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

REMEDIATION 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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GEOTECHNICAL ENVIRONMENTAL ECOLOGICAL WATER CONSTRUCTION MANAGEMENT

5 Commerce Park North Suite 201 Bedford, NH 03110 T: 603.623.3600 F: 603.624.9463 www.gza.com



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

 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.

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

JMW:kr \\gzaman1\jobs\04jobs\0190000s\04.0190030.00\\04.0190030.02\work\rgp noi\cn notification upload\final 04.0190030.02 cn ltrs and data 110917.docx

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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GEOTECHNICAL ENVIRONMENTAL ECOLOGICAL WATER CONSTRUCTION MANAGEMENT

5 Commerce Park North Suite 201 Bedford, NH 03110 T: 603.623.3600 F: 603.624.9463 www.gza.com 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 (μ 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 μ 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





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 μ g/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 μ g/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 μ g/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 μ g/L, but fluctuates to concentrations above 5 μ g/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.

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

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

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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



Proactive by Design

GEOTECHNICAL ENVIRONMENTAL ECOLOGICAL WATER CONSTRUCTION MANAGEMENT

5 Commerce Park North Suite 201 Bedford, NH 03110 T: 603.623.3600 F: 603.624.9463 www.gza.com 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 (μ 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 μ 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 ug/L.

To further evaluate the cause of the elevated cyanide concentration (relative to the Effluent Limitation of 5.2 μ 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 μ g/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 μ g/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 μ g/L, but fluctuates to concentrations above 5 μ g/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.

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

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

JMW/SRL:kr \\gzaman1\jobs\04jobs\0190000s\04.0190030.00\04.0190030.02\work\on-site remedial system\system documents\dmrs\ltr to des and epa aug dmr\final 04.0190030.02 august dmr 100217.docx

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

Telephone number (including area code)



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.

		(3 CARD ONLY)	QUANTITY				(4 CARD ONLY)	CONC	ENTRATION				1
		(39-47)	(46-53)	(54-61)		(62-63)	(32-47)	(46-53)	(54-61)		(62-63)	1	
PARAMETER		MINIMUM	AVERAGE	ΜΑΧΙΜUΜ	UNITS	NO.E	MINIMUM	AVERAGE	ΜΑΧΙΜΙΙΜ	UNITS	NO.E	FREQUENCY OF	SAMPLE TYPE
	REPORTED	0.000	0.005	0.008	00	0				00	-	Daily	-
Flow	PERMIT			0.036	MGD	-				+ ·			
1100	REPORTED	-		-			7.5	-	7.5	s ar	0	2 of 31 days	Grab
~H	PERMIT				1 -				6.5 to 8.3	Unit d			
рп	DEBODITED	-	-	-			<1	-	<1		0	2 of 31 days	Grab
	PERMIT				- 1				4.6	ug/L	-		0.00
Methylene Chioride	CONDITION	-	-	_			-1	_	-1		0	2 of 31 days	Grab
_	PERMIT				- 1	_			5	ug/L	0	2 01 01 00/0	Ciab
Benzene	CONDITION						-5		-5		0	2 of 21 dovo	Creh
	PERMIT	-		-			دی	-	<0	ug/L	0	2 01 31 uays	Grab
Total BTEX	CONDITION						-		100		_	0.404.4	
	REPORTED PERMIT	-	-	-		-	<1	-	<1	ug/L	0	2 of 31 days	Grab
Phenol	CONDITION						-		1080				
	REPORTED	-	•	-	4 -	•	<5	-	<5	mg/L	0	2 of 31 days	Grab
TSS	CONDITION								30				
	REPORTED	-	-	-		-	3	3.5	4	ug/L	0	2 of 31 days	Grab
Chloride	CONDITION								Monitor Only				
	REPORTED	-	-	-	l .	-	<5	-	6	ua/l	1	2 of 31 days	Grab
Cyanide	PERMIT CONDITION								5.2				
	REPORTED	-	-	-		-	<0.05	-	<0.05	ma/l	0	2 of 31 days	Grab
Ammonia	PERMIT CONDITION								Monitor Only	l iiig/L			
	REPORTED	-	-	-		-	<0.5	-	<0.5		0	2 of 31 days	Grab
Antimony	PERMIT CONDITION				1 -				206				
	REPORTED	-	-	-		-	<1	-	<1		0	2 of 31 days	Grab
Arsenic (As)	PERMIT CONDITION				1 -				10.00				
	REPORTED	-	-	-		-	<0.1	-	<0.1		0	2 of 31 days	Grab
Cadmium (Cd)	PERMIT CONDITION				1 -				10.2				
	REPORTED	-	-	-		-	<0.1	-	0.1		0	2 of 31 days	Grab
Copper (Cu)	PERMIT CONDITION				-				9.8	ug/L			
	REPORTED	-	-	-		-	<50	-	<50		0	2 of 31 days	Grab
Iron (Fe)	PERMIT CONDITION				1 -				5,000	ug/L			
	REPORTED	-	-	-		-	<0.1	-	<0.1		0	2 of 31 days	Grab
Lead (Pb)	PERMIT CONDITION				1 -				3.43	ug/L			
	REPORTED	-	-	-		-	<0.1	-	<0.1		0	2 of 31 days	Grab
Mercurv	PERMIT CONDITION				1 -				0.739	ug/L			
	REPORTED	-	-	-		-	0.7	0.9	1.1		0	2 of 31 days	Grab
Nickel (Ni)	PERMIT CONDITION				1 -				54.8	ug/L			
	REPORTED		-	-		-	<1	-	<1		0	2 of 31 days	Grab
Selenium					1 -				235.8	ug/L			
	REPORTED	-	-	-		-	<0.1	-	<0.1		0	2 of 31 days	Grab
Silver					1 -				35.1	ug/L			
	REPORTED					-	<2	-	<2		0	2 of 31 days	Grab
Zinc (Zn)	PERMIT				1 -				420	ug/L	-		
ZINC (ZN)	CONDITION									ļ			

	REPORTED	-	-	-		-	<1	-	<10		0	2 of 31 days	Grab
Chromium (III) (Cr+3)	PERMIT CONDITION				-				323	ug/∟			
	REPORTED	-	-	-		-	<10	-	<10	ug/l	0	2 of 31 days	Grab
Chromium (VI) (Cr+6)	PERMIT CONDITION				_				323	ug/L			
	REPORTED	-	-	-	_	-	<0.01	-	<0.01	ma/l	0	2 of 31 days	Grab
Acetone	PERMIT CONDITION				_				7.97	ilig/∟			
	REPORTED	-	-	-	_	-	<0.25	-	<0.25		0	2 of 31 days	Grab
1,4-Dioxane	PERMIT CONDITION								3.0	ug/L			

	NAME OF PRINCIPAL EXECUTIVE	OFFICER	TITLE OF THE OFFICER		DATE			
							Come to Gate	
Wieck,	, James, M		Sr Project Manager	1 7	0 9	0 1	I certify that I am familiar with the information contained in this report and that to the best of	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER
LAST	FIRST	MI	TITLE	YEAR	MO	DAY	my knowledge and belief such information is true, complete and accurate.	OR AUTHORIZING AGENT

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, Lab Director

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 171986

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Temperate Acceptable to	ure upon receipt (°C): 3 emperature range (°C): 0-6	8.3		Received	on ice or cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Dry Matrix Weight	Exceptions/Comments (other than thermal preservation)
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

Eastern Analytical, Inc.

www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com

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2

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Sample ID:	System Influent				
	171000.01				
Lab Sample ID:	171986.01				
Matrix:	aqueous				
Date Sampled:	8/8/17			Units:	ug/L
Date Received:	8/8/17		D	ate of Analysis:	8/10/17
Date of Extraction/Prep:				Method:	624
Dilution Eastor:	1			Analyst.	BML
Director	Becult	וס	Paramatar	Analyst. Recult	RI
Falameter	Result			Result	
Chloromethane	< 2	2	1,2-Dichlorobenzene	< 1	1
Vinyl chloride	< 1	1	I otal Dichlorobenzenes	> 400 % D	3
Bromomethane	< 2	2	4-Bromofluorobenzene (sur	rr) 106 %R	
Chloroethane	< 5	5	1,2-Dichlorobenzene-d4 (su	urr) 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	
Parameter	Posult	PI
Chloromothono	- 2	···-
Vinyl chlorido	< 2	2
Promomothono	< 1	1
Chloroothana	~ 2	2
Triplorefluoremethene	< 5	5
	< 5	0 10
Acetone	< 10	10
1,1-Dicnioroetnene	< 1	1
Method & both distance (MTDE)	< 1	1
Methyl-t-butyl ether(MIBE)	< 5	5
trans-1,2-Dichloroethene	< 1	1
Vinyi acetate	< 10	10
	< 1	1
	< 1	1
2-Butanone(MEK)	< 10	10
	< 1	1
	< 1	1
Carbon tetrachioride	< 1	1
Benzene	< 1	1
T,2-Dichloroethane	< 1	1
	< 1	1
I,2-Dichloropropane	< 1	1
2 Chloroothuluinulathan	< 2	2
2-Chioroethyivinyiether	< 2	ے 10
4-Methyl-2-pentanone(MIDK)	< 10	10
Taluana	< 2	2
trong 1.2 Disblerenzenene	< 1	1
1 1 2 Trichlaroothono	< 2	2
1, 1,2-Inchioroethane	< 1	10
	< 10	10
Dibramachleramathana	< 1	1
Chlorohonzono	< 1	1
Ethylhonzono	< 1	1
	< 1	1
	< 1	1
Sturopo	< - 1	1
Bromoform	~ 1	1
1 1 2 2 Totropherecthere	< 2	2
1, 1, 2, 2-1 ettachioroethane	< _ 1	1
		ן א
1,4-DICHIOIODENZENE	< 1	.1

Date of	Units: f Analysis: Method: Analyst:	ug/L 8/10/17 624 BML	
Parameter	Result		RL
1,2-Dichlorobenzene Total Dichlorobenzenes	< 1 < 3		1 3
4-Bromofluorobenzene (surr) 1,2-Dichlorobenzene-d4 (surr) Toluene-d8 (surr)	108 %R 103 %R 103 %R		

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 %F	8/11/2017	% Rec	70 - 130	20	624
1,2-Dichlorobenzene-d4 (surr)	103 %R	105 %R	105 %F	8/11/2017	% Rec	70 - 130	20	624
Toluene-d8 (surr)	102 %R	102 %R	101 %F	8/11/2017	% Rec	70 - 130	20	624

Eastern Analytical, Inc.

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
						,	

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

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

Client Sample ID: Lab Sample ID:	System Influent 171986.01								
Matrix:	aqueous								
Date Sampled:	8/8/17								
Date Received:	8/8/17		Dilution		Date /	Time	Date		
	Result	RL	Factor	Units	Analy	zed	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

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

Client Sample ID: Lab Sample ID:	System Effluent 171986.02								
Matrix:	aqueous								
Date Sampled:	8/8/17								
Date Received:	8/8/17		Dilution		Date /	Time	Date		
	Result	RL	Factor	Units	Analy	zed	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

EAI ID#: 171986

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

Batch ID: 636378-71534/A080917E6251

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

Eastern Analytical, Inc.

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EAI ID#: 171986

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Batch ID: 636378-71534/A080917E6251

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units Li	nits	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 1	5 - 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.

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LABORATORY REPORT

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			Ana	alysis		
Date Received:	8/8/17	8/8/17	RL	Units	Date	Time	Method	Analyst
Solids Suspended	< 5	< 5	5	mg/L	8/10/17	9:30	2540D-97	HE
Chloride	· 4	4	1	mg/L	8/10/17	9:15	4500CIE-97	7 KD
Cyanide Total	0.007	0.006	0.005	mg/L	8/11/17	16:28	ASTM D751	1 KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	8/10/17	13:06	TM NH3-00	1 SEL

Eastern Analytical, Inc.

QC REPORT

EAI ID#: 171986

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

	•			Date of			
Parameter Name	Blank	LCS	LCSD	Units 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

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		Analytica	I	Analysis		
Date Received:	8/8/17	8/8/17	RL	Matrix	Units	Date	Method	Analyst
Antimony	< 0.0005	< 0,0005	0.0005	AqTot	mg/L	8/09/17	200.8	3 DS
Arsenic	< 0.001	< 0.001	0.001	AqTot	mg/L	8/09/17	200.8	3 DS
Cadmium	< 0.0001	< 0.0001	0.001	AqTot	mg/L	8/09/17	200.8	3 DS
Chromium	< 0.001	< 0.001	0.001	AqTot	mg/L	8/09/17	200.8	3 DS
Copper	0.0005	0.0001	0.0001	AqTot	mg/L	8/09/17	200.8	3 DS
Iron	1.5	< 0.05	0.05	AqTot	mg/L	8/09/17	200.8	3 DS
Lead	< 0.0001	< 0.0001	0.0001	AqTot	mg/L	8/09/17	200.8	3 DS
Mercury	< 0.0001	< 0.0001	0.0001	AqTot	mg/L	8/09/17	200.8	3 DS
Nickel	0.0011	0.0011	0.0001	AqTot	mg/L	8/09/17	200.8	3 DS
Selenium	< 0.001	< 0.001	0.001	AqTot	mg/L	8/09/17	200.8	3 DS
Silver	< 0.0002	< 0.0002	0.0001	AqTot	mg/L	8/09/17	200.8	3 DS
Zinc	< 0.002	< 0.002	0.001	AqTot	mg/L	8/09/17	200.8	3 DS
Chromium (III)	< 0.01	< 0.01	0.01	AqTot	mg/L	8/09/17	200.8	3 DS
Chromium (VI)	< 0.01	< 0.01	0.01	AqTot	mg/L	8/09/17	7196 <i>F</i>	∖ RJ

EAI ID#: 171986

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

				Date of			
Blank	LCS	LCSD	Units	Analysis	Limits	RPD	Method
0.0005	0.92 (92 %R)	NA	mg/L	. 8/9/17	85 - 115	20	200.8
0.001	0.98 (98 %R)	NA	mg/L	. 8/9/17	85 - 115	20	200.8
0.0001	0.91 (91 %R)	NA	mg/L	. 8/9/17	85 - 115	20	200.8
0.001	0.90 (90 %R)	NA	mg/L	. 8/9/17	85 - 115	20	200.8
0.0001	0.86 (86 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
< 0.05	10 (92 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
0.0001	0.93 (93 %R)	NA	mg/L	. 8/9/17	85 - 115	20	200.8
0.0001	0.0009 (95 %R)	NA	mg/L	. 8/9/17	85 - 115	20	200.8
0.0001	0.91 (91 %R)	NA	mg/L	. 8/9/17	85 - 115	20	200.8
0.001	1.0 (100 %R)	NA	mg/L	. 8/9/17	85 - 115	20	200.8
0.0001	0.10 (104 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
0.001	0.94 (94 %R)	NA	mg/L	8/9/17	85 - 115	20	200.8
< 0.01	0.22 (98 %R)	NA	mg/l	. 8/9/17	95 - 105	20	7196A
	Blank 0.0005 0.001 0.0001 0.0001 0.0001 < 0.005 0.0001 0.0001 0.0001 0.0001 0.0001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001	Blank LCS 0.0005 0.92 (92 %R) 0.001 0.98 (98 %R) 0.001 0.91 (91 %R) 0.001 0.90 (90 %R) 0.001 0.93 (93 %R) 0.0001 0.93 (93 %R) 0.0001 0.93 (93 %R) 0.0001 0.91 (91 %R) 0.0001 0.91 (91 %R) 0.0001 0.91 (91 %R) 0.0001 0.91 (91 %R) 0.0001 0.94 (94 %R) 0.001 0.94 (94 %R) < 0.01	Blank LCS LCSD 0.0005 0.92 (92 %R) NA 0.001 0.98 (98 %R) NA 0.0001 0.91 (91 %R) NA 0.0001 0.90 (90 %R) NA 0.0001 0.90 (90 %R) NA 0.0001 0.86 (86 %R) NA 0.0001 0.83 (93 %R) NA 0.0001 0.93 (93 %R) NA 0.0001 0.91 (91 %R) NA 0.0001 0.94 (94 %R) NA 0.0001 0.94 (94 %R) NA	Blank LCS LCSD Units 0.0005 0.92 (92 %R) NA mg/L 0.001 0.98 (98 %R) NA mg/L 0.0001 0.91 (91 %R) NA mg/L 0.0001 0.90 (90 %R) NA mg/L 0.0001 0.90 (90 %R) NA mg/L 0.0001 0.86 (86 %R) NA mg/L 0.0001 0.83 (93 %R) NA mg/L 0.0001 0.93 (93 %R) NA mg/L 0.0001 0.91 (91 %R) NA mg/L 0.0001 0.91 (91 %R) NA mg/L 0.0001 0.91 (91 %R) NA mg/L 0.0001 0.94 (94 %R) NA mg/L 0.0001 0.94 (94 %R) NA mg/L <0.001	Date of Blank LCS LCSD Units Analysis 0.0005 0.92 (92 %R) NA mg/L 8/9/17 0.0001 0.98 (98 %R) NA mg/L 8/9/17 0.0001 0.91 (91 %R) NA mg/L 8/9/17 0.0001 0.90 (90 %R) NA mg/L 8/9/17 0.0001 0.93 (93 %R) NA mg/L 8/9/17 0.0001 0.91 (91 %R) NA	Date of Date of Blank LCS LCSD Units Analysis Limits 0.0005 0.92 (92 %R) NA mg/L 8/9/17 85 - 115 0.001 0.98 (98 %R) NA mg/L 8/9/17 85 - 115 0.001 0.91 (91 %R) NA mg/L 8/9/17 85 - 115 0.001 0.90 (90 %R) NA mg/L 8/9/17 85 - 115 0.001 0.90 (90 %R) NA mg/L 8/9/17 85 - 115 0.001 0.90 (90 %R) NA mg/L 8/9/17 85 - 115 0.0001 0.86 (86 %R) NA mg/L 8/9/17 85 - 115 0.0001 0.93 (93 %R) NA mg/L 8/9/17 85 - 115 0.0001 0.91 (91 %R) NA mg/L 8/9/17 85 - 115 0.0001 0.91 (91 %R) NA mg/L 8/9/17 85 - 115 0.0001 0.91 (91 %R) NA mg/L 8/9/17 85 - 115 0.0	Blank LCS LCSD Units Analysis Limits RPD 0.0005 0.92 (92 %R) NA mg/L 8/9/17 85 - 115 20 0.001 0.98 (98 %R) NA mg/L 8/9/17 85 - 115 20 0.001 0.91 (91 %R) NA mg/L 8/9/17 85 - 115 20 0.001 0.90 (90 %R) NA mg/L 8/9/17 85 - 115 20 0.001 0.90 (90 %R) NA mg/L 8/9/17 85 - 115 20 0.001 0.90 (90 %R) NA mg/L 8/9/17 85 - 115 20 0.0001 0.86 (86 %R) NA mg/L 8/9/17 85 - 115 20 0.0001 0.93 (93 %R) NA mg/L 8/9/17 85 - 115 20 0.0001 0.91 (91 %R) NA mg/L 8/9/17 85 - 115 20 0.0001 0.91 (91 %R) NA mg/L 8/9/17 85 - 115 20 <td< td=""></td<>

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.



Pace Analytical Services, LLC 575 Broad Hollow Road Melville, NY 11747 (631)694-3040

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,

Ster Munell

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

Enclosures



REPORT OF LABORATORY ANALYSIS

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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: 702	6696001	Collected: 08/08/1	7 10:45	Received: 0	8/09/17 10:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Meth	od: EPA 16	624B					
Acetone Surrogates	<10.0	ug/L	10.0	1		08/15/17 14:13	67-64-1	
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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Page 3 of 9



ANALYTICAL RESULTS

Project: #171986 Pace Project No.: 7026696

Sample: SYSTEM EFFLUENT	Lab ID: 702	6696002	Collected: 08/08/1	7 11:00	Received: 0	8/09/17 10:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Meth	nod: EPA 1	624B					
Acetone Surrogates	<10.0	ug/L	10.0	1		08/15/17 13:49	67-64-1	
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: #1	71986								
Pace Project No.: 70	026696								
QC Batch:	35385		Analysis	Method:	EF	PA 1624B			
QC Batch Method:	EPA 1624B		Analysis	Description:	16	24B MSV			
Associated Lab Sample	es: 7026696001	, 7026696002							
METHOD BLANK: 16	65121		Ma	trix: Water					
Associated Lab Sample	es: 7026696001	, 7026696002							
			Blank	Repor	ting				
Paramete	er	Units	Result	Lim	nit	Analyzeo	d Qual	ifiers	
Acetone		ug/L	<1(0.0	10.0	08/15/17 13	3:03		
1,2-Dichloroethane-d4	(S)	%.		86	53-183	08/15/17 13	3:03		
4-Bromofluorobenzene	(S)	%.		98 (63-140	08/15/17 13	3:03		
Toluene-d8 (S)		%.		91 (60-135	08/15/17 13	3:03		
LABORATORY CONTR	ROL SAMPLE: 1	65122							
			Spike	LCS		LCS	% Rec		
Paramete	er	Units	Conc.	Result		% 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		
			7	10	E1E0				

MATRIX SPIKE & MATRIX SPI	E DUPLICAT	E: 16515	7 MS Spike	MSD Spike	165158 MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
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



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



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 7026696002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	35385 35385		

REPORT OF LABORATORY ANALYSIS

CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services EAI ID# 171986

Page 1

21

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
System Influent	8/8/2017 10:45	aqueous	ubcontract - EPA Method 1624 Isotope Dilution	
System Effluen	t 8/8/2017 11:00	aqueous S	ubcontract - EPA Method 1624 Isotope Dilution	
				WO#:7026696
			F	DO # 40045
EAUD# 17	1986 Project St Project	ate: NH t ID: 4965	Results Needed by: Preferred date QC Deliverables $\square A \square A + \square B \square B + \square C \square P'$	PO #.40045 EALD# 171300 Please call prior to analyzing, if RUSH surcharges will be applied
Company F	PACE ANALYTICAL		Notes about project:	
Address 5	575 BROAD HOLLO	W ROAD	Email pdf of results and invoice to customerservice@eailabs.com.	Samples Collected by:
Address	MELVILLE, NY 117	47	4 DAY TAT	Im ffores 8/8/17 1650 UPS
Account #			Acotono Only	Relinquished by Date/Time Received by
Phone # (631)694-3040			Relinquished by Date/Time Received by
Faix Number	astern Analytical, Inc. 2 b to EAI, you will defend, inde erformance against this chain	5 Chenell Di mnify and hold of custody but o	Concord, NH 03301 Phone: (603)228-0525 Eastern Analytical, Inc., its officers, employees, and agents harr only in proportion to and to the extent such liability, loss, expense	1-800-287-0525 Fax: (603)228-4591 miless from and against any and all liability, loss, expense or claims for injury or damage, or claims for injury or damages are caused by or result from the negligent or intention
Pace Analytical*	S	Sample Co	ndition	W0#:7026696
--	-------------------	-------------------------------	---	--
is internet and a second secon	Clien	t Name:		PI PM: SWM Due Date: C8/15/17
		23RM)	CLIENT: EASTA
Courier: Fed KUPS USPS		mercial 🔲 Pace	Dther	
Tracking #: 17 X46	3440	1977	うん	D6
Custody Seal on Cooler/Box Present:	Yes No		Se	eals intact: Yes No
Packing Material Rubble Wran Bu	bble Bans 17	iolog None - [Diller	Type of the West Plus None
Thermomoter Used: TH092	Corre	tion Factor	\mathcal{O}	
Cooler Temperature (C): 10 9	Cooler	Temporature Co	orrected (°C	CI: Determines prince, cooling process has begun
Temp should be shown the top in 5 0°C		reniporatory		The place of the sussa kits placed in freezer
USDA Regulated Soll (2N/A water sa	minie)		Dof	to and hitting of more and the second s
Converse guided con () (uni, which sa	and the source			NG NG
NM, NY, OK, OR, SC, TN, TX, or VA (check ma	p)?	S. AL, AR, CA, FL, S [] NO	GA, 10, LA, M	Including Hawaii and Puerto Rico)?
If Yes to either question	on, fill out a Re	gulated Soil Cl	necklist (F-L	LI-C-010) and include with SCUR/COC paperwork.
	Dec.			COMMENTS:
Chain of Custody Present:			<u> 1.</u> _	
Chain of Custody Filled Out:	LiYes			
Chain of Custody Relinquished:	UYes		3.	
Sampler Name & Signature on COC:			JN/A 4.	
Samples Arrived within Hold Time:	Yes		5,	
Short Hold Time Analysis (<72hr):	□Yes		<u> 6.</u>	
Rush Turn Around Time Requested:			<u>[^.</u>	an a
Sufficient Volume: (Triple volume provided for MS	MSD Yes		8.	annon an ann an an an an ann an an ann an
Correct Containers Used:	DYes	⊡No ,	9.	
-Pace Containers Used:	□Yes			
Containers Intact:			10.	
Filtered volume received for Dissolved tests	Yes		N/A 11.	Note if sediment is visible in the dissolved container.
Sample Labels match COC:	(QYes	□No	112.	
-Includes date/fime/ID/Analysis Matrix	SL/WT/OIL		7	
	"Ves" LIYes		N/A 13.	
pri paper Lor #			Compl	, e
All containers needing preservation are found to p compliance with EPA recommendation?	9 M	•	Sailth	
(HNO ₃ , H ₂ SO ₄ , HCl, NaOH>9 Sulfide,	□Yes.		N/A	· · · ·
NAOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Gr	ease,	- Annex		
DRO/8015 (water). Per Method, VOA bH is checked after analysis			Initial	al when completed: Lot # of added preservative: Date/Time preservative added
				· · · · · · · · · · · · · · · · · · ·
Samples checked for dechlorination:	□Yes		VA. 14,	
Residual chlorine strips Lot #				Positive for Res. Chlorine? Y N
Headspace in VOA Vials (>6mm):	□Yes	DINO DIN	UA 15.	1
Trip Blank Present	□Yes		VA / 16.	
Trip Blank Custody Seals Present	□Yes		K I	
Pace Trip Blank Lot # (if applicable):			l	
Client Notification/ Resolution:			Field (Data Required? Y / N
Person Contacted			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
Comments/Resolution:	<u>'Y1+-1</u>	NUS	VIDA	THE ALOUT TEMPERATU
			· · · ·	

* PM (Project Manager) review is documented electronically in LIMS.

F-LI-C-002-rev.01 Page 9 of 9



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

August 14, 2017

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

Sample Inform	nation	<u>Custod</u>	y Informa	<u>ation</u>	Date	<u>ə</u>	<u>Time</u>
Matrix:	DRINKING WATER	Collecte	d by:		08/0	8/17	10:45
Location Code:	EASTANAL	Receive	d by:	SW	08/0	9/17	10:49
Rush Request:	72 Hour	Analyze	d by:	see "By" be	low		
P.O.#:	46646	Labor	atory	<u>Data</u>	S Phoe	DG ID: enix ID	: GBY80931 : BY80931
Project ID:	171986						
Client ID:	SYTEM INFLUENT						
Parameter	Result	RL/ PQL DI	L Units	AL MCL N	ICLG Date/Time	Ву	Reference

Parameter	Result	PQL	DIL	Units	AL I	MCL	MCLG	5 Date/ I ime	Ву	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/i				08/11/17	LA	EPA522	1
QA/QC Surrogates											
% 1,4-dioxane-d8	81		1	%	NA	NA	NA	08/10/17	LA	30 - 130 %	

Project ID: 171986 Client ID: SYTEM INFLUENT

		RL/							
Parameter	Result	PQL	DIL	Units	AL	MCL	MCLG Date/Time	Ву	Reference
	وسيان ويستعمن والمراج								

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
----------	--------

% 1,4-dioxane-d8

August 14, 2017

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

NA 08/10/17

Sample Inform	<u>ation</u>		<u>Cus</u>	stody I	<u>nforma</u>	tion			Dat	<u>te</u>	Time
Matrix:	DRINKING	WATER	Coll	ected b	by:				08/0	08/17	11:00
Location Code:	EASTANAL		Rec	eived b	by:	SM	1		08/0)9/17	10:49
Rush Request:	72 Hour		Ana	lyzed b	oy:	see	e "By" l	below			
P.O.#:	46646		Lab	orat	ory I	Da	ta		S Pho	SDG IE enix IE): GBY80931): BY80932
Project ID:	171986										
Client ID:	SYTEM EFFL	UENT									
Parameter		Result	RL/ PQL	DIL	Units	AL	MCL	MCLG	Date/Time	Ву	Reference
Extraction for 1,4-	Dioxane	Completed	· · · · · · · · · · · · · · · · · · ·						08/09/17	H/H	EPA522
<u>1,4-dioxane</u>											
1,4-dioxane		ND	0.25	1	ug/l				08/10/17	LA	EPA522
WAINC Surrogat	25										

1

%

NA NA

79

1

1

LA 30 - 130 %

Project ID: 171986 Cli

ent ID:	SYTEM	EFFLU	JENT
---------	-------	-------	------

		RL/							
Parameter	Result	PQL	DIL	Units	AL	MCL	MCLG Date/Time	By	Reference
ويستكني والمعاور المنصبية بمحملة والتنامي وتشري وتشري									

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

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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	Blank	Blk RL	L	CS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 397064 (ug	g/l), QC Sample	No: BY8	932 (BY80931, BY8093	2)								
1,4dioxane - Drinkin	g Water											
1,4-dioxane	ND	0.25	9	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 Criteria: NH: DW		Sample Criteria Exceedances Report GBY80931 - EASTANAL				RL	Analysis
State: NH			Result	RL	Criteria	Criteria	Units
SampNo Acode I	⊃hoenix Analyte	Criteria					

*** 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 exceedences. 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 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.

3.7WYORE CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services EAI ID# 171986 Page 1 Sample Notes aParameters Sample ID **Date Sampled Matrix** aqueous 1.4 Dioxane by EPA Method 522 (PEL) 8/8/2017 System Influent 80931 10:45 80932 8/8/2017 aqueous 1,4 Dioxane by EPA Method 522 (PEL) System Effluent 11:00 EALID# 171986 EALID# 171986 PO #:46646 **Project State: NH** Results Needed by: Preferred date QC Deliverables Project ID: 4965 Please call prior to analyzing, if RUSH surcharges will be applied. $\Box A \Box A + \boxtimes B \Box B + \Box C \Box P$ **Phoenix Environmental Labs** Notes about project: Company Email pdf of results and invoice to

587 East Middle Turnpike Address customerservice@eailabs.com. Samples Collected by: Manchester, CT 06040 1650 UPS Address 4 DAY TAT Account # Date/Time Relinguished by Received by 8191710:49 ULD? \mathbf{T}) \mathbf{M} (860) 645-1102 Phone # Date/Time **Received by Relinguished by** 860 645-0823 Fax Number 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

<u>6</u>

Page _____ of ____

CHAIN-OF-CUSTODY RECORD

171986

For Li

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

									GV			TCLP	Мета			NG	PC		26						5	
Sample I.D. system Influent system Effluent	Sampi Date / *If Com Indicati Start & Date / 8-8-17 8-8-17	LING (TIME IPOSITE, E BOTH FINISH /TIME /0:45 //:00	S S MATRIX (SEE BELOW)	ရာ ရု Grab/*Composite	524.2 524.2 BTEX 524.2 MTBE ONLY S24.2 BTEX 52.4.2 MTBE ONLY	I, 4 DIOXANE RATZIR RTTY HAIOC	8015B GRO MAVPH	X X 82700 622 SWITC EDB DBCP	TPH8100 L1 L2	8015B DRO MAEPH PEST 608 PCB 608	FE31 0001A FLB 002 01L & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	DISSOLVED METALS (LIST BELOW)	X X IS CIS TO SPEE CON	X Br Of F S04	BOD CBOD T. ALK.	TKN NH ₃ T. PHOS. O. PHOS.	pH 1. REX CHORINE COD DIFFERENCE TOC DAC		REACTIVE CAMIDE REACTIVE SOLFIDE FLACENCE CAMIDE REACTIVE SOLFIDE	TOTAL COLIFORM E. COLI	× × muse fine on a	1-4-0 by 522	Chrome VI 7 III		Note MeOH Vial
atrix: A-Air; S-Soil; GW-Ground Water WW-Waste water reservative: H-HCL; N-HNO3; S-H2SO4; N roject Manager: Jim b	; SW-SURFACE WA a-NaOH; M-MEOI Nieck	iter; DW-Drin H	KING W	ATER;		H	DATE	NEE	DED		5	Day		V			EMP. 2	23	<i>s</i> ∦ _℃		TALS:	8	RCRA	13 I	·P (FE, MN (PI
OMPANY: GZA DDRESS: <u>5 COMErce</u> TY: <u>Bed Ford</u> HONE: <u>603 232 87</u> X: Mail: <u>James</u> , Wiec TE NAME: <u>Rennie Fo</u>	Pork 32 KOgz	<i>Nort</i> <i>N.H.</i> a.c.	Х ZIP: Ext.: р <u>т</u>	03	110		A/QC EPORT A RESUM	C TING I E C MPTIVE	Level 3 Dr E Cer	C TAINTY		REPOI PRELIMS ELECTI E-MAIL	RTING : Yes (Ronic (PDF	Option or No Option Eq	NS NS UUS	Excei	CE? (No	OTH SAP Not	er Meta M ples es: (ie: S	LS: <u>A</u> S, FIELI PECIAL	Aere ive Filt Detecti	ERED?	TS, BILLI	YES X
NOJECT #: 04.0190030 ATE: H MA ME VT OTHE EGULATORY PROGRAM: NPDES: RGP GWP, OIL FUND, BROWNFI	POTW STORMWA	ATER OR			 			S): Je WSHE	D BY:	ols	Date:	8-8	3-17 Timi	KøZ'	2	<u>l</u>	ų fl	the) Site	F PAG HISTORY	۲۱ :	M15-	tor	1	



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

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 172404

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Received on ice or cold packs (Yes/No): Y Temperature upon receipt (°C): 6.5 Acceptable temperature range (°C): 0-6 Date Date Sample % Dry Received Sampled Matrix Weight Exceptions/Comments (other than thermal preservation) Lab ID Sample ID 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 Adheres to Sample Acceptance Policy aqueous 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

Eastern Analytical, Inc.

www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com

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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						
Lab Sample ID:	172404.01	172404.02	172404.03						
Matrix:	aqueous	aqueous	aqueous						
Date Sampled:	8/17/17	8/17/17	8/17/17			Ana	lvsis		
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						
Lab Sample ID:	172404.04	172404.05						
Matrix:	aqueous	aqueous						
Date Sampled:	8/17/17	8/17/17			Ana	lysis		
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	7 11:06 AS	STM D7511-	09 SCW

QC REPORT

EAI ID#: 172404

3

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Date of Units 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. Page _____ of ____

CHAIN-OF-CUSTODY RECORD

172404

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

			V	00			S	VO	C		TCLP	Met	FALS			NC	RG	AN	IG	S		Μι	CRO	0	TH	ER		المراجع المحافظ	
SAMPLE I.D.	Sampling Date / Time *If Composite, Indicate Both Start & Finish Date / Time	Matrix (see below) Grab/*Composite	524.2 524.2 BTEX 524.2 MTBE ONLY 8260B 624 VTICS	I, 4 DIOXANE 8021B BTEX HALOS	80158 GRO MAVPH	8270D 625 SVTICs EDB DBCP ABN A BN PAH	TPH8100 LI L2	8015B DRO MAEPH	PEST 608 PCB 608 PEST 8081A PCB 8082	OIL & GREASE 1664 FPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)	TS TSS TDS SPEC. CON.	Br Cl F SO4 NO2 NO3 NO3NO2	BOD CBOD T. ALK.	TKN NH3 T. PHOS. O. PHOS.	pH T. Res. Chlorine	COD PHENOLS TOC DOC	TOTAL CYANIDE TOTAL SULFIDE	Reactive Cyanide Reactive Solfide Flashpoint Ignitability	Total Colform E. Coli Fecal Colform	Enterococci Heterotrophic Plate Count				# of Containers	No ⁻ MeOH V	res Iial #
RW-2	8/17/17 1415	GWE																		X							1		
RW-5	1400										•									K							1		
RW-7	1330																			χ							۱		
RW-8	1430																			X							1		
RW-12	1300	44	7																	X							1		
					 .																								
	Ţ																											_	
Matrix: A-Air; S-Soil; GW-Ground Water WW-Waste water Preservative: H-HCL; N-HNO3; S-H2SO4; N	; SW-Surface Water; DW-Drini ia-NaOH; M-MEOH	(ing Water	;																	Na									
PROJECT MANAGER: Jaime COMPANY: GZA ADDRESS: 5 COMMENCE F CITY: Belford	s Wieck Zark North, 5 STATE: NH	ui-k ZIP: Ož	201 3110	- <u>D</u> - Q/ - Ri	ATE A/QC EPORT A	Nee Ing I	IDEE Levei 3	D:	<u>Ru</u> c	sh	<u>– A</u> Repo Prelim	<u>rting</u> s: Yes	S OP OR	<u>л 4</u> тіон ^{N0}	≥Pi s	5 TI	EMP CE? (G.C Yes	No	rc	Me Othi Sam	TALS: er Met/ 1PLES	8 ALS: FIEL	RCRA d Fil	13 TERE	3 PP D?	Fr	, MN Yes	Pb, Cu
FAX: (203-624-946) E-MAIL: JELLINGS.WIECK-6	3)gza.com	EXT.:		- - - PF	RESUM	C 1PTIVI	or E Ce	rtaii	NTY		Elect E-Mail	ronic Pi	: Op DF	tion Equ	S 115	Excei	-				Co	11: (IE: 3 L II F	M M		rth	. L	silling Ve	info, if D Stion	Hereni) ð
SITE NAME: KENNE PARA PROJECT #: 04.019030. STATE: NH MA ME VT OTHI	. ∂2. ER: , [≪]			- SAI - (MPLER(1		LAV B	tis t	top	DATE:	- N 5/17	100	loy K	05	- (ETVED	BY:		Z	L =									
REGULATORY PROGRAM: NPDES: RGP	POTW STORMWATER OR				-																SITE	HISTOR	Y:						
GWF, UIL FUND, DROWNF	DO #-			- Re	LINQ	UISHE	d By	:		DATE:		T	IME:		Re	CEIVED	By:				SUSP	ECTED (Contam	INATION	V:				
Quuic #*	「U #;			RE	LINQ	UISHE	d By	:		DATE:		T	IME:		Re	CEIVED	BY:				Field) Readi	NGS: _						
Eastern Analy	tical, Inc. 2	5 Cheneli		Сомсо	rd, N	H 033	ר וס	Fel: 6	03.22	8.052	25 1.	800.2	87.05	525	E-MA	IL: CU	STOM	erServ	/ICE@	EAST	ernA	NALYT	ICAL.C	сом	www	N.EAS	TERN	NALYTIC	AL.COM

professional laboratory and drilling services

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)



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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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

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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



SAMPLE CONDITIONS PAGE

EAI ID#: 172527

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP | 04.0190030.02

Temperat Acceptable t	ure upon receipt (°C): emperature range (°C): 0-6	4.4		Re	eceived	on ice or cold packs (Yes/No): Υ
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

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1

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: Matrix: Date Sampled: Date Received: Date of Extraction/Prep:	172527.01 aqueous 8/22/17 8/22/17	
Dilution Factor:	1	
Parameter	Result	RL
Parameter Chloromethane Vinyl chloride Bromomethane Chloroethane Trichlorofluoromethane Acetone 1,1-Dichloroethene Methylene chloride Methyl-t-butyl ether(MTBE) trans-1,2-Dichloroethene Vinyl acetate 1,1-Dichloroethane cis-1,2-Dichloroethene 2-Butanone(MEK) Chloroform 1,1,1-Trichloroethane Carbon tetrachloride Benzene 1,2-Dichloroethane Trichloroethene 1,2-Dichloropropane Bromodichloromethane 2-Chloroethylvinylether 4-Methyl-2-pentanone(MIBK) cis-1,3-Dichloropropene Toluene trans-1,3-Dichloropropene 1,1,2-Trichloroethane 2-Hexanone Tetrachloroethene Dibromochloromethane Chlorobenzene Ethylbenzene mp-Xylene	< 2	RL 2 1 2 5 5 10 1 1 5 1 10 1 1 1 1 1 1 1 1 2 2 10 2 1 2 1 10 1 1 1 1
o-Xylene Styrene Bromoform 1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene	< 1 < 1 < 2 < 1 < 1 < 1	1 1 2 1 1 1

Units:	ug/L	
of Analysis:	8/23/17	
Method:	624	
Analyst:	BAM	
Result		RL
< 1		1
< 3		3
97 %R		
99 %R		
102 %R		
	Units: of Analysis: Method: Analyst: Result < 1 < 3 97 %R 99 %R 102 %R	Units: ug/L of Analysis: 8/23/17 Method: 624 Analyst: BAM Result < 1 < 3 97 %R 99 %R 102 %R

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 Bassived	8/22/17	
	0/22/11	
Date of Extraction/Prep:	4	
Dilution Factor:	1	
Parameter	Result	RL
Chloromethane	< 2	2
Vinyl chloride	< 1	1
Bromomethane	< 2	2
Chloroethane	< 5	5
Trichlorofluoromethane	< 5	5
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
loluene	< 1	1
trans-1,3-Dichloropropene	< 2	2
1,1,2- I richloroethane	< 1	1
2-Hexanone	< 10	10
letrachloroethene	< 1	1
Dibromochloromethane	< 1	1
Chlorobenzene	< 1	1
Ethylbenzene	< 1	1
mp-xylene	< 1	1
	< 1	1
Styrene	< 1	1
biomotorm	< 2	2
	< 1	1
	< 1	1
1,4-DICHIOLOBENZENE	< 1	1

	Units:	ug/L	
Date	of Analysis:	8/23/17	
	Method:	624	
	Analyst:	BAM	
Parameter	Result		RL
1,2-Dichlorobenzene	< 1		1
Total Dichlorobenzenes	< 3		3
4-Bromofluorobenzene (surr)	97 %R		
1,2-Dichlorobenzene-d4 (surr)	96 %R		
Toluene-d8 (surr)	102 %R		

EAI ID#: 172527

4

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	ua/L	0 - 273	20	624
Vinyl chloride	< 1	25 (125 %R)	26 (129 %R) (3 RPD)	8/22/2017	uq/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		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

Eastern Analytical, Inc.

EAI ID#: 172527

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Analysis Date Uni	ts Limits	RPD	Method

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.

Eastern Analytical, Inc.

LABORATORY REPORT

EAI ID#: 172527

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

Client Sample ID: Lab Sample ID:	System Influent 172527.01								
Matrix:	aqueous								
Date Sampled:	8/22/17								
Date Received:	8/22/17		Dilution		Data /	Timo	Data		
	Result	RL	Factor	Units	Analy	zed	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

LABORATORY REPORT

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		Dilution		Doto /	Time	Dete		
	Result	RL	Factor	Units	Analy	zed	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

Eastern Analytical, Inc.

QC REPORT

EAI ID#: 172527

Batch ID: 636395-09356/A082817E6251

Client: GZA GeoEnvironmental, Inc. (NH)

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-Chioronaphthalene	< 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

Eastern Analytical, Inc.

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
Duridina	- 5			0/00/0047		45 440	20	C05
	< 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
	< 1	23 (92 %R)	22 (87 %R) (5 RPD)	8/29/2017	ug/L	40 - 140	20	625
Dimetnyiphthalate	< 1	22 (87 %R)	21 (82 %R) (5 RPD)	8/29/2017	ug/L	1 - 112	23	625
	< 5	22 (89 %R)	21 (85 %R) (5 RPD)	8/29/2017	ug/L	1 - 114	26	625
Di-n-butyiphthalate	< 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 %F	8/29/2017	% Rec	35 - 114		625
2-Fluorobiphenyl (surr)	69 %R	77 %R	72 %F	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			Ana	lysis		
Date Received:	8/22/17	8/22/17	RL	Units	Date	Time	Method	Analyst
Solids Suspended	< 5	< 5	5	mg/L	8/23/17	16:00	2540D-97	KD
Chloride	4	3	1	mg/L	8/23/17	15:59	4500CIE-97	KD
Cyanide Total	< 0.005	< 0.005	0.005	mg/L	8/23/17	11:18	ASTM D751	1 KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	8/23/17	12:36	TM NH3-001	SEL

Eastern Analytical, Inc.

EAI ID#: 172527

11

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP | 04.0190030.02

		Date of							
Parameter Name	Blank	LCS	LCSD	Units 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.

Eastern Analytical, Inc.

LABORATORY REPORT

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		Anabutiaa		Anabuata		
Date Received:	8/22/17	8/22/17	RL	Matrix	Units	Date	Method Ar	nalyst
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

EAI ID#: 172527

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP | 04.0190030.02

					Date of			
Parameter Name	Blank	LCS	LCSD	Units	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	n 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	ng/L	. 8/24/17	85 - 115	20	200.8
Selenium	< 0.001	0.97 (97 %R)	NA	n mg/l	. 8/24/17	85 - 115	20	200.8
Silver	< 0.001	0.10 (103 %R)	NA	ng/L	. 8/24/17	85 - 115	20	200.8
Zinc	< 0.005	0.98 (98 %R)	NA	n mg/L	. 8/24/17	85 - 115	20	200.8
Chromium (VI)	< 0.01	0.22 (99 %R)	NA	n 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.



Pace Analytical Services, LLC 575 Broad Hollow Road Melville, NY 11747 (631)694-3040

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,

Ster Munell

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

Enclosures



REPORT OF LABORATORY ANALYSIS

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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: 70	28077001	Collected: 08/22/1	7 12:45	Received: 0	B/24/17 09:45 N	/latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Me	ethod: EPA 16	24B					
Acetone <i>Surrogates</i>	<10.0	ug/L	10.0	1		08/25/17 16:04	67-64-1	
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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Page 3 of 9



ANALYTICAL RESULTS

Project: EAI ID #172527

Pace Project No.: 7028077

Sample: SYSTEM EFFLUEINT	Lab ID: 702	3077002	Collected: 08/22/1	7 13:00	Received: 0	08/24/17 09:45 M	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Meth	od: EPA 16	24B					
Acetone Surrogates	<10.0	ug/L	10.0	1		08/25/17 15:40	67-64-1	
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 Meth	nod: E	PA 1624B		
QC Batch Method: EPA 1624B			Analysis Des	cription: 1	624B MSV		
Associated Lab Sam	ples: 702807700	01, 7028077002					
METHOD BLANK:	171614		Matrix:	Water			
Associated Lab Sam	ples: 702807700	01, 7028077002					
Param	eter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers	
Acetone		ug/L	<10.0	10.0	08/25/17 14:53		
1,2-Dichloroethane-c	i4 (S)	%.	88	53-183	08/25/17 14:53		
4-Bromofluorobenze	ne (S)	%.	114	63-140	08/25/17 14:53		
Toluene-d8 (S)		%.	102	60-135	08/25/17 14:53		

LABORATORY CONTROL SAMPLE: 171615

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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 7028077002	SYSTEM INFLUEINT SYSTEM EFFLUEINT	EPA 1624B EPA 1624B	36862 36862		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services EAI ID# 172527

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	



EAI ID# 1	72527 Project State: NH Project ID: 4965	Results Needed by: Preferred date <u>QC Deliverables</u> □ A □ A+ ⊠ B □ B+ □ C □ P	PO #:46727 EAI ID# 172527 Please call prior to analyzing, if RUSH surcharges will be applied.
Company Address Address	PACE ANALYTICAL 575 BROAD HOLLOW ROAD MELVILLE, NY 11747	Notes about project: Email pdf of results and invoice to customerservice@eailabs.com. Results Friday,	Sample's Collected by: <u>Jun Johns 8/22/17 1600 UPS</u> Relinguished by Date/Time Received by
Phone #	(631)694-3040 Eastern Analytical, Inc. 25 Chenell Dr.	8/25/2017 ACETONE ONLY, Concord, NH 03301 Phone: (603)228-0525	Non-287-0525 Fax: (603)228-4591 T = 21.1° C

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 of 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

5 Page 8 of 9

Page 1

Page 9 of 9

Pace-Analytical Lagities of Lancerey Client Name: EASTA Courier: Fed Ex] UPS USPS Client Commercial Pace Other Tracking #: 17 14/16 599 01 9177 5354 Custody Seal on Cooler/Box Present: Yes Xino Packing Material: Bubble Wrap Bubble Bags Ziploc None Dther Thermometer Used: There Xino Correction Factor: -0./ Cooler Temperature (°C): 21.1 Cooler Temperature Corrected (°C): Temp should be above freezing to 6.0°C USDA Regulated Soil (ANA, water sample) Date and 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 If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-01 Chein of Custody Present: Pyes No Chein of Custody Filed Out: Pyes Algoe Yes Chein of Custody Filed Out: Pyes Chein of Custody Filed	Prc WO#:7028077 PM: SWM Due Date: 08/25/17 CLIENT: EASTA tact: Type of Ice: We Blue None
Client Name: EASTA Courier: Fed Ex[] UPS USPS Client Commercial Pace Dther Tracking #: 17 4.4/6 599 0.1 9177 5.354/ Custody Seal on Cooler/Box Present: Yes ANO Seals in Packing Material: Bubble Wrap Øleubble Bags Ziploc None Dther Thermometer Used: Th092 Correction Factor: -7.0./ Cooler Temperature Corrected (°C): Temp should be above freezing to 6.0°C USDA Regulated Soil ([] N/A, water sample) Date and 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 If Yes INO If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-01 Chein of Custody Present: ØYes INO 1. Chain of Custody Filled Out: ØYes INO 3. Samplex Anived within Hold Time: ØYes INO 5. Short Hold Time Analysis (<72hr): </td <td>Prc WOH TOZOOTT PM: SWM Due Date: 08/25717 CLIENT: EASTA tact: Type of Ice: We Blue None</td>	Prc WOH TOZOOTT PM: SWM Due Date: 08/25717 CLIENT: EASTA tact: Type of Ice: We Blue None
EASTA Courrier: Fed Ex[] UPS USPS Client Commercial Pace Dther Tracking #: 17 446 599 01 9177 5354 Custody Seal on Cooler/Box Present: Yes No Seals in Packing Material: Bubble Wrap Bubble Bags Ziploc None Dther Thermometor Used: Th092 Correction Factor: 40./ Cooler Temperature (*C): 21.1 Cooler Temperature Corrected (*C): Temp should be above freezing to 6.0°C USDA Regulated Soil (10 N/A, water sample) Date and 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 If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-01 Chain of Custody Present: 1 Chain of Custody Present: 2/Yes INo 3 Samplex Name & Signature on COC: 2/Yes INo 3 Samplex Anived within Hold Time: 2/Yes INo 5 Short Hold Time Analysis (<72hr):	PM: SWM Due Date: 08/25717 CLIENT: EASTA
Courier: Fed Ex] UPS USPS Client Commercial Pace Dther Tracking #: 17 446 599 01 9177 5354 Custody Seal on Cooler/Box Present: Yes Ano Seals in Packing Material: Bubble Wrap Bubble Bags Ziploc None Dther Thermometor Used: Triog2 Correction Factor: 40./ Cooler Temperature (*G): 21.1 Cooler Temperature Corrected (*C): Temp should be above freezing to 6.0°C USDA Regulated Soil ([] N/A, water sample) Date and 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 If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-01 Chain of Custody Present: ØYes No Chain of Custody Filed Out: ØYes INO 3. Sampler Name & Signature on COC: ØYes INO 5. Short Hold Time Analysis (<72hr):	CLIENT: EASTA
Tracking #: 17 140 599 01 9177 5 354 Custody Seal on Cooler/Box Present: Yes No Seals in Packing Material: Bubble Wrap Bubble Bags Ciploc Done Dther Thermomotor Used: Thios2 Correction Factor: 40./ Cooler Temperature (*C): 21.1 Cooler Temperature Corrected (*C): Temp should be above freezing to 6.0°C USDA Regulated Soil ([], N/A, water sample) Date and Did semples 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 If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-01 Chain of Custody Present: ØYes INo 1. Chain of Custody Filed Out: ØYes INo 3. Sampler Name & Signature on COC: ØYes INo 5. Short Hold Time Analysis (<72hr):	iact: Yes No Milted Type of Ice: We Blue None
Custody Seal on Cooler/Box Present: Yes No Seals in Packing Material: Bubble Wrap Bubble Bags Ziploc None Dther Thermometer Used: Th092 Correction Factor:	tact: Yes No milted Type of Ice: We Blue None
Packing Material: Bubble Wrap Bubble Bags Ziploc None Dther Thermometer Used: Troy Correction Factor: -ro./ Cooler Temperature (*C): I Cooler Temperature Corrected (*C): Temp should be above freezing to 6.0°C USDA Regulated Soil (A.NA, water sample) Date and 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 If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-01 Image: Constant of Custody Present: Image: Constant of Custody Relinquished: Image: Constant of Custody	Type of Ice: We Blue None
Thermometer Used: Tf 1092 Correction Factor:	Type of the time None
Cooler Temperature (*G): 21, 1 Cooler Temperature Corrected (*C): Temp should be above freezing to 6.0°C USDA Regulated Soil ([], N/A, water sample) Date and 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 NO If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-01	Converting on the number of the time
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USDA Regulated Soil ([] N/A, water sample) Date and 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 If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-01 Chain of Custody Present: Date and Chain of Custody Present: Date and Chain of Custody Filled Out: Date and Chain of Custody Relinquished: Date and Sampler Name & Signature on COC: Date and Samples Arrived within Hold Time: Date and Short Hold Time Analysis (<72hr):	
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 If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-01 Chain of Custody Present: ØYes Chain of Custody Present: ØYes Chain of Custody Filled Out: ØYes Chain of Custody Relinquished: ØYes Sampler Name & Signature on COC: ØYes States Arrived within Hold Time: ØYes Short Hold Time Analysis (<72hr):	Initials of poston promising and an all of All 11- TV
Did samples originate in a quarantine zone within the United States: AL, AR, CA, PL, GA, ID, CA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? YES If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-01 Chain of Custody Present: ØYes Chain of Custody Filled Out: ØYes Chain of Custody Relinquished: ØYes Chain of Custody Relinquished: ØYes Sampler Name & Signature on COC: ØYes ØYes INo Samples Arrived within Hold Time: ØYes Sthort Hold Time Analysis (<72hr):	Did somples principles principles and the source (relation in the source)
If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-01 Chain of Custody Present: PYes INo 1. Chain of Custody Filed Out: PYes INO 2. Chain of Custody Relinquished: PYes INO 3. Sampler Name & Signature on COC: PYes INO IN/A 4. Samples Arrived within Hold Time: PYes INO 5. Short Hold Time Analysis (<72hr): PYes PNO 6. Rush Turn Around Time Requested: PYes INO 7. Due Sufficient Volume: (Triple volume provided for MS/MSD Pyes INO 9. -Pace Containers Used: PYes INO 10. -Pace Containers Used: PYes INO 10. Containers Intact: PYes INO 20. Containers Intact: PYes PYes INO 20. Containers Intact: PYes PYes PYES PYES PYES PYES PYES	Including Hawaii and Puerto Rico)?
Chain of Custody Present: ØYes INo 1. Chain of Custody Filled Out: ØYes INo 2. Chain of Custody Relinquished: ØYes INo 3. Sampler Name & Signature on COC: ØYes INo 4. Sampler Name & Signature on COC: ØYes INo 5. Short Hold Time Analysis (<72hr):	0) and include with SCUR/COC paperwork.
Chain of Custody Present: ØYes INo 1. Chain of Custody Filled Out: ØYes INo 2. Chain of Custody Relinquished: ØYes INo 3. Sampler Name & Signature on COC: ØYes INo 4. Sampler Name & Signature on COC: ØYes INo 4. Samples Arrived within Hold Time: ØYes INo 5. Short Hold Time Analysis (<72hr):	COMMENTS:
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Chain of Custody Relinquished: ØYes INo 3. Sampler Name & Signature on COC: ØYes INo IN/A 4. Sampler Name & Signature on COC: ØYes INo IN/A 4. Sampler Name & Signature on COC: ØYes INo IN/A 4. Samples Arrived within Hold Time: ØYes INo 5. Short Hold Time Analysis (<72hr):	
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Samples Arrived within Hold Time: Ares DNo 5. Short Hold Time Analysis (<72hr):	
Short Hold Time Analysis (<72hr):	
tush Turn Around Time Requested: ØYes INo 7. Øue utficient Volume: (Tiple volume provided for MS/MSD ØYes INo 8. orrect Containers Used: ØYes INo 9. Pace Containers Used: ØYes INo 10. ontainers Intact: ØYes INo 10. Itered volume received for Dissolved tests ØYes INo 11. No ample Labels match COC: ØYes INo 12. 12.	
utficient Volume: (Triple volume provided for MS/MSD) Ares INo 8. orrect Containers Used: If yes INo 9. -Pace Containers Used: If yes INo 10. ontainers Intact: If yes INo 10. Itered volume received for Dissolved tests If yes INo 11. ample Labels match COC: If yes INo 12.	8125
correct Containers Used: DYes DNo 9. -Pace Containers Used: DYes DNo 10. ontainers Intact: DYes DNo 10. Itered volume received for Dissolved tests DYes DNo DNo ample Labels match COC: DYes DNo 12.	
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containers Intact: If yes INo 10. litered volume received for Dissolved tests If yes INo 11. No ample Labels match COC: If yes INo 12.	
Ittered volume received for Dissolved tests Itered volume received for Dissolved tests Itered volume ample Labels match COC: Gyes INo 12.	
ample Labels match COC: Dyes DNo 12.	te if sediment is visible in the dissolved container.
	· · · · · ·
-Includes date/time/ID/Analysis Matric SL WD OIL	s
I containers needing proscryption have been checked Lives DNo DNA 13.	
f paper Ldi #	· · ·
I containers needing preservation are found to be in Sample #	
NO ₂ , H ₂ SO ₄ , HCl, NaOH>9 Sulfide, □Yes □No □N/A	· ·
NH>12 Cyanide)	
RO/8015 (water). Initial when co	mpleted: Lot # of added preservative: Date/Time preservative added
mples checked for dechlorination: DYes DNo DNA 14.	
sidual chlorine ships Lot # Posit	ive for Res. Chlorine? Y N
adspace in VOA Vials (>6mm): □Yes [4No □N/A 15.	4
Blank Present: DYes DNo DN/A 16.	· · · ·
Blank Custody Seals Present DYes No DNA	
e Trip Blank Lot # (if applicable):	<u> </u>
ent Notification/ Resolution: Field Data Re	ulred? Y / N
son Contacted Date	/Time:
mments' Resolution: Rec'd out of time	

* PM (Project Manager) review is documented electronically in LIMS.

F-LI-C-002-rev.01



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,

St. De

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 F August 24	Report 4, 2017	FOR:	Attn: Front Office Eastern Analytical 25 Chenell Drive Concord, NH 03301
Sample Informa	tion	Custody Inform	ation
Matrix:	WATER	Collected by:	
Location Code:	EASTANAL	Received by:	SW

 Date
 Time

 08/22/17
 12:45

 08/23/17
 11:36

SDG ID: GBY88857 Phoenix ID: BY88857

Client ID: SYST	FEM 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
QA/QC Surrogates								
% 1,4-dioxane-d8	80		%	1	08/23/17	LA	30 - 130 %	
Extraction for 1,4-Dioxan	ne Completed				08/23/17	C/C	EPA522	1

Laboratory Data

see "By" below

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

Analyzed by:

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:

Rush Request:

Project ID:

P.O.#:

48 Hour

46728

172527

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 Inform	nation		Custody	y Informati	<u>on</u>	Date	<u>e</u>	<u>Time</u>
Matrix:	WATER		Collecte	d by:		08/2:	2/17	13:00
Location Code:	EASTANAL		Receive	d by:	SW	08/2	3/17	11:36
Rush Request:	48 Hour		Analyzed	d by:	see "By" below			
P.O.#:	46728		Labora	atory D	<u>lata</u>	S Phoe	DG II enix II	D: GBY88857 D: BY88858
Project ID:	172527							
Client ID:	SYSTEM EFFL	LUENT						
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
QA/QC Surrogat	es							

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.

%

1

08/23/17

08/23/17

Comments:

% 1,4-dioxane-d8

Extraction for 1,4-Dioxane

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.

91

Completed

Phyllis, Shiller, Laboratory Director August 24, 2017 Reviewed and Released by: Bobbi Aloisa, Vice President

1

1

30 - 130 %

EPA522

LA

C/C





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	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 398940 (ug/l), (1,4dioxane - Water	QC Sample	No: BY88857 (B	Y88857, BY88858)							
1,4-dioxane % 1,4-dioxane-d8	ND 90	0.25 %	91 92	99 97	8.4 5.3	NC 98			30 - 130 30 - 130	20 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 24, 2017

Thursday, August 24, 2017								
Criteria: None		Sample	Criteria Executiv					
State: NH			GRV89957 FACTURE Report					
SampNo Acode	Phoenix Analyte		OB188897 - EASTANAL					
*** No Data to Display ***		Criteria		Deeutt			RI	Analysis
				rtesult	RL	Criteria	Criteria	Units

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. 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.

27





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 7.7 ° w CHC

29

Sample ID	Date Sampled	Matrix	aParameters			Sample Notes
System Influe	nt 8/22/2017 12:45	aqueous	1,4 Dioxane by EPA Method 522 (PEL)	8885	7	
System Efflue	ent 8/22/2017 13:00	aqueous	1,4 Dioxane by EPA Method 522 (PEL)	ୡୡୡୢଽୖ	8	
EAI ID# 17	72527 Project Sta	ite: NH	Results Needed by: Preferred date		PO #:46728	EAI ID# 172527
	Project	ID: 4965	□А □А+ ⊠В □В+ □С	□ P'	Please call prior	r to analyzing, if RUSH surcharges will be applied.
Company	Phoenix Environmen	tal Labs	Notes about project:			
Address	587 East Middle Turr	ipike	customerservice@eailabs.com.		Samples Collect	ed by:
Address	Manchester, CT 060	J4U	Results Friday.		Un Jehn	N 8/22/17 1600 UPS
Account #	(860) 645-1102		8/25/2017		Relinquished by	Date/Time Received by
Fnone #	860 645-0823				Relinguished by	Date/Time Received by
rax number	Eastern Analytical Inc. 25	Chenell [Dr. Concord NH 03301 Phone: (6	5031228-0525	1.800 287 0525	Eav: (602)228 4501
As a subcontract l	Lasienn Analytical, mo. 20 ab to EAL you will defend indem	nify and hole	t Eastern Analytical Inc. its officers, amployout	and agents horm	1-000-201-0020	Γαλ. (UUS)220-4091

es, and agents narmiess 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

Page _____ of ____

CHAIN-OF-CUSTODY RECORD

172527

3 B

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

SAMPLING DATE /TIME #1 COMPOSITE, INCLATE BOTH STATE & FINSH STATE & FINSH ST							VC	C	Ĩ		S	VO	C		TCLP	Me	TALS			NO	RG	AN	IIC	S		Mı	CRC	0	ΠH	ER			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	SAMPLE I.D.	Sampi Date / *If Com Indicate Start & Date /	LING Time Posite, Both Finish Time	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	524.2 524.2 BTEX 524.2 MTBE ONLY	82608 424 VTICs 1, 4 Dioxane	802IB BTEX HALOS	8015B GRO MAVPH	<u>82700 625</u> SVTICS EDB DBCP <u>ABN</u> A BN PAH	TPH8100 LI L2	8015B DRO MAEPH	PEST 608 PCB 608 PEST 8081A PCB 8082	OIL & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)	TS (TS) TDS SPEC. CON.	BR CD F 504 NO2 NO3 NO3NO2	BOD CBOD T. ALK.	TKN NH3 T. PHOS. O. PHOS.	pH T. RES. CHLORINE	COD PHENOLS TOC DOC	TOTAL CYANIDE TOTAL SULFIDE	Reactive Cvanide Reactive Sulfide Flashpoint Ignitability	TOTAL COLIFORM E. COLI FFCAI COLIFORM	Ammonia	1-4-D by 522	Chrome VI PIII	Acetone 1624	# OF CONTAINERS	Not MeOH Vi	es ⊥#
$S_{ySTevn Effluent 8-22-17 13:00 cm c X X X X X X X X X X X X X X X X X $	system Influent	8-22-17	12:45	Gw	G		х			x	1						X	$ \chi $	X					X			X	X	X	Х	13		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Suctor Eccluent	8-22-17	13:00	Gw	6		X			X							X	X	X					X			X	X	X	X	13		
MAIR: Require where switches waters waters $-H$																																	· · · · · · · · · · · · · · · · · · ·
Internation: Influe, minitor, strippid, remaining the point of th	WW-WASTE WATER	K; SVV-SURFALE VVA	11EK; DW-DKIN 11	KING V	AIEK;		-H			-							N	-	-					sH			5	57	-	-			
Regulatory Program: NPDES: RGP POIW Stormwater or GWP, Oil Fund, Brownfield or Other: Site History: GWP, Oil Fund, Brownfield or Other: PA-S103111 Relinquished By: Date: Time: Received By: Suspected Contamination: Quote #: P0 #: P0 #: Date: Time: Received By: Suspected Contamination:	PROJECT MANAGER: Jim COMPANY: GZA GeoEr ADDRESS: 5 COMMERCE CITY: Bed Ford PHONE: 603 232 87 FAX: E-MAIL: James. Wieck SITE NAME: Rennic Fa PROJECT #: 04.019003 STATE: NH MA ME VT OTH	Wieck ovivonma Pork n 32 32 0 gza vm RGP 30.02 ER:	ental Vorth NH	<u>Т</u> 5. <i>Se</i> ZIP: ЕХТ.: _ М	in c ite	311	01	DA QA REI PRI SAM	ATE /QC PORT A ESUM PLER(S LINQI	NEEE ING C IPTIV	LEVE B DR E CE 4 1	D: EL J V:	C INTY	obs Date:	REPO PRELIM E-MAIL SEM	le 8 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	- 2 -25 G OP 5 OR C OP DF	9 1 TION NO TION EQ		Exce	ЕМР СС? ВЛ	YE	NC	<u>°</u> C	ME OTH SAI NOT	IER ME MPLE: ES: (IE:	TALS: 2 S FIE	3 RCR. An Silv LD F	A Tim Cur, ILTER ECTION	3 PP ony 2,7 ED? LIMITS,		E) Mn (-senic, ef, seli Yes [info, lf Dif	POCU POCU
PA-S[03]11 Policity	REGULATORY PROGRAM: NPDES: KGP GWP, OIL FUND, BROWN	' POTW STORMWA	ATER OR					RFI		IISHE	B B	y-		DATE			rime.		RF	CEIVED	Ry.				SITE	Histo)RY:						
Part and a state of the state o	QUOTE #:	PO #:	8/23/17						-111	515HL		••		DAIL.					NL.		וע.				Susi	PECTED	CONT	AMINAT	ON:				
KELINQUISHED BY: DATE: TIME: RECEIVED BY: HELD KEADINGS:								RE	LINQ	JISHE	ED B	Y:		DATE:			TIME:		Re	CEIVED	By:				FIEL	d Rea	DINGS:						

(WHITE: ORIGINAL **GREEN:** PROJECT MANAGER)



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, Lab Director

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 172908

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Temperat Acceptable t	ure upon receipt (°C): 1 emperature range (°C): 0-6	.5		Received	on ice or cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Dry Matrix 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

Eastern Analytical, Inc.

www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com

1

EAI ID#: 172908

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

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

Sample ID:	RW-8	RW-12	
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	
Cyanide Total	< 0.005	< 0.005	
Cyanide Free	< 0.005	< 0.005	

		Anal	ysis		
RL	Units	Date	Time	Method	Analyst
0.005	mg/L	9/06/17	16:50	ASTM D7511-0	9 KD
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

					Date of			
Parameter Name	Blank	LCS	LCSD	Units A	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.

CHAIN-OF-CUSTODY RECORD

						·····						(A	VALY	SIS R	EQUII	ED										,			
Sample I.D.	Date/Time Sampled	Matrix A=Air S=Soil GW=Ground W SW=Surface W WW=Waste W. DW=Drinking W. P=Product Other (specify)	D pH D Cond.	GC Methane, Eurane, Eurene EPA 8260 NH Full List	EPA 8260 NH HW Short List	EPA 8260 NH Petr. Short List	EPA 8021- Fuil List	EPA 8021- 8020 List (BTEX)	EPA 624 WW VOCs	D 601 D 602 WW VOCs	EPA 8270 SVOCs	EPA 8270 U PAH U A U BN EPA 625 WW SVOCs	EPA 8082-PCBs	EPA 8081-Pest	TPH-GC (Mod. 8100)	TPH-GC w/FING. EPH (MA DEP)	VPH (MA DEP)	Metals 🗆 PPM-13 🗖 R-8	MCP 14 Metals	Metals (List Below) **	TCLP - Specify Below	SPLP - Specify Below		107al CVanide	Free Cyanide			Total No. of Cont.	Note #
RW-2	9-1-17 12:15	GW																					2	X	X			I	
RW-5	12:18																						1	X	X			1	
Aw-7	12:21																						2	X	X			1	
RW-8	12:24																						1	X	X			1	
RW-12	V 12:27	V																						X	X			1	
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CONTAINER TYPE (P-Plastic, 0	G-Glass, V-Vial, T-Teflon, O-Other)*	H, O-Other) +																						P	P				
RELINQUISHED BY,	DATE/TIME	RECEIVED BY:	NO	TES: (U	Jnless	otherw	vise no	ted, all	samp	oles ha	ve beer	n refrig	gerate	d to 4	+/- 29	°C)													
al garols	n 1-1-1/ 152) (- Justa	*Sb	ectry	Jther	preserv	vative	s and c	ontain	ter typ	es in ui	iis spac	се.																
RELINQUE HED BY:	DATE/TIME	RECEIVED BY:	-																										
RELINGUISHED BY		RECEIVED BY	-																										
		RECEIVED B1,																											
Project Manager:	Jim Wieck	-	 . T	ŲRNA	ROUN	D TIN	4E: S	tandarc	l Ru	sh	5	Di	ays, A	approv	ved by	:			LAE	I USE 4P. O	E; DF CC	DOLE	ER _	/	ۍ:	•°C	(Femp Blank Cooler Air	
GLA	GEOENY IKONWIEN I AL _L I	Y L , ₁ ,	0	74 50	ENO	0	4.1	019	IΛ	031). Ø.	2 .		NO:						0.1	0								
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172908

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'W.O, #



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.

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- 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





SAMPLE CONDITIONS PAGE

EAI ID#: 173216

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

Temperat	ure upon receipt (°C):	1.7		Rec	eived o	on ice or cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date Sampled	Sample 9 Matrix \	% Dry Neight	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

Eastern Analytical, Inc.

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1

EAI ID#: 173216

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Sample ID:	RW-2	RW-5	RW-7						
Lab Sample ID:	173216.01	173216.02	173216.03						
Matrix:	aqueous	aqueous	aqueous						
Date Sampled:	9/8/17	9/8/17	9/8/17			A			
Data Passivad	9/8/17	0/8/17	0/8/17			Anai	ysis		
Date Received.	5/6/17	3/0/17	5/0/17	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
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
Cyanide Total Cyanide Free	< 0.005 < 0.005	< 0.005 < 0.005

		Ana	lysis		
RL	Units	Date	Time	Method	Analyst
0.005	mg/L	9/13/17	12:55	ASTM D7511-0	9 KD
0.005	mg/L	9/12/17	11:05	OIA-1677-09	KD

QC REPORT

EAI ID#: 173216

Data of

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Units 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.

173216

(for lab use only)

W.O, #

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CHAIN-OF-CUSTODY RECORD

														A	NAL	YSISI	REQL	JIRED												1	1
Sample I.D.	Date/Time Sampled	Matrix A=Air S=Soil GW=Ground W SW=Surface W WW=Waste W. DW=Drinking W. P=Product Other (specify)	D pH D Cond.	GC Methane, Ethane, Ethene	EPA 8260 NH Full List	EPA 8260 NH HW Short List	EPA 8260 NH Petr. Short List	EPA 8021-Full List	EPA 8021- 8020 List (BTEX)	EPA 524.2 DW VOCs	EPA 624 WW VOCs	🗆 601 🗖 602 WW VOCs	EPA 8270 SVOCs	EPA 8270 D PAH O A O BN EPA 675 WW SVOCS	EFA 023 WW 30005 EPA 8082-PCBs	EPA 8081-Pest	TPH-GC (Mod. 8100)	TPH-GC w/FING.	EPH (MA DEP)	VPH (MA DEP)	MCP 14 Metals	Metals (List Below) **	TCLP - Specify Below	SPLP - Specify Below	EPA 300 🗆 CI 🗆 NO3 🗖 SO4	Total Cyanide	Free Cyanide			Total No. of Cont.	Note #
RW-2	9-8-17 9:33	GW							u.																	x	X			3	
RW-5	9:35															_										X	X)	
RW-7	9:38																									X	X			1	
RW-8	9:40																1									X	X			1	
RW-12	V 9:42	V																								X	X				
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									-															-							
DRESERVATIVE (CLUCL M M	athanal N UNO3 S U3SO4 No No																								ļ	-					
CONTAINER TYPE (P-Plastic, C	Glass, V-Vial, T-Teflon, O-Other)*												-+													P	n				
RELINQUISHED BY. RELINQUISHED BY: RELINQUISHED BY:	DATE/TIME 	RECEIVED BY:	- N4 *S	OTES	5: (Un ÿ "Ot	lless o her" p	therworeserv	rise no vative	oted, a s and	all sau contr	mple	s hav type	ve been as in th	n refrij iis spa	gerate ce,	d to 4	4 +/- :	2ºC)											<u>un (</u>		
Project Manager: GZA	Jim Wieck GEOENVIRONMENTAL, IN	- \C.		TUR	NAR	OUNI) TIM	1E: S	tandai	rd F	Rush		5	Da	ays, A	ppro	ved b	y: _			LA TE	B US MP	SE: OF C	OOL	ER	<u> </u>	<u>.</u>	ò	C	Temp Blank Cooler Air	······
5 Cc Bedf	ommerce Park North, Suite 201 ord, New Hampshire 03110	1		GZA PRO. LOC.	FILE JECT ATIO	NO:	04 R H	.0 en	191 ni ov	00 e	13 (Fa V). a v	02 , n V.,	<u>т</u> 1 14.	ASK 1	NO:					I	° O. N	10								-
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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





EAI ID#: 173423

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Temperature upon receipt (°C): Acceptable temperature range (°C): 0-6		1.1 Received on ice or cold packs (Yes/No): Υ							
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Matrix V	% Dry Veight	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

Eastern Analytical, Inc.

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

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		Dilution		Date / Time	Date		
	Result	RL.	Factor	Units	Analyzed	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 SIN	VG
Toluene-d8 (surr)	102 %R			%	9/15/17 15:05		8260B SIN	VG

Client Sample ID:	LGAC Mid							
Lab Sample ID:	173423.05							
Matrix:	aqueous							
Date Sampled:	9/13/17							
Date Received:	9/13/17		Dilution		Date / Time	Date		
	Result	RL	Factor	Units	Analyzed	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		Dilution		Date / Time	Date		
	Result	RL	Factor	Units	Analyzed	Prepared	Method	Analyst
1,4-Dioxane	< 0.25	0.25	1	ug/L	9/14/17 18:25		8260B SIM	I VG
4-Bromofluorobenzene (surr)	96 %R			%	9/14/17 18:25		8260B SIM	I VG
Toluene-d8 (surr)	98 %R			%	9/14/17 18:25		8260B SIM	I VG

Eastern Analytical, inc.

EAI ID#: 173423

9/14/17 14:18 8260B SIM

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Client: GZA GeoEnvironmental, Inc. (NH)

Toluene-d8 (surr)

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 Ana	Time lyzed	Method A	nalyst
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

AqTot

%

100 %R

EAI ID#: 173423

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

				Date of			·.
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits I	RPD	Method
					70 400	00	
1,4-Dioxane	< 0.25	4.9 (99 %R)	4.9 (98 %R) (1 RPD)	ug/L 9/14/17	70 - 130	20	8260B 21M
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.

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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.

Eastern Analytical, Inc.

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			Ana	lvsis		
Date Received:	9/13/17	9/13/17	9/13/17	RL.	Units	Date	Time	Method	Analvst
Cyanide Total Cyanide Free	< 0.005 < 0.005	< 0.005 < 0.005	< 0.005 < 0.005	0.005 0.005	mg/L mg/L	9/19/17 9/20/17	13:37 12:11	ASTM D7511 OIA-1677-09	KD 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
Cyanide Total .	< 0.005	< 0.005
Cyanide Free	< 0.005	< 0.005

Analysis														
	RL	Units	Date	Time	Method	Analyst								
C	0.005	mg/L	9/19/17	13:37	ASTM D7511-09) KD								
C	0.005	mg/L	9/20/17	12:11	OIA-1677-09	KD								

EAI ID#: 173423

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

				Date of				
Parameter Name	eter Name Blank LCS		LCSD	Units 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.

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CHAIN-OF-CUSTO	DY RECORD															_									2				
	ANALYSIS REQUIRED																												
Sample I.D.	Date/Time Sampled	Matrix A=Air				st					۳	z												4	2 2 1	el.	100		
		S=Soil GW=Ground W		Ethene	an Lis	hort Li		BTEX			0	ADB							R-8						9	5	2 2		
		SW≕Surface W WW=Waste W.	puo	hane, l	IS MF	etr. S	List	List (VOCS	OCs	602 W		VOCs			8100)	c;		0		** (wo	Below	Below		Q		1.4	Total 1	No.
	DW=Drinking W. P=Product Other	σ	ne, Et	HN	HN	- Full	- 802(2 DW	MM (w.w.S	-PCB:	-Pest	Mod.	WFIN	DEP	-Mqq	fetals	st Bel	pecify	ecify		01		- ~	of Co	nt. Note #	
		(specify)	Hd	C Metha	PA 8260	PA 8260	PA 8021	PA 8021	PA 524.	PA 624	D 601	PA 8270	PA 625	PA 8082	PA 8081	PH-GC (PH-GC	PH (MA	fetals 🗆	1CP 14 N	fetals (Li	CLP - S _j	PLP - Sp	PA 300	5	Tot-	L'e		*
System Influent	-9-12-17 10:05	GW			<u>u u</u>	1.	Ш			ш,	<u> </u>		Щ	щ	Ш.	F				-	-	F	<u>\$</u>		x			2	•
Post Carbon	10:10																							:	x			2	
system Mid	10:15																											2	
/																										_			
LGAC Influent	9-13-17 9:35																		ļ					2	<u><</u>			2	
LGAC Mid	9:38							<u> </u>																	<u>x</u>			2	
LGAC Effluent	- 9:41	¥																						_	X	_		2	
3-Dairy Lane	12:20	pw																						_	<u>r</u>				
RW-2	9:58	GW																								X	X		
AW-5	10:00																										X		
RW-1	10:92					+					<u></u>												·						
AW-12-	10:06																	+								17	17		
PRESERVATIVE (CI-HCI, M-M	ethanol, N-HNO3, S-H2SO4, Na-NaO	H, O-Other) *																-							~	0	0		
CONTAINER TYPE (P-Plastic, C	G-Glass, V-Vial, T-Teflon, O-Other)*																								V	P	p		
RELINQUISHED BY.	DATE/TIME 9-12-17	RECEIVED BY:	•*S	DTES: pecify	(Unless "Other"	other	vise n rvative	oted, a es and	all san conta	nples ainer t	have l types i	been r in this	efrige space	erated	to 4	+/- 2	°C)												
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Project Manager: Jim Wieck																				LAI	3 USI	E:						Temp B	lank
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5 Commerce Park North, Suite 201				uza f	ILE NO): <u> </u>	<u></u>	01	10	<u>, v</u>	, <u>v</u> . -	y «-	TAS	SK N	0: .					_ Р	0. N	0.				<u></u>		·····	
Bedford, New Hampshire 03110				PROJE	CT		'Ye	nn	ie	r	o1	in											·						
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