22/17 8/22/17

Date Received: 8/22/17 8/22/17

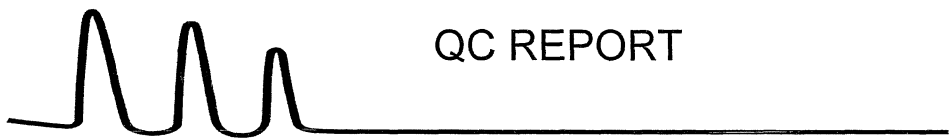
Solids Suspended < 5 < 5

Chloride 4 3

Cyanide Total < 0.005 < 0.005

Ammonia-N < 0.05 < 0.05

RL	Units	Analysis		Method	Analyst
		Date	Time		
5	mg/L	8/23/17	16:00	2540D-97	KD
1	mg/L	8/23/17	15:59	4500CIE-97	KD
0.005	mg/L	8/23/17	11:18	ASTM D7511	KD
0.05	mg/L	8/23/17	12:36	TM NH3-001	SEL



QC REPORT

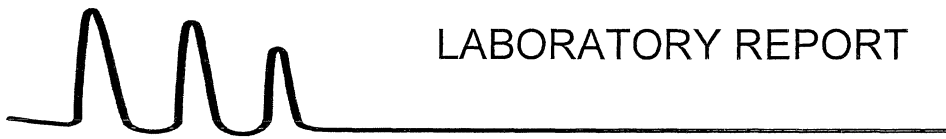
EAI ID#: 172527

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

Client Designation: **Rennie Farm RGP | 04.0190030.02**

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Solids Suspended	< 5	86 (92 %R)	85 (91 %R) (1 RPD)	mg/L	8/23/17	90 - 110	20	2540D-97
Chloride	< 1	26 (104 %R)	26 (105 %R) (0 RPD)	mg/L	8/23/17	90 - 110	20	4500CIE-97
Cyanide Total	< 0.005	0.099 (99 %R)	0.10 (100 %R) (0 RPD)	mg/L	8/23/17	84 - 116	20	ASTM D7511
Ammonia-N	< 0.05	2.0 (100 %R)	2.0 (99 %R) (1 RPD)	mg/L	8/23/17	90 - 110	20	TM NH3-001

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.



LABORATORY REPORT

EAI ID#: 172527

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP | 04.0190030.02

Sample ID: System Influent System Effluent

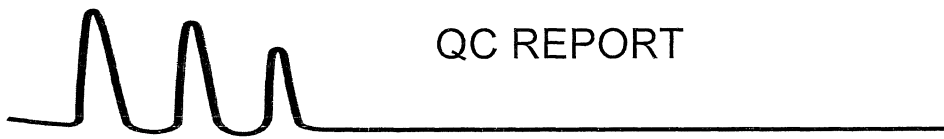
Lab Sample ID: 172527.01 172527.02

Matrix: aqueous aqueous

Date Sampled: 8/22/17 8/22/17

Date Received: 8/22/17 8/22/17

			Analytical			Analysis		
	System Influent	System Effluent	RL	Matrix	Units	Date	Method	Analyst
Antimony	< 0.0005	< 0.0005	0.0005	AqTot	mg/L	8/24/17	200.8	DS
Arsenic	< 0.001	< 0.001	0.001	AqTot	mg/L	8/24/17	200.8	DS
Cadmium	< 0.0001	< 0.0001	0.0001	AqTot	mg/L	8/24/17	200.8	DS
Chromium	< 0.001	< 0.001	0.001	AqTot	mg/L	8/24/17	200.8	DS
Copper	0.0010	< 0.0001	0.0001	AqTot	mg/L	8/24/17	200.8	DS
Iron	1.6	< 0.05	0.05	AqTot	mg/L	8/24/17	200.8	DS
Lead	< 0.0001	< 0.0001	0.0001	AqTot	mg/L	8/24/17	200.8	DS
Mercury	< 0.0001	< 0.0001	0.0001	AqTot	mg/L	8/24/17	200.8	DS
Nickel	0.0028	0.0007	0.0001	AqTot	mg/L	8/24/17	200.8	DS
Selenium	< 0.001	< 0.001	0.001	AqTot	mg/L	8/24/17	200.8	DS
Silver	< 0.0001	< 0.0001	0.0001	AqTot	mg/L	8/24/17	200.8	DS
Zinc	< 0.002	< 0.002	0.002	AqTot	mg/L	8/24/17	200.8	DS
Chromium (III)	< 0.001	< 0.001	0.001	AqTot	mg/L	8/24/17	200.8	DS
Chromium (VI)	< 0.01	< 0.01	0.01	AqTot	mg/L	8/23/17	7196A	RJ



QC REPORT

EAI ID#: 172527

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Antimony	< 0.001	0.97 (97 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Arsenic	< 0.001	0.98 (98 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Cadmium	< 0.001	0.98 (98 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Chromium	< 0.001	0.95 (95 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Copper	< 0.001	0.92 (92 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Iron	< 0.05	11 (100 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Lead	< 0.001	0.96 (96 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Mercury	< 0.0001	0.0010 (101 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Nickel	< 0.001	0.98 (98 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Selenium	< 0.001	0.97 (97 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Silver	< 0.001	0.10 (103 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Zinc	< 0.005	0.98 (98 %R)	NA	mg/L	8/24/17	85 - 115	20	200.8
Chromium (VI)	< 0.01	0.22 (99 %R)	NA	mg/L	8/23/17	95 - 105	20	7196A

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.



August 25, 2017

Alison Blay
Eastern Analytical
25 Chenell Dr.
Concord, NH 03301

RE: Project: EAI ID #172527
Pace Project No.: 7028077

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on August 24, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Stu Murrell
stu.murrell@pacelabs.com
(631)694-3040
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.



CERTIFICATIONS

Project: EAI ID #172527
Pace Project No.: 7028077

Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435

Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: EAI ID #172527
 Pace Project No.: 7028077

Sample: SYSTEM INFLUEINT		Lab ID: 7028077001	Collected: 08/22/17 12:45	Received: 08/24/17 09:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Method: EPA 1624B							
Acetone	<10.0	ug/L	10.0	1		08/25/17 16:04	67-64-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	95	%	53-183	1		08/25/17 16:04	17060-07-0	
4-Bromofluorobenzene (S)	110	%	63-140	1		08/25/17 16:04	460-00-4	
Toluene-d8 (S)	102	%	60-135	1		08/25/17 16:04	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: EAI ID #172527
Pace Project No.: 7028077

Sample: SYSTEM EFFLUEINT		Lab ID: 7028077002	Collected: 08/22/17 13:00	Received: 08/24/17 09:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV		Analytical Method: EPA 1624B						
Acetone	<10.0	ug/L	10.0	1		08/25/17 15:40	67-64-1	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	53-183	1		08/25/17 15:40	17060-07-0	
4-Bromofluorobenzene (S)	106	%	63-140	1		08/25/17 15:40	460-00-4	
Toluene-d8 (S)	98	%	60-135	1		08/25/17 15:40	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: EAI ID #172527
 Pace Project No.: 7028077

QC Batch: 36862 Analysis Method: EPA 1624B
 QC Batch Method: EPA 1624B Analysis Description: 1624B MSV
 Associated Lab Samples: 7028077001, 7028077002

METHOD BLANK: 171614 Matrix: Water
 Associated Lab Samples: 7028077001, 7028077002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acetone	ug/L	<10.0	10.0	08/25/17 14:53	
1,2-Dichloroethane-d4 (S)	%	88	53-183	08/25/17 14:53	
4-Bromofluorobenzene (S)	%	114	63-140	08/25/17 14:53	
Toluene-d8 (S)	%	102	60-135	08/25/17 14:53	

LABORATORY CONTROL SAMPLE: 171615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	50	65.9	132	20-200	
1,2-Dichloroethane-d4 (S)	%			93	53-183	
4-Bromofluorobenzene (S)	%			107	63-140	
Toluene-d8 (S)	%			97	60-135	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: EAI ID #172527
Pace Project No.: 7028077

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: EAI ID #172527
Pace Project No.: 7028077

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7028077001	SYSTEM INFLUEINT	EPA 1624B	36862		
7028077002	SYSTEM EFFLUEINT	EPA 1624B	36862		

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services

EAI ID# 172527

Page 1

Page 8 of 9

21

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
System Influent	8/22/2017 12:45	aqueous	Subcontract - EPA Method 1624 Isotope Dilution	
System Effluent	8/22/2017 13:00	aqueous	Subcontract - EPA Method 1624 Isotope Dilution	

WO#: 7028077



7028077

EAI ID# 172527

Project State: NH

Project ID: 4965

Company PACE ANALYTICAL

Address 575 BROAD HOLLOW ROAD

Address MELVILLE, NY 11747

Account #

Phone # (631)694-3040

Fax Number

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

PO #: 46727

EAI ID# 172527

Please call prior to analyzing, if RUSH surcharges will be applied.

Samples Collected by:

Chris Johnson 8/22/17 1600 UPS

Relinquished by Date/Time Received by

UPS 8/24/17 9:45 *James Pett*

Relinquished by Date/Time Received by

T = 21.1°C

Results Needed by: Preferred date

QC Deliverables

A A+ B B+ C P

Notes about project:

Email pdf of results and invoice to customerservice@eailabs.com.

Results Friday,

8/25/2017

ACETONE ONLY!

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees



Sample Condition Upon Receipt

Client Name: EASTA

Prc WO#: 7028077

PM: SWM Due Date: 08/25/17
CLIENT: EASTA

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #: 17 246 599 01 9177 5354

Custody Seal on Cooler/Box Present: Yes No

Seals intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Ziploc None Other

Type of Ice: melted Wet Blue None

Thermometer Used: T-1092

Correction Factor: +0.1

Samples on ice, cooling process has begun

Cooler Temperature (°C): 21.1

Cooler Temperature Corrected (°C): 21.2

Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil (N/A, water sample)

Date and Initials of person examining contents: 8/24/17 JP

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? YES NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. <u>Due 8/25</u>
Sufficient Volume: (Triple volume provided for MS/MSD)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes date/time/ID/Analysis Matrix: SL <u>W</u> OIL		
All containers needing preservation have been checked	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
pH paper Lot #		Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl, NaOH > 9 Sulfide, NaOH > 12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initial when completed: Lot # of added preservative: Date/Time preservative added
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis		
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. Positive for Res. Chlorine? Y N
Residual chlorine strips Lot #		
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if applicable):		

Client Notification/Resolution:

Field Data Required? Y / N

Person Contacted:

Date/Time:

Comments/Resolution: Rec'd out of temp



Thursday, August 24, 2017

Attn: Front Office
Eastern Analytical
25 Chenell Drive
Concord, NH 03301

Project ID: 172527
Sample ID#s: BY88857 - BY88858

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

A handwritten signature in cursive script that reads "Phyllis Shiller".

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report
 August 24, 2017

FOR: Attn: Front Office
 Eastern Analytical
 25 Chenell Drive
 Concord, NH 03301

Sample Information

Matrix: WATER
 Location Code: EASTANAL
 Rush Request: 48 Hour
 P.O.#: 46728

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date Time
 08/22/17 12:45
 08/23/17 11:36

Laboratory Data

SDG ID: GBY88857
 Phoenix ID: BY88857

Project ID: 172527
 Client ID: SYSTEM INFLUENT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
<u>1,4-dioxane</u>								
1,4-dioxane	17	0.25	ug/l	1	08/23/17	LA	EPA522	1
<u>QA/QC Surrogates</u>								
% 1,4-dioxane-d8	80		%	1	08/23/17	LA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				08/23/17	C/C	EPA522	1

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.
 RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
 BRL=Below Reporting Level L=Biased Low
 QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services.
 This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

August 24, 2017

Reviewed and Released by: Bobbi Aloisa, Vice President



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

August 24, 2017

FOR: Attn: Front Office
 Eastern Analytical
 25 Chenell Drive
 Concord, NH 03301

Sample Information

Matrix: WATER
 Location Code: EASTANAL
 Rush Request: 48 Hour
 P.O.#: 46728

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date Time
 08/22/17 13:00
 08/23/17 11:36

Laboratory Data

SDG ID: GBY88857
 Phoenix ID: BY88858

Project ID: 172527
 Client ID: SYSTEM EFFLUENT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,4-dioxane							
1,4-dioxane	ND	0.25	ug/l	1	08/23/17	LA	EPA522 1
QA/QC Surrogates							
% 1,4-dioxane-d8	91		%	1	08/23/17	LA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				08/23/17	C/C	EPA522 1

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
 BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services.
 This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

August 24, 2017

Reviewed and Released by: Bobbi Aloisa, Vice President



Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045

Tel. (860) 645-1102 Fax (860) 645-0823



QA/QC Report

August 24, 2017

QA/QC Data

SDG I.D.: GBY88857

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
QA/QC Batch 398940 (ug/l), QC Sample No: BY88857 (BY88857, BY88858)										
<u>1,4dioxane - Water</u>										
1,4-dioxane	ND	0.25	91	99	8.4	NC			30 - 130	20
% 1,4-dioxane-d8	90	%	92	97	5.3	98			30 - 130	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

- RPD - Relative Percent Difference
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MS Dup - Matrix Spike Duplicate
- NC - No Criteria
- Intf - Interference

Phyllis Shiller
 Phyllis/Shiller, Laboratory Director
 August 24, 2017

Thursday, August 24, 2017

Criteria: None

State: NH

Sample Criteria Exceedances Report

GBY88857 - EASTANAL

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
--------	-------	-----------------	----------	--------	----	----------	----------------	-------------------

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedances. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Comments

August 24, 2017

SDG I.D.: GBY88857

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services

7.7°W/CHE

EAI ID# 172527

Page 1

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
System Influent	8/22/2017 12:45	aqueous	1,4 Dioxane by EPA Method 522 (PEL)	88857
System Effluent	8/22/2017 13:00	aqueous	1,4 Dioxane by EPA Method 522 (PEL)	88858

EAI ID# 172527 Project State: NH
 Project ID: 4965
 Company Phoenix Environmental Labs
 Address 587 East Middle Turnpike
 Address Manchester, CT 06040
 Account #
 Phone # (860) 645-1102
 Fax Number 860 645-0823

Results Needed by: Preferred date
QC Deliverables
 A A+ B B+ C P
Notes about project:
 Email pdf of results and invoice to
 customerservice@eailabs.com.
**Results Friday,
 8/25/2017**

PO #: 46728 EAI ID# 172527
 Please call prior to analyzing, if RUSH surcharges will be applied.
 Samples Collected by:
Chris Johnson 8/22/17 1600 UPS
 Relinquished by Date/Time Received by
 UPS 8/23/17 1136 A Parachute
 Relinquished by Date/Time Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 Fax: (603)228-4591

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees



Eastern Analytical, Inc.

professional laboratory and drilling services

Jim Wieck
GZA GeoEnvironmental, Inc. (NH)
5 Commerce Park North, Suite 201
Bedford, NH 03110



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 172908
Client Identification: Rennie Farm | 04.0190030.02
Date Received: 9/1/2017

Dear Mr. Wieck :

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

9.12.17
Date

4
of pages (excluding cover letter)



SAMPLE CONDITIONS PAGE

EAI ID#: 172908

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

Client Designation: **Rennie Farm | 04.0190030.02**

Temperature upon receipt (°C): 1.5

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)
172908.01	RW-2	9/1/17	9/1/17	aqueous		Adheres to Sample Acceptance Policy
172908.02	RW-5	9/1/17	9/1/17	aqueous		Adheres to Sample Acceptance Policy
172908.03	RW-7	9/1/17	9/1/17	aqueous		Adheres to Sample Acceptance Policy
172908.04	RW-8	9/1/17	9/1/17	aqueous		Adheres to Sample Acceptance Policy
172908.05	RW-12	9/1/17	9/1/17	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, Ignitability, 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

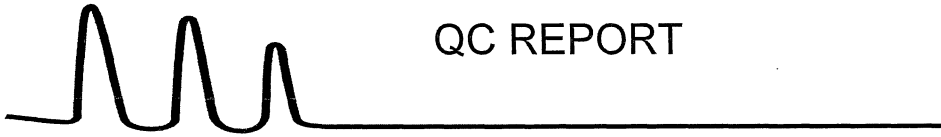
EAI ID#: 172908

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

Client Designation: **Rennie Farm | 04.0190030.02**

Sample ID:	RW-2	RW-5	RW-7			Analysis				
Lab Sample ID:	172908.01	172908.02	172908.03							
Matrix:	aqueous	aqueous	aqueous							
Date Sampled:	9/1/17	9/1/17	9/1/17							
Date Received:	9/1/17	9/1/17	9/1/17	RL	Units	Date	Time	Method	Analyst	
Cyanide Total	< 0.005	0.006	< 0.005	0.005	mg/L	9/06/17	16:50	ASTM D7511	KD	
Cyanide Free	< 0.005	< 0.005	< 0.005	0.005	mg/L	9/07/17	12:45	OIA-1677-09	KD	

Sample ID:	RW-8	RW-12			Analysis					
Lab Sample ID:	172908.04	172908.05								
Matrix:	aqueous	aqueous								
Date Sampled:	9/1/17	9/1/17								
Date Received:	9/1/17	9/1/17			RL	Units	Date	Time	Method	Analyst
Cyanide Total	< 0.005	< 0.005			0.005	mg/L	9/06/17	16:50	ASTM D7511-09	KD
Cyanide Free	< 0.005	< 0.005			0.005	mg/L	9/07/17	12:45	OIA-1677-09	KD



QC REPORT

EAI ID#: 172908

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Cyanide Total	< 0.005	0.10 (101 %R)	0.097 (97 %R) (3 RPD)	mg/L	9/6/17	84 - 116	20	ASTM D7511
Cyanide Free	< 0.005	0.25 (98 %R)	0.25 (100 %R) (1 RPD)	mg/L	9/7/17	84 - 116	20	OIA-1677-09

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.



Eastern Analytical, Inc.

professional laboratory and drilling services

Jim Wieck
GZA GeoEnvironmental, Inc. (NH)
5 Commerce Park North, Suite 201
Bedford, NH 03110



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 173216
Client Identification: Rennie Farm | 04.0190030.02
Date Received: 9/8/2017

Dear Mr. Wieck :

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

9.15.17
Date

4
of pages (excluding cover letter)



SAMPLE CONDITIONS PAGE

EAI ID#: 173216

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

Client Designation: **Rennie Farm | 04.0190030.02**

Temperature upon receipt (°C): 1.7

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)
173216.01	RW-2	9/8/17	9/8/17	aqueous		Adheres to Sample Acceptance Policy
173216.02	RW-5	9/8/17	9/8/17	aqueous		Adheres to Sample Acceptance Policy
173216.03	RW-7	9/8/17	9/8/17	aqueous		Adheres to Sample Acceptance Policy
173216.04	RW-8	9/8/17	9/8/17	aqueous		Adheres to Sample Acceptance Policy
173216.05	RW-12	9/8/17	9/8/17	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, Ignitability, 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#: 173216

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

Client Designation: **Rennie Farm | 04.0190030.02**

Sample ID:	RW-2	RW-5	RW-7			Analysis				
Lab Sample ID:	173216.01	173216.02	173216.03							
Matrix:	aqueous	aqueous	aqueous							
Date Sampled:	9/8/17	9/8/17	9/8/17							
Date Received:	9/8/17	9/8/17	9/8/17							
				RL	Units	Date	Time	Method	Analyst	
Cyanide Total	< 0.005	< 0.005	0.005	0.005	mg/L	9/13/17	12:55	ASTM D7511	KD	
Cyanide Free	< 0.005	< 0.005	< 0.005	0.005	mg/L	9/12/17	11:05	OIA-1677-09	KD	

Sample ID:	RW-8	RW-12				Analysis				
Lab Sample ID:	173216.04	173216.05								
Matrix:	aqueous	aqueous								
Date Sampled:	9/8/17	9/8/17								
Date Received:	9/8/17	9/8/17								
				RL	Units	Date	Time	Method	Analyst	
Cyanide Total	< 0.005	< 0.005		0.005	mg/L	9/13/17	12:55	ASTM D7511-09	KD	
Cyanide Free	< 0.005	< 0.005		0.005	mg/L	9/12/17	11:05	OIA-1677-09	KD	



QC REPORT

EAI ID#: 173216

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Cyanide Total	< 0.005	0.097 (97 %R)	0.10 (100 %R) (3 RPD)	mg/L	9/13/17	84 - 116	20	ASTM D7511
Cyanide Free	< 0.005	0.24 (95 %R)	0.22 (90 %R) (6 RPD)	mg/L	9/12/17	84 - 116	20	OIA-1677-09

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.



Eastern Analytical, Inc.

professional laboratory and drilling services

Jim Wieck
GZA GeoEnvironmental, Inc. (NH)
5 Commerce Park North, Suite 201
Bedford, NH 03110



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 173423
Client Identification: Rennie Farm | 04.0190030.02
Date Received: 9/13/2017

Dear Mr. Wieck :

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, Lab Director

9.21.17

Date

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of pages (excluding cover letter)



SAMPLE CONDITIONS PAGE

EAI ID#: 173423

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

Client Designation: **Rennie Farm | 04.0190030.02**

Temperature upon receipt (°C): 1.1

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)
173423.01	System Influent	9/13/17	9/12/17	aqueous		Adheres to Sample Acceptance Policy
173423.02	Post Carbon	9/13/17	9/12/17	aqueous		Adheres to Sample Acceptance Policy
173423.03	System Mid	9/13/17	9/12/17	aqueous		Adheres to Sample Acceptance Policy
173423.04	LGAC Influent	9/13/17	9/13/17	aqueous		Adheres to Sample Acceptance Policy
173423.05	LGAC Mid	9/13/17	9/13/17	aqueous		Adheres to Sample Acceptance Policy
173423.06	LGAC Effluent	9/13/17	9/13/17	aqueous		Adheres to Sample Acceptance Policy
173423.07	3 Dairy Lane	9/13/17	9/13/17	aqueous		Adheres to Sample Acceptance Policy
173423.08	RW-2	9/13/17	9/13/17	aqueous		Adheres to Sample Acceptance Policy
173423.09	RW-5	9/13/17	9/13/17	aqueous		Adheres to Sample Acceptance Policy
173423.1	RW-7	9/13/17	9/13/17	aqueous		Adheres to Sample Acceptance Policy
173423.11	RW-8	9/13/17	9/13/17	aqueous		Adheres to Sample Acceptance Policy
173423.12	RW-12	9/13/17	9/13/17	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, Ignitability, 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#: **173423**

Client: **GZA GeoEnvironmental, Inc. (NH)**
 Client Designation: **Rennie Farm | 04.0190030.02**

Client Sample ID: System Influent
Lab Sample ID: 173423.01
Matrix: aqueous
Date Sampled: 9/12/17
Date Received: 9/13/17

	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Date Prepared	Method	Analyst
1,4-Dioxane	45	5	20	ug/L	9/15/17 13:33		8260B SIM	VG
4-Bromofluorobenzene (surr)	107 %R			%	9/15/17 13:33		8260B SIM	VG
Toluene-d8 (surr)	101 %R			%	9/15/17 13:33		8260B SIM	VG

Client Sample ID: Post Carbon
Lab Sample ID: 173423.02
Matrix: aqueous
Date Sampled: 9/12/17
Date Received: 9/13/17

	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Date Prepared	Method	Analyst
1,4-Dioxane	46	10	50	ug/L	9/15/17 14:35		8260B SIM	VG
4-Bromofluorobenzene (surr)	103 %R			%	9/15/17 14:35		8260B SIM	VG
Toluene-d8 (surr)	100 %R			%	9/15/17 14:35		8260B SIM	VG

Client Sample ID: System Mid
Lab Sample ID: 173423.03
Matrix: aqueous
Date Sampled: 9/12/17
Date Received: 9/13/17

	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Date Prepared	Method	Analyst
1,4-Dioxane	< 0.25	0.25	1	ug/L	9/14/17 17:24		8260B SIM	VG
4-Bromofluorobenzene (surr)	105 %R			%	9/14/17 17:24		8260B SIM	VG
Toluene-d8 (surr)	101 %R			%	9/14/17 17:24		8260B SIM	VG



LABORATORY REPORT

EAI ID#: 173423

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Client Sample ID: LGAC Influent

Lab Sample ID: 173423.04

Matrix: aqueous

Date Sampled: 9/13/17

Date Received: 9/13/17

	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Date Prepared	Method	Analyst
1,4-Dioxane	1800	300	1000	ug/L	9/15/17 15:05		8260B SIM	VG
4-Bromofluorobenzene (surr)	106 %R			%	9/15/17 15:05		8260B SIM	VG
Toluene-d8 (surr)	102 %R			%	9/15/17 15:05		8260B SIM	VG

Client Sample ID: LGAC Mid

Lab Sample ID: 173423.05

Matrix: aqueous

Date Sampled: 9/13/17

Date Received: 9/13/17

	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Date Prepared	Method	Analyst
1,4-Dioxane	< 0.25	0.25	1	ug/L	9/14/17 17:54		8260B SIM	VG
4-Bromofluorobenzene (surr)	108 %R			%	9/14/17 17:54		8260B SIM	VG
Toluene-d8 (surr)	102 %R			%	9/14/17 17:54		8260B SIM	VG

Client Sample ID: LGAC Effluent

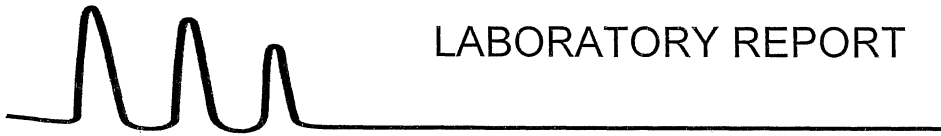
Lab Sample ID: 173423.06

Matrix: aqueous

Date Sampled: 9/13/17

Date Received: 9/13/17

	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Date Prepared	Method	Analyst
1,4-Dioxane	< 0.25	0.25	1	ug/L	9/14/17 18:25		8260B SIM	VG
4-Bromofluorobenzene (surr)	96 %R			%	9/14/17 18:25		8260B SIM	VG
Toluene-d8 (surr)	98 %R			%	9/14/17 18:25		8260B SIM	VG



LABORATORY REPORT

EAI ID#: 173423

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

Client Designation: **Rennie Farm | 04.0190030.02**

Client Sample ID: 3 Dairy Lane
 Lab Sample ID: 173423.07
 Matrix: aqueous
 Date Sampled: 9/13/17
 Date Received: 9/13/17

	Result	RL	Dilution Factor	Analytical Matrix	Units	Date Analyzed	Time Analyzed	Method	Analyst
1,4-Dioxane	< 0.25	0.25	1	AqTot	ug/L	9/14/17	14:18	8260B SIM	VG
4-Bromofluorobenzene (surr)	103 %R			AqTot	%	9/14/17	14:18	8260B SIM	VG
Toluene-d8 (surr)	100 %R			AqTot	%	9/14/17	14:18	8260B SIM	VG



QC REPORT

EAI ID#: 173423

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
1,4-Dioxane	< 0.25	4.9 (99 %R)	4.9 (98 %R) (1 RPD)	ug/L	9/14/17	70 - 130	20	8260B SIM
4-Bromofluorobenzene (surr)	102 %R	106 %R	108 %R	% Rec	9/14/17	70 - 130	50	8260B SIM
Toluene-d8 (surr)	100 %R	101 %R	102 %R	% Rec	9/14/17	70 - 130	50	8260B SIM

Samples were analyzed within holding times unless noted on the sample results page.

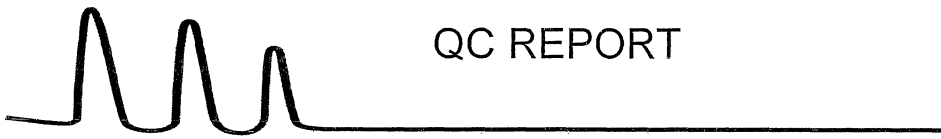
Instrumentation was calibrated in accordance with the method requirements.

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.



QC REPORT

EAI ID#: 173423

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

Client Designation: **Rennie Farm | 04.0190030.02**

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.25	4.7 (94 %R)	4.8 (96 %R) (2 RPD)	9/15/2017	ug/L	70 - 130	20	8260B SIM
4-Bromofluorobenzene (surr)	104 %R	105 %R	105 %R	9/15/2017	% Rec	70 - 130	50	8260B SIM
Toluene-d8 (surr)	101 %R	101 %R	101 %R	9/15/2017	% Rec	70 - 130	50	8260B SIM

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. Unless noted below, flagged analytes that exceed acceptance limits in the Quality Control sample were not detected in the field samples. Analytes that exceed limits high but are not detected in the field samples do not impact the data. For analytes that show low recovery and are not detected in the field samples, a low point calibration standard has been analyzed to support the reporting limit.



LABORATORY REPORT

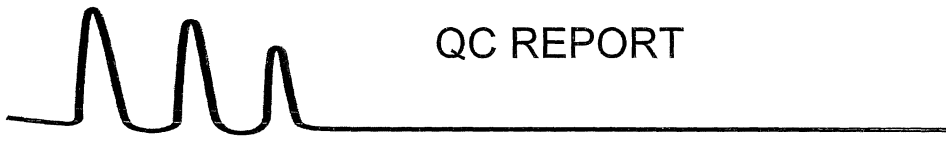
EAI ID#: 173423

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Sample ID:	RW-2	RW-5	RW-7						
Lab Sample ID:	173423.08	173423.09	173423.1						
Matrix:	aqueous	aqueous	aqueous						
Date Sampled:	9/13/17	9/13/17	9/13/17						
Date Received:	9/13/17	9/13/17	9/13/17						
				RL	Units	Analysis		Method	Analyst
Cyanide Total	< 0.005	< 0.005	< 0.005	0.005	mg/L	9/19/17	13:37	ASTM D7511	KD
Cyanide Free	< 0.005	< 0.005	< 0.005	0.005	mg/L	9/20/17	12:11	OIA-1677-09	KD

Sample ID:	RW-8	RW-12							
Lab Sample ID:	173423.11	173423.12							
Matrix:	aqueous	aqueous							
Date Sampled:	9/13/17	9/13/17							
Date Received:	9/13/17	9/13/17							
			RL	Units	Analysis		Method	Analyst	
Cyanide Total	< 0.005	< 0.005	0.005	mg/L	9/19/17	13:37	ASTM D7511-09	KD	
Cyanide Free	< 0.005	< 0.005	0.005	mg/L	9/20/17	12:11	OIA-1677-09	KD	



QC REPORT

EAI ID#: 173423

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Units	Date of Analysis	Limits	RPD	Method
Cyanide Total	< 0.005	0.10 (101 %R)	0.099 (99 %R) (2 RPD)	mg/L	9/19/17	84 - 116	20	ASTM D7511
Cyanide Free	< 0.005	0.24 (95 %R)	0.24 (97 %R) (3 RPD)	mg/L	9/20/17	84 - 116	20	OIA-1677-09

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.

