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

2021 ANNUAL SUMMARY REPORT DARTMOUTH COLLEGE, RENNIE FARM SITE HANOVER, NEW HAMPSHIRE NHDES SITE NO. 201111109, DES PROJECT NO. 27737 GWP-201111109-H-001

Prepared For:

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Date of Report: May 2, 2022



2021 ANNUAL SUMMARY REPORT DARTMOUTH COLLEGE **Rennie Farm Site**

Hanover, New Hampshire NHDES SITE NO. 201111109, DES PROJECT NO. 277737

May 2, 2022 File No. 04.0190030.02



PREPARED FOR: Dartmouth College Hanover, New Hampshire

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Via Email

May 2, 2022 File No. 04.0190030.02

Groundwater Permit Coordinator Groundwater Protection Bureau New Hampshire Department of Environmental Services 29 Hazen Drive, P.O. Box 95 Concord, New Hampshire 03302-0095

Re: 2021 Annual Summary Report Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES site No. 201111109, DES Project No. 277737 Groundwater Management Permit No. GWP-201111109-H-001

Dear Permit Coordinator:

The attached report was prepared by GZA GeoEnvironmental, Inc. (GZA) on behalf of Dartmouth College (Dartmouth) to provide the New Hampshire Department of Environmental Services (NHDES) an Annual Summary Report (ASR) for calendar year 2021. The ASR describes water quality monitoring associated with the Groundwater Management Permit (Permit) issued by NHDES on August 25, 2017 (GWP-201111109-H-001) and site remediation-related activities at the Rennie Farm Site in Hanover, New Hampshire (Site). Water quality monitoring summarized in the ASR was performed in accordance with Condition No. 7 of the Permit.

We appreciate your review of the report and look forward to receiving your comments. Should you have any questions, please do not hesitate to contact Mr. James M. Wieck at 603-232-8732 or 603-493-2874.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Erik B. Dyrness Engineer I

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

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Attachment: Report

cc: Bree Carlson, P.E., CSP, Dartmouth College Jessica Nylund, Esq., Dartmouth College Annette P. Chism, CRM, Dartmouth College

James M. Wieck, P.G. Associate Principal

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1.0 INTRODUCTION

This report was prepared by GZA GeoEnvironmental, Inc. (GZA) on behalf of Dartmouth College (Dartmouth) to provide the New Hampshire Department of Environmental Services (NHDES) an Annual Summary Report (ASR) for 2021 summarizing water quality monitoring and remediation-related activities performed at Dartmouth's Rennie Farm property¹ in Hanover, New Hampshire (Site). Site investigation, monitoring, and remedial activities have been performed in response to the detection of 1,4-dioxane in groundwater beneath and downgradient of the Site. Water quality monitoring and remediation-related activities were performed, and this report was prepared in accordance with Condition No. 7 of the Groundwater Management Permit (Permit) issued by NHDES for the Site on August 25, 2017 (GWP-201111109-H-001).

Monitoring and remedial activities summarized in this ASR include:

- Permit-related groundwater, surface water, and private water supply well sampling;
- Sampling off-site private water supplies at the request of the individual property owners;
- Treatment system monitoring in accordance with the authorization to discharge under the United States Environment Protection Agency (EPA) Region One Remediation General Permit issued on April 21, 2017 (NHG910071);
- Groundwater level monitoring and flow/capture zone evaluation; and
- Supplemental groundwater extraction and treatment system performance monitoring.

Aerial-photograph-based Site locus and Site plans are included as **Figure 1A** and **Figure 2B**, respectively. The features shown on **Figure 1A** are also illustrated on **Figure 1B**, overlying portions of the United States Geological Survey (USGS) quadrangle maps illustrating the area. These figures have been updated to reflect the results of private water supply well sampling during 2021.

GZA's work and this report are subject to the Limitations included in **Appendix A**.

2.0 BACKGROUND

This section provides a summary of background information regarding the investigation and remediation of 1,4-dioxane related to the Site. Background information included in this section was presented in previous reports prepared by GZA and has been included herein and updated for the convenience of the reader. A list of previously submitted reports is included in **Table 1**. A copy of the conceptual Site model (CSM) is included in **Appendix B** and has been reviewed for consistency with the results of monitoring and investigations, and testing during 2021. The locations of groundwater monitoring wells are illustrated on **Figure 2A**, **Figure 2B**, and **Figure 2C**. The locations of private water supply wells are depicted on **Figure 1A** and **Figure 1B**.

1,4-dioxane was first detected at the Site in groundwater samples collected from monitoring well GZ-2 during April 2012. Sampling at that time was performed to monitor groundwater quality following the removal of laboratory animal carcasses from a less-than-half-acre portion of the Site (**Figure 3**). The laboratory animals were previously used by the Dartmouth Medical School in medical research involving radionuclides, and the carcasses were buried at the Site between the mid-1960s and 1978 under State and federal licenses. In accordance with State of New Hampshire Code of Administrative Rules Env-Or 600 (Contaminated Site Management), following discovery of 1,4-dioxane at the Site,

¹ 572 Hanover Center Road; Town of Hanover Tax Map 13, Block 14, Lot 1.



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NHDES was notified, and additional water quality monitoring and Site Investigation (SI) activities were initiated under work plans approved by the NHDES.

The initial monitoring and investigation activities indicated that 1,4-dioxane was limited to the Site. However, detection of 1,4-dioxane at concentrations of 270 micrograms per liter (μ g/L) to 520 μ g/L in groundwater samples collected from on-Site groundwater monitoring well GZ-9L during July 2015 suggested that off-site transport of 1,4-dioxane was possible. Collection of water quality samples from off-site water supply wells was proposed in GZA's work plan² dated September 1, 2015, and was initiated by Dartmouth in response to the detection of 1,4-dioxane in the groundwater samples collected from well GZ-9L. 1,4-dioxane was first detected in groundwater samples collected beyond the Site boundary on September 15, 2015, from the water supply well at 9 Rennie Road in Hanover, New Hampshire (Town of Hanover Tax Map 13, Block 81, Lot 1). The detected concentrations of 1,4-dioxane exceed the New Hampshire Ambient Groundwater Quality Standard³ (NH AGQS) for 1,4-dioxane at that time (3 μ g/L). The NH AGQS for 1,4-dioxane was revised on September 1, 2018, to 0.32 μ g/L. Bottled water was immediately provided, and a point- of- entry (POE) water treatment system was subsequently installed for the occupants of 9 Rennie Road. Except for samples collected from the water supply well at 9 Rennie Road, 1,4-dioxane has not been detected in water quality samples collected by GZA from over 140 private water supply wells within the area surrounding the Site.

Supplemental hydrogeologic investigations were necessary due to the exceedance of NH AGQS for 1,4-dioxane beyond the Site boundary. Objectives of the supplemental hydrogeologic investigations included: 1) further evaluation of the potential for the presence of human and environmental receptors; and 2) delineation of the extent of 1,4-dioxane beyond the Site boundary. Delineation of the extent of 1,4-dioxane beyond the Site boundary was necessary to meet the requirements of an SI report and for the establishment of a Permit, including a Groundwater Management Zone (GMZ).

The supplemental hydrogeologic investigation activities were completed in phases due to the complexity of groundwater flow within fractured bedrock groundwater systems and the properties of 1,4-dioxane. The investigations initially focused on further investigation of the source area and characterization of the fractured bedrock and overburden groundwater systems on Site beneath and east of the former animal carcass burial area. This was necessary to select and design a source area remedial alternative and to provide hydrogeologic data to select locations for the installation of monitoring wells downgradient of the Site. Subsequent investigations focused on delineation of the 1,4- dioxane plume and characterization of the overburden and fractured bedrock hydrogeologic systems east of the Site. The results of the supplemental hydrogeologic investigations are described in GZA's report⁴ dated May 6, 2016, Remedial Action Plan⁵ (RAP) dated September 1, 2016, and report⁶ dated July 14, 2017.

To be protective of human health and the environment, remediation and control of 1,4-dioxane transport from the source area was expedited. For this reason, the RAP for the Site was issued on September 1, 2016, prior to the completion of the supplemental hydrogeologic investigation. Phase II off-site plume delineation was completed concurrent with the construction of the on-Site groundwater extraction and treatment remedial system.

² Work plan by GZA titled "Work Plan, Off-site Water Supply Well Sampling, Dartmouth College, Rennie Farm site, Hanover Center Road, Hanover, New Hampshire, NHDES site No. 201111109, DES Project No. 277737."

³ As defined in State of New Hampshire Code of Administrative Rules Env-Or 603.04 (Ambient Groundwater Quality Standards), Table 600-1.

⁴ Report by GZA titled "Report Phase I - Supplemental Hydrogeologic Investigation, Groundwater Management Zone Delineation and Water Supply Investigation, Dartmouth College, Rennie Farm site, Hanover, New Hampshire, NHDES site No. 201111109, DES Project No. 277737."

⁵ Report by GZA titled "Remedial Action Plan Report, Dartmouth College, Rennie Farm site, Hanover, New Hampshire, NHDES site No. 201111109, DES Project No. 277737."

⁶ Report by GZA titled "Report, Phase II - Supplemental Hydrogeologic Investigation, Groundwater Management Zone Delineation, and Application for Groundwater Management Permit, Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737."



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Startup of the groundwater extraction and treatment remedial system described in GZA's RAP⁷ dated September 1, 2016, and Remedial Design Report⁸ (RDR) dated December 2, 2016, occurred on February 1, 2017. Authorization to discharge under the United States Environment Protection Agency (EPA) Remediation General Permit (RGP) was needed for the proposed discharge of treated water to surface water at the anticipated system design flow rate of up to 15 gallons per minute (gpm). EPA was in the process of reissuing the RGP during early 2017, and coverage under the RGP was not available as of February 1, 2017. To expedite remediation in the absence of the RGP, groundwater treated during operation of the system was temporarily discharged under a Temporary Groundwater Discharge Permit⁹ (TGWDP) issued by NHDES on January 10, 2017. The hydraulic properties of the soil at the Site allowed this discharge at approximately 1 gpm.

The RGP became effective on April 8, 2017. GZA submitted Notices of Intent¹⁰ (NOIs) to discharge treated water under the RGP to EPA, including Dartmouth and GZA as operators of the system, on April 7, 2017, and authorization to discharge was authorized by EPA and NHDES on April 21, 2017 (NHG910071) at up to 25 gpm. The groundwater extraction and treatment system flow rate was increased on May 1, 2017.

An application for Permit was included in GZA's report dated July 14, 2017. The report also summarized Phase II hydrogeologic plume delineation investigations, remediation activities, and water quality monitoring and included the CSM in **Appendix B**. As noted in **Section 1.0**, NHDES issued a Permit for the Site (GWP-201111109-H-001) on August 25, 2017. Remedial system operation and monitoring under the Permit and RGP authorization are ongoing.

GZA completed a remedial investigation in the valley area east of the Site during 2017 through 2019. The remedial investigation was performed to provide information needed to design an expansion of the groundwater extraction system to increase capture of 1,4-dioxane in groundwater and accelerate remediation. The remedial design investigation was proposed in GZA's 2018 ASR and is described in GZA's report¹¹ dated March 23, 2020. The results of the remedial design investigations refine the understanding of groundwater flow and 1,4-dioxane transport within the overburden deposits to the east of the Site and are consistent with GZA's previously presented CSM.

The general design and objectives of the expansion of the remedial system are described in GZA's March 23, 2020 report and were approved by NHDES in their letter¹² dated May 1, 2020. The expansion of the groundwater extraction system was constructed during 2020, and a phased startup of additional extraction wells began on September 23, 2020 (bedrock wells RW-13 and RW-14) with startup of the off-site overburden wells (ORW-1 through ORW-15) occurring between January 20, 2021 and February 17, 2021, as described in GZA's 2020 ASR¹³ dated July 1, 2021.

During 2021, off-site long-term performance monitoring wells were constructed proximate to off-site overburden groundwater extraction wells ORW-6, ORW-11, and ORW-14, as described in **Section 4.3.4**.

⁷ Report by GZA titled "Remedial Action Plan Report, Dartmouth College, Rennie Farm site, Hanover, New Hampshire, NHDES site No. 201111109, DES Project No. 277737."

⁸ Report by GZA titled "Remedial Design Plans and Construction Specifications Report, Dartmouth College, Rennie Farm site, Hanover Center Road, Hanover, New Hampshire, NHDES site No. 20111109, DES Project No. 277737."

⁹ TGWDP 5B6.

¹⁰ NOIs by GZA titled "National Pollution Discharge Elimination System, Notice of Intent (NOI), Remediation General Permit, Rennie Farm site, Hanover, New Hampshire, NHDES site No. 201111109, DES Project No. 277737."

¹¹ Report titled "Remedial Design Plans and Construction Specifications Report, Groundwater Extraction System Expansion, Dartmouth College, Rennie Farm site, Hanover, New Hampshire, NHDES site No. 201111109, DES Project No. 277737, Groundwater Management Permit No. GWP-201111109-H-001."

¹² Letter by NHDES titled "Hanover – Dartmouth College Rennie Farm Site, Hanover Center Road, DES Site #201111109, Project #27737, Remedial Design Plans and Construction Specifications Report - Groundwater Extraction System Expansion, prepared by GZA GeoEnvironmental, Inc. (GZA), dated March 23, 2020."

¹³ Report titled "Annual Summary Report - 2020 Annual Summary Report, groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737"



3.0 WATER QUALITY MONITORING

This section summarizes Site-related water quality monitoring performed during 2021, including:

- Permit-related groundwater, surface water, and private water supply sampling;
- Sampling of groundwater extraction wells and supplemental and remedial performance monitoring wells;
- Periodic sampling of the water supply at 9 Rennie Road; and
- Sampling of water private supplies performed at the request of the individual property owners, including monthly sampling of the private water supply at 7 Rennie Road.

Remedial system performance-related groundwater monitoring data are summarized in **Section 4.0**.

Groundwater monitoring well construction details are summarized in **Table 2**. Groundwater monitoring well and surface water sampling locations are depicted on **Figure 2A** through **Figure 3**. 1,4-dioxane concentration data for groundwater monitoring wells, surface water sampling locations, and water supply wells are summarized in **Table 3A**, **Table 3B**, and **Table 3C**, respectively. Sample locations and dates are cross-referenced with EAI laboratory report ID numbers in **Table 4A**, **Table 4B**, and **Table 3C**, respectively. Field screening results for pH and specific conductance are summarized in **Table 5A** and **Table 5B**, respectively. Depth-to-groundwater and calculated hydraulic head data are summarized in **Table 6A** and **Table 6B**, respectively.

Analytical laboratory reports for samples collected during the March, June, and September 2021 were previously submitted to the NHDES in GZA's report dated June 30, 2021, and data transmittals dated July 29 and November 5, 2021, respectively. Analytical laboratory reports not previously submitted to NHDES, including the results of the December 2021 sampling round, are included in **Appendix C**.

Permit-required sampling locations that could not be sampled during the 2021 Permit-related sampling rounds are summarized in the following table.

March 2021 Samplin	Reason Sample Not Collected	
Monitoring Wolls	GZ-2, GZ-3, GZ-5U, GZ-7U, GZ-14U, GZ-14L, GZ-18U, GZ-18L, GZ-19U, GZ-19L, GZ-20U, and GZ-23U	Dewatered due to groundwater extraction system operation
wontoning weils	GZ-27L, and GZ-35L	Water in well frozen
Private Water Supply Wells	28 Rennie Road, and 612 Hanover Center Road	Access could not be obtained for sample collection



June 2021 Sampling	Reason Sample Not Collected	
Monitoring Wells	GZ-14U, and GZ-14L	Dewatered due to groundwater extraction system operation
Private Water Supply Wells	22 Rennie Road, 28 Rennie Road, and 612 Hanover Center Road	Access could not be obtained for sample collection

September 2021 San	Reason Sample Not Collected	
Monitoring Wells	GZ-1, GZ-3, GZ-4, GZ-12L, GZ-13L, GZ-14U, GZ-14L, GZ-18U, GZ-19U, GZ-19L, GZ-20U, GZ-23U, and GZ-43U	Dewatered due to groundwater extraction system operation
Private Water Supply Wells	22 Rennie Road, 28 Rennie Road, and 612 Hanover Center Road	Access could not be obtained for sample collection

December 2021 Sam	Reason Sample Not Collected	
Monitoring Wells	GZ-14U, and GZ-35L	Dewatered due to groundwater extraction system operation
Private Water Supply Wells	22 Rennie Road, 28 Rennie Road, and 612 Hanover Center Road	Access could not be obtained for sample collection

3.1 <u>GROUNDWATER</u>

Permit-related groundwater quality samples were collected by GZA personnel during March, June, September, and December 2021, as required under the monitoring program in the Permit. Sampling of additional monitoring wells for analysis of 1,4-dioxane was also completed during 2021, as described in **Section 4.3.5**. Refer to **Table 3A** for sampling dates for individual monitoring wells, including permit-related and supplemental sampling. Recently installed off-site overburden performance monitoring wells (*i.e.*, wells GZ-OMP-6A/6B/6C/6D; GZ-OMP-11A/11B/11C/11D; and GZ- OMP-14A/14B/14C/14D) were sampled during November 2021. The installation and sampling of the recently installed wells is described in **Section 4.3.4** and **Section 4.3.5**, respectively.

Water quality samples were collected in accordance with State of New Hampshire Code of Administrative Rules Env-Or 610.02 (Sampling and Analysis) and submitted to Eastern Analytical, Inc. (EAI) in Concord, New Hampshire, for laboratory analysis of 1,4-dioxane using low level analytical methods (EPA Method 8260 Selective Ion Method [SIM]). Groundwater monitoring wells were purged prior to sampling, and groundwater samples collected using inertia, peristaltic pumps, and bailers. Groundwater purged from monitoring wells was discharged to the ground surface and allowed to infiltrate near the respective wellhead.

Recent 1,4-dioxane concentration data for groundwater, surface water, and certain water supply well monitoring locations are summarized on **Figure 6A** and **Figure 6B**. Charts including 1,4-dioxane concentration data plotted over time are included in **Appendix D**.



Results of the analyses of groundwater samples for 1,4-dioxane during the subject period include:

<u>General</u>

The detected concentrations and spatial distribution of 1,4-dioxane in groundwater samples collected during 2021 are consistent with the results of previous sampling and our understanding of site hydrogeology and historical use as described in GZA's CSM in **Appendix B**. Groundwater level and 1,4-dioxane concentration monitoring data indicate capture of groundwater within the source area and the on-Site portion of the 1,4-dioxane plume by the on-Site groundwater extraction system¹⁴. The off-site overburden groundwater extraction system has not been operating long enough to impact the extent of the plume or fully predict its capture zone and project remedial operational time frames; however, the groundwater monitoring data indicate the extents of the plume are stable.

<u>3.1.1</u> <u>On-site</u>

The following provide a summary of the results of monitoring completed on the Site.

- 1,4-dioxane was detected above EAI's analytical laboratory reporting limit (RL) of 0.2 μg/L in samples collected from 12 of the 41¹⁵ on-site Permit-related groundwater monitoring locations. Detected concentrations of 1,4-dioxane range from 0.21 μg/L (GZ-10L; March) to 79 μg/L (GZ-9D; March) in bedrock groundwater samples and from 0.38 μg/L (GZ-6; September) to 22 μg/L (GZ-2; September) in overburden groundwater samples.
- One or more of the concentrations of 1,4-dioxane detected in the samples collected from each of the 12 wells where 1,4-dioxane was detected exceed the NH AGQS (bedrock groundwater monitoring wells GZ-5L, GZ-7L, GZ-10L, GZ-14L, GZ-9L, GZ-9D, GZ-17L, GZ-18L, and GZ-20L; and overburden groundwater monitoring wells GZ-2, GZ-6, and GZ-22U).
- Collectively, the concentrations of 1,4-dioxane detected in groundwater samples collected from monitoring wells within the estimated capture zone of the groundwater extraction system continue to indicate that reductions in concentration have occurred in response to the operation of the system. Potential reductions in 1,4-dioxane related to the operation of the groundwater extraction system are summarized in Section 4.3.5.
- The following summarize 1,4-dioxane concentration trends for on-Site groundwater monitoring locations with sufficient data to enable trend evaluation:
 - GZ-2 and GZ-3 Results of the analysis of groundwater samples collected during 2021 from overburden monitoring well GZ-2, located proximate to the source area, range from 1.4 μg/L (December) to 22 μg/L (September). Collectively, the 1,4-dioxane concentration data for monitoring well GZ-2 indicate an overall downward concentration trend from a maximum concentration of 370 μg/L (July 2012) (Chart 1). The June and, most notably, September 2021 concentrations were elevated relative to the recent trend, while the concentration in the December 2021 sample was consistent with the overall trend. The elevated concentrations may be related to variations in the rate of infiltration associated with precipitation events. GZ- 3 was dry at the time of each of the 2021 sampling rounds, likely due to the operation of the groundwater extraction system.
 - GZ-10L Results of the analyses of samples collected from this well screened in shallow fractured bedrock during March and September 2021 indicate concentrations of 1,4-dioxane of 0.21 μg/L and 0.37 μg/L, respectively. The concentration of 1,4-dioxane has remained stable and below the range of concentrations detected in samples prior to the startup of the remedial system since March 2019 (Chart 2).
 - GZ-17L Results of the analysis of samples collected during 2021 from shallow fractured bedrock monitoring well GZ-17L range from 3.4 μg/L (September) to 8.70 μg/L (March). The concentrations of 1,4-dioxane

¹⁴ Including recently installed fractured bedrock groundwater extraction wells RW-13 and RW-14.

¹⁵ Samples could not be collected from 14 locations due the absence of groundwater in the well.



detected in the samples from this well during 2021 indicate an increase in concentration (**Chart 2**). The increase may be due to changes in the direction of groundwater flow due to the operation¹⁶ of nearby fractured bedrock groundwater extraction wells RW-13 and RW-14. The elevation of water gauged in well GZ-17L decreased by up to approximately 20 feet following the startup of groundwater extraction wells (**Chart 15**).

- GZ-9L Results of the analysis of groundwater samples collected during 2021 from bedrock monitoring well GZ-9L range from 0.46 μg/L (December) to 6.3 μg/L (March). The results of the analysis of the samples indicate a decrease in concentration during 2021 compared to prior samples, which range from 12 μg/L (March 2019) to 520 μg/L (July 22, 2015). Collectively, the data indicate a decreasing concentration trend since July 2015, with a potential recent decrease in concentration related to the operation of fractured bedrock groundwater extraction wells RW-13 and RW-14 (Chart 3).
- GZ-9D Results of the analysis of groundwater samples collected during 2021 from bedrock monitoring well GZ-9D range from 25 μg/L (June) to 79 μg/L (March). The results of the analysis of the samples collected during March and December 2021 indicate an increase in 1,4-dioxane concentration (Chart 3) relative to the recent stable trend in a relatively narrow range between approximately 11 μg/L and 13 μg/L. The increasing trend may be a result of changes in the direction of groundwater flow in response to recent operation of the off-site groundwater extraction system (*i.e.*, RW-13 and RW-14). The elevation of water in well GZ-9D decreased following the startup of RW-13 and RW-14.

Field screening measurements of groundwater samples for pH collected from monitoring wells located on the Site during 2021 range from 5.9 Standard Units (S.U.) (GZ-7L; March) to 8.3 S.U. (GZ-24L, and GZ-24D; December). Measurements of pH during the subject period from samples collected on Site are consistent with previous measurements from respective locations. The data were reviewed using standard descriptive statistics and comparisons made to historical data, data from source, on-Site, and bedrock and overburden sampling locations. No spatial or temporal trends were identified in the pH data.

Field screening measurements of groundwater samples for specific conductance collected from monitoring wells located on the Site range from 48 micro siemens per centimeter (μ S/cm) (GZ-31L; March) to 432 μ S/cm (GZ-7L; March). The arithmetic average of the measurements of specific conductance measured in samples collected from on-Site groundwater monitoring wells during 2021 is 195 μ S/cm. Measurements of specific conductance during the subject period are generally consistent with previous measurements from respective locations. No spatial or temporal trends were identified in the specific conductance data.

<u>3.1.2</u> Off-site

1,4-dioxane was detected above EAI's RL (0.20 μ g/L) in samples collected from 11 of the 33 off-site groundwater monitoring well locations sampled under the Permit during 2021 at concentrations ranging from 0.26 μ g/L to 13 μ g/L in fractured bedrock groundwater samples, and from 0.22 μ g/L to 540 μ g/L in overburden groundwater samples. 1,4- dioxane was also detected in samples collected from each of 16 of the monitoring wells installed as part of the remedial design investigation during 2019 (non-Permit monitoring wells [*i.e.*, GZ-40M, GZ-40L, GZ-42L, GZ-44 – GZ-53, GZ-54U, GZ-54D, and GZ-55]). The concentrations of 1,4-dioxane detected in the samples collected by GZA during 2021 are consistent with the results of sampling during 2020 summarized in GZA's report¹⁷ dated July 1, 2021, and GZA's CSM.

1,4-dioxane was not detected in the samples collected from the downgradient perimeter monitoring locations during 2021 (*i.e.*, wells GZ-32U/L/D, GZ-33U/L, GZ-34U/L/D, GZ-35U/L/D, and GZ-36U), and collectively the results of monitoring do not indicate movement of the extents of the plume.

¹⁶ Beginning September 23, 2020.

¹⁷ Report titled "Annual Summary Report - 2020 Annual Summary Report, groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737"



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1,4-dioxane concentration trends for certain off-site locations are plotted in **Appendix D**, including GZ-26U and GZ-41U **Chart 4**; GZ-27U/L/D **Chart 5**; GZ-39D and GZ-40D **Chart 6**; and GZ-25D and GZ-37D **Chart 7**. The concentration trends suggest relatively stable concentrations; however, the concentration plot for bedrock groundwater well GZ-25D suggests a gradually increasing trend which may be stabilizing.

The following summarize 1,4-dioxane data for selected monitoring wells screened in fractured bedrock.

GZ-25D – The concentration trend of 1,4-dioxane in samples collected from this monitoring well is depicted on (**Chart 7**). The detected concentrations of 1,4-dioxane range from a low of 0.29 μ g/L in September 2016 to the current maximum of 1.4 μ g/L (September 2021). An increasing concentration trend is apparent through September 2021. While not included in the data summarized herein, the results of the analysis of a groundwater sample collected from this well by GZA during March 2022 (1.4 μ g/L) is equal to the concentration detected in the sample collected during September 2021, suggesting the concentration of 1,4-dioxane at this location may be stabilizing. This well is anticipated to be near the northern extent of the plume in fractured bedrock groundwater, with the northern extent of the plume located between GZ-25D and GZ-33L.

GZ-27D – The 1,4-dioxane concentration trend for samples collected from this well is depicted on **Chart 5**. The detected concentrations have decreased from a maximum of 11 μ g/L in November 2016 to 2.6 μ g/L in December 2021, with an overall decreasing trend and relative stability since December 2018.

GZ-37D – The 1,4-dioxane concentration trend for samples collected from this well is depicted on (**Chart 7**). The detected concentrations of 1,4-dioxane range from a maximum of 1.5 μ g/L (September 2018) to the current low of 0.29 μ g/L in December 2021. An increasing concentration trend is apparent from February 2017 through September 2018, followed by a decreasing concentration trend through December 2021. This well is anticipated to be near the eastern limit of the plume.

GZ-39D - 1,4-dioxane has been detected in samples collected from monitoring well GZ-39D at concentrations ranging from 0.26 μ g/L (September 2021) to 2.6 μ g/L (December 2016) with an overall decreasing concentration trend (**Chart 6**).

GZ-40D – The 1,4-dioxane concentration data for samples collected from this monitoring well are summarized on (**Chart 6**). The detected concentrations of 1,4-dioxane range from a maximum of 13 μ g/L (July 2017 and September 2021) to a low of 8.5 μ g/L in December 2018. The data indicate a generally stable concentration of 1,4-dioxane.

The concentrations of 1,4-dioxane detected in groundwater samples collected from overburden wells during 2021 are consistent with the results of previous monitoring. The maximum concentrations of 1,4-dioxane were detected in groundwater samples collected from shallow overburden wells GZ-40U (390 μ g/L; December to 540 μ g/L; March) and GZ-42U (160 μ g/L; December to 410 μ g/L; March). Wells GZ-40U and GZ-42U are located near the estimated axis of the plume and within the groundwater discharge zone. The detected concentrations are generally consistent with previously collected samples from these wells (**Table 3A.3** and **Chart 4**); however, the concentration of 1,4-dioxane detected in the December 2021 samples collected from GZ-40U (390 μ g/L) and GZ-42U (160 μ g/L) are anomalously low. The concentration data for each of these locations suggests relatively stable concentrations with potential gradually decreasing trends during 2020 and 2021.

Field screening measurements of groundwater samples collected from monitoring wells located off-site for pH range from 6.5 S.U. (GZ-39U; March) to 9.2 S.U. (GZ-17U; December). Measurements of pH during the subject period are consistent with previous measurements for respective locations. The data were reviewed using standard descriptive statistics and comparisons made to historical data, data from source, on-Site, and bedrock and overburden sampling locations. No spatial or temporal trends were identified in the pH data.



Field screening measurements of specific conductance for groundwater samples collected from wells located off-site range from 120 μ S/cm (GZ-40D; March) to 723 μ S/cm (GZ-38U; March). The arithmetic average of specific conductance measured in samples collected from off-site groundwater monitoring wells is 219 μ S/cm. Measurements of specific conductance during the subject period are generally consistent with previous measurements for respective locations. No spatial or temporal trends were identified in the specific conductance data.

3.2 <u>SURFACE WATER</u>

Surface water samples were collected from monitoring locations Stream-1 through Stream-6 during March, June, September, and December 2021, and surface water samples were collected from location Stream-11 during March and September 2021. Surface water monitoring locations are depicted on **Figure 4**. Surface water quality samples were collected, containerized, transported, and analyzed in consideration of applicable NHDES and EPA protocols. Surface water samples were submitted to EAI for laboratory analysis of 1,4-dioxane using low-level analytical methods (EPA Method 8260 SIM). Refer to **Table 3B** for sampling dates and results. Sample locations and dates are cross- referenced with EAI laboratory report ID numbers in **Table 4B**.

The following summarize the results of the surface water sampling during 2021:

- 1,4-dioxane was not detected in the surface water samples collected during 2021. Under low streamflow conditions, which typically occur during the September monitoring round, 1,4-dioxane has been detected during several previous monitoring events in samples collected from locations Stream-3 and Stream-4. Stream flow at the time of the September 2021 sampling round appeared to be greater than recent years. It is unlikely that the operation of the off-site overburden groundwater extraction well system has had sufficient time to influence the concentration of 1,4-dioxane in surface water at Stream-3 and Stream-4.
- Field screening measurements of surface water samples for pH during 2021 range from 7.3 SU (Stream-1 and Stream-3; December) to 8.8 SU (Stream-2 and Stream-5; December). The measurements of pH made by GZA during 2021 are consistent with previous measurements. No spatial or temporal trends were identified in the pH data.
- Field screening measurements of surface water samples for specific conductance range from 52 µS/cm (Stream-11; March) to 247 µS/cm (Stream-2; September). The arithmetic average of the measurements of specific conductance for the surface water samples collected during 2021 is 141 µS/cm. Measurements of specific conductance during the subject period are generally consistent with previous measurements. No spatial trends were identified in the specific conductance data. Specific conductance measurements suggest a potential correlation with seasonal changes in stream flow (*i.e.*, increases in specific conductance during periods of low stream flow for the majority of the seven surface water monitoring locations).

3.3 WATER SUPPLY SAMPLING

Water supply sampling during the subject period includes:

- Sampling of the water supplies for the 15 properties included in the Permit-related sampling¹⁸ program during each Permit-related sampling round, except as described in **Section 3.0**.
- Monthly sampling of the private water supplies for 7 Rennie Road and 9 Rennie Road (also included in quarterly Permit-related sampling rounds); and

¹⁸ Includes private water supplies for 7, 9, 22, 26, 28, 30, 38, 39, 42, and 47 Rennie Road; 8 and 10 Dairy Lane; 39 Tranquil Brook Lane; and 594 Hanover Center Road.



• Sampling of two private water supplies in response to requests by property owners (669 Hanover Center Road [July 7, 2021]; and 3 Dairy Lane [July 29, 2021]). A sample was also collected at the request of the property owner from the water supply at 32 Pelton Lane, Lyme, on January 4, 2022, and the results are included in this report.

Sample collection dates associated with individual private water supply samples are summarized in **Table 3C**, along with results and analytical laboratory report identification number. Approximate water supply well locations are illustrated on **Figure 1A** and **Figure 4** (Permit-related sampling locations). The results of prior sampling and analysis for 1,4-dioxane are also summarized in **Table 3C**.

Water supplies were generally sampled following a 20-minute purge of water from the well. The only exceptions were at residences where GZA was requested by the property owner to minimize water purged due to concerns regarding well yield. In these cases, water was typically purged for 5 minutes to 10 minutes. Additional purging to remove potentially stagnant water from piping within the home was performed based on observations of the piping.

Except for the results from the analysis of samples collected from the private water supply for 9 Rennie Road, the analysis of each of the residential water supply samples did not detect 1,4-dioxane above the laboratory RL. The 9 Rennie Road property is currently vacant and is owned by Dartmouth College.

The analysis of samples from the residential water supply at 9 Rennie Road during the 2021 detected 1,4-dioxane at concentrations ranging from 8.6 μ g/L (December 16, 2021) to 14 μ g/L (July 15, 2021). The results of the analyses are generally consistent with the results of the analysis of samples collected during prior sampling rounds (2.7 μ g/L May 21, 2020, to 15 μ g/L January 23, 2020). A plot of 1,4-dioxane concentrations over time for the water supply at 9 Rennie Road is included on **Chart 9** in **Appendix D**.

The chart illustrates the variability in concentration over the approximately 12.3 μ g/L range in which it has been detected. Use of the water supply at 9 Rennie Road was discontinued when the occupants moved from 9 Rennie Road during November 2019 (the property is currently vacant and is owned by Dartmouth College). Pseudo-radial flow to the private water supply well when it was in use likely contributed to the frequent fluctuations in concentration during this period. The overall increase in concentration and relative stability of the trend following the discontinuation of the use of the private water supply may reflect the overall concentration in fractured bedrock at this location (*i.e.*, 13 μ g/L to 14 μ g/L).

3.3.1 POE TREATMENT SYSTEM SAMPLING

A POE treatment system was constructed by Dartmouth at 9 Rennie Road. In addition to the untreated water samples described in **Section 3.3**, POE midpoint and effluent samples were previously collected by GZA and analyzed by EAI for 1,4-dioxane using low-level analytical methods (EPA Method 8260 SIM). The occupants moved from 9 Rennie Road during November 2019, and the property has remained vacant since. Consequently, POE performance monitoring and carbon replacement has not been performed since 2019. Dartmouth College currently owns and maintains the 9 Rennie Road property.

4.0 REMEDIATION SYSTEM PERFORMANCE MONITORING

This section includes descriptions of the primary components of the groundwater extraction and treatment subsystems that comprise the Site remediation system and a summary of the results of groundwater treatment system and extraction system performance monitoring completed during 2021.

4.1 <u>REMEDIAL SYSTEM DESCRIPTION</u>

This subsection includes descriptions of the primary components of the groundwater extraction and treatment subsystems. The remediation system was constructed by Dartmouth to capture 1,4-dioxane in groundwater within



overburden and fractured bedrock in the source area (*i.e.*, historical animal carcass burial area) and remove 1,4- dioxane from groundwater prior to discharge to surface water. Groundwater has also been extracted from fractured bedrock on-Site along the axis of the plume at one location (extraction well RW-7) since startup of the on-Site remedial system in 2017 to capture 1,4-dioxane downgradient of the source area.

The design of the system assumes an observational approach, and modifications can be made to certain elements of the system, including:

- The number of active groundwater extraction wells;
- Pump type and position/flow rate; and
- Total system flow rate and treatment system capacity.

No substantial modifications have been made to the groundwater treatment system since startup.

Modifications to the groundwater extraction system were made during 2020 and 2021 to capture 1,4-dioxane in groundwater within overburden off-site in the center of the plume and in fractured bedrock at a location selected to limit the potential for plume expansion and accelerate the dissipation of the plume in fractured bedrock. The layout of the primary on-Site components of the groundwater extraction and treatment systems are depicted on **Figure 8A**, **Figure 8B**, and the layout of the primary off-site components of the groundwater extraction system are depicted on **Figure 8B**.

Selected groundwater extraction well construction information is summarized in **Table 7**, including pump intake (target drawdown) elevations. The primary on-Site components of the groundwater extraction and treatment systems include:

Groundwater Extraction

Overburden

- Seven overburden groundwater extraction wells (RW-1, RW-3, RW-4, RW-6, RW-9, RW-10, and RW-11) installed during 2016 at the locations depicted on Figure 8A. Wells are screened within the overburden and highly weathered bedrock. The locations of the wells were selected based on the estimated direction of 1,4-dioxane transport in groundwater and a detailed evaluation of the elevation of the bedrock surface utilizing ground penetrating radar. Each well was constructed using 6-inch internal diameter PVC including a sump installed within bedrock, such that the pump intake can be positioned approximately 1 foot below the top of bedrock. Each well is equipped with a pneumatically driven level maintaining pump. In general, the overburden extraction wells pump only during times of infiltration due to dewatering from the operation of the bedrock groundwater extraction well pumps.
- Fifteen overburden groundwater extraction wells constructed off-site along an approximately 350-foot line roughly orthogonal to the axis of the plume to intercept the 1,4-dioxane plume prior to flow into the unnamed stream northeast of the Site. The extraction wells are designated ORW-1 through ORW-15 and numbered from south to north (Figure 8B; the ORW designation is used to differentiate the wells from the on-Site groundwater extraction wells). The well spacing along the 350-foot line is approximately 25 feet. Groundwater containing 1,4-dioxane originating from the Site is anticipated to flow initially though bedrock fractures downward and to the northeast, and then through overburden within the valley with subsequent transport to surface water in the unnamed stream. The intent of the design of the overburden wellfield is to capture the majority of 1,4- dioxane transported within overburden as practicable prior to transport in groundwater to the stream. The selected well design is intended to balance the technical challenges presented by the low hydraulic conductivity of the overburden, vertical concentration gradient, width of the plume, and presence of an upward vertical hydraulic



gradient. Each well is equipped with a pneumatically driven level maintaining pump. A phased startup of the overburden extraction wells occurred between January 20 and February 17, 2021.

Bedrock

- Five bedrock groundwater extraction wells (RW-2, RW-5, RW-7, RW-8, and RW-12) were installed during 2016 at the locations illustrated on **Figure 8A**. The locations of the wells were selected based on the estimated direction of 1,4-dioxane transport in groundwater. The wells each consist of a 6-inch-diameter open bedrock boring with steel casings seated into bedrock. Each well is equipped with a pneumatically driven level maintaining pump.
- Two bedrock groundwater extraction wells (RW-13 and RW-14) were constructed adjacent to the downgradient Site boundary on either side of the axis of the plume at the locations depicted on **Figure 8B**. Each well is equipped with a pneumatically driven level maintaining pump. Extraction of groundwater from fractured bedrock immediately west of Rennie Road is anticipated to further capture 1,4-dioxane in groundwater within fractured bedrock while limiting the potential for encountering flowing artesian conditions, which would limit the effectiveness of the remedial system. The well locations were also selected in consideration of avoiding steeply sloping ground surface and presence of wetlands east of Rennie Road. The vertical axis of the plume is estimated to transition from fractured bedrock to overburden between elevation 850 feet to elevation 860 feet at a point east of Rennie Road. RW-13 and RW-14 were drilled to 847 feet and 865 feet, respectively, to intersect the plume without creating a vertical pathway below the estimated plume depth. Bedrock groundwater extraction wells RW-13, and RW-14 began operating along with Pumping Module No. 2 during September 2020.

Groundwater Pumping Equipment

- An aboveground utilidor was constructed to provide an insulated and heated structure for conveyance of the compressed air lines to and water from the off-site overburden groundwater extraction wells (*i.e.*, wells ORW-1 through ORW-15). Use of an aboveground utilidor was selected to limit excavation within wetlands areas. The utilidor consists of two sections (north and south) originating from a pumping module (Pumping Module No. 1) constructed at the location depicted on Figure 8B.
- Pumping Module No. 1, consisting of an approximately 12 feet by 20 feet wood-framed and sided shed structure, houses equipment needed to pump groundwater from the overburden groundwater extraction wells to Pumping Module No. 2. Equipment housed in Pumping Module No. 1 includes an air compressor, compressed air supply and extracted water manifolds, a groundwater flow equalization tank, and particulate filters, a discharge pump, a flow meter, and level sensors and controls. The air and water manifolds allow for the independent control and sampling of each of the overburden groundwater extraction wells. The discharge pump that pumps groundwater to a second pumping module (Pumping Module No. 2) and the supply of compressed air to the pneumatic pumps are controlled by the level of water in the flow equalization tank in concert with the levels in equalization tanks located in Pumping Module 2 and the groundwater system building on the Site. The layout of Pumping Module No. 1, including equipment and a simplified process and instrumentation diagram, is depicted on Figure 11.
- An existing cottage at 8 Rennie Road was modified to house Pumping Module No. 2. Pumping Module No. 2 contains equipment needed to pump groundwater from bedrock groundwater extraction wells RW-13 and RW- 14 and groundwater from Pumping Module No. 1 to the on-Site treatment system. Equipment housed in Pumping Module No. 2 includes an air compressor, compressed air supply and extracted water manifolds, a groundwater flow equalization tank, and particulate filters, a discharge pump, a flow meter, and level sensors and controls. The air and water manifolds allow for the independent control and sampling of each of the bedrock groundwater extraction wells. The discharge pump that pumps groundwater to the treatment system and the supply of compressed air to the pneumatic pumps are controlled by the level of water in the flow equalization tank in concert with the level in equalization tanks located in the groundwater system building on the Site. The layout of Pumping Module No. 2, including equipment and a simplified process and instrumentation diagram, is depicted on Figure 12.



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A 1.25-inch internal diameter water line and electrical supply and control lines from Pumping Module No. 1 to the east side of Rennie Road were constructed in aboveground insulated and heat tape-equipped conduits to limit excavation within the steeply sloping and wetland areas and the need to cut trees. A backup compressed air line to supply compressed air to or from Pumping Module No. 2 was also constructed in conduit above ground from Module No. 1 to Rennie Road. Water lines, electrical control lines, and backup compressed air lines were also constructed from Pumping Module No. 2 toward the treatment system and are connected to existing underground piping and conduit near groundwater extraction well RW-7 (Figure 8B).

Dedicated underground piping and conduit were constructed from the treatment system to a point near groundwater extraction well RW-7 during construction of the on-Site groundwater extraction system in 2016 in anticipation of the potential expansion of the system. Use of above-ground piping and conduit from RW-7 to Pumping Module No. 2 was selected to limit excavation within this steeply sloping area and the need to cut trees.

Directional drilling methods were used to install a 12-inch internal diameter pipe beneath Rennie Road to convey water and electrical control lines beneath Rennie Road. Precast concrete manhole structures were installed at each end of the 12-inch pipe. On the eastern side of Rennie Road, the manhole structure is used to transition the water, air, and control lines from aboveground into the 12-inch pipe. On the western side of Rennie Road, the manhole structure is used to transition the lines from the 12-inch pipe to below ground lines buried in a trench excavated from the manhole to Pumping Module No. 2.

• Underground piping was constructed during 2016 between the on-Site groundwater extraction wells and treatment system and between the treatment system and discharge location (Figure 8A).

Groundwater Treatment

- The groundwater treatment system designed to remove 1,4-dioxane from groundwater is located on the Site, as shown on **Figure 8A** and **Figure 9**. A process diagram is illustrated on **Figure 10**. The treatment system includes pretreatment to remove total iron and manganese consisting of bag filters and liquid-phase granular activated carbon (LGAC). Pretreatment is intended to limit the potential for fouling of the treatment system. Treatment of 1,4-dioxane is by absorption using Ambersorb media contained in two canisters used in series. The treatment system is designed for an influent flow rate of 15 gallons per minute (gpm) and is expandable to 25 gpm.
- The system includes periodic steam regeneration of the Ambersorb media to remove the captured 1,4-dioxane. 1,4- dioxane is removed from the resulting condensate using two approximately 7-cubic-foot LGAC canisters in series. The condensate treatment LGAC is physically separate from the pre-treatment LGAC. Treated condensate is combined with treatment system influent and flows through the treatment system. Condensate treatment LGAC is periodically transported from the Site for disposal at an appropriate disposal facility. Ambersorb media regeneration and condensate treatment LGAC replacement frequencies are based on midpoint 1,4-dioxane concentration data and flow monitoring.
- A compacted crushed stone pad was constructed to support the aboveground components of the groundwater extraction and treatment systems. The pad is enclosed within a chain-link fence. Components within the pad area include: two Conex boxes housing groundwater extraction and treatment equipment; a 55-KW generator used to supplement a 200-amp electrical service during regeneration of the Ambersorb media; two 1,000- gallon propane tanks are used to fuel the 55-KW generator, and a boiler also used during Ambersorb regeneration, and an air dryer and chiller used to support the treatment system. The generator, propane tank, air dryer, and chiller are placed on concrete pads constructed within the crushed stone pad.
- A dry well was constructed to discharge boiler blow-down water per regeneration cycle. The dry well has been registered with NHDES. The dry well location is illustrated on **Figure 8A**.
- The treated water is discharged to an on-Site location northeast and downslope of the treatment system, as illustrated on **Figure 8A**. Treated water is discharged into a subsurface rip rap constructed area up slope of the intermittent stream located on Site and downgradient of the source area. Discharge of treated groundwater is performed under



United States Environmental Protection Agency (EPA) Region 1 Remediation General Permit (RGP) (No. NHG910071), which is considered the State Discharge Permit required in RSA 485-A:13, I(a).

4.2 REMEDIAL TREATMENT SYSTEM PERFORMANCE STANDARDS

Treatment system performance standards include:

- NH AGQS; and
- Effluent Limitations included with the EPA authorization to discharge under the RGP.

The NH AGQS and EPA Effluent Limit for 1,4-dioxane are 0.32 μ g/L and 3.0 μ g/L, respectively. Additional Effluent Limits are included in the EPA and NHDES authorization letters included in **Appendix E**.

4.3 <u>REMEDIAL SYSTEM PERFORMANCE MONITORING</u>

Remedial system monitoring is conducted to provide data to evaluate performance of the groundwater extraction, and treatment systems relative to the remedial objectives listed in **Section 4.1** and performance standards listed in **Section 4.2** includes:

- Monthly treatment system influent and effluent water quality monitoring required under RGP authorization to discharge, including:
 - 1,4-dioxane by EPA Method 522;
 - Acetone by EPA Method 1624B;
 - Volatile organic compounds (VOCs) by EPA Method 624;
 - Total metals including: antimony, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, zinc, and trivalent chromium by Method 200.8, and hexavalent chromium by Method 7196A;
 - Suspended Solids by Method 2540D-97;
 - Chloride by Method 4500CIE-97;
 - Total Cyanide by ASTM Method D7511;
 - Ammonia-N by Method TM NH3-001;
 - Phenol by EPA Method 625; and
 - pH field analysis by GZA.
- Groundwater level monitoring to evaluate capture of groundwater, performed during Permit-related sampling rounds and supplemental sampling and water level measurement rounds (as needed).
- Daily treatment system flow to evaluate regeneration frequency and compliance with the discharge limit under the RGP authorization to discharge (0.036 million gallons per day ([GPD]; 36,000 GPD)/average of 25 gpm).
- Supplemental sampling for 1,4-dioxane by EPA Method 8260 SIM at selected locations within the treatment system (sampling locations depicted on Figure 9 and Figure 10) performed prior to Ambersorb regeneration and during condensate treatment to guide Ambersorb media regeneration and LGAC replacement, including:
 - Treatment system influent and effluent;
 - Midpoint between Ambersorb media canisters; and
 - Condensate treatment system LGAC influent, midpoint, and effluent.
- Periodic supplemental groundwater quality monitoring of groundwater extraction system performance monitoring wells (i.e., GZ-PM and GZ-OPM series groundwater monitoring wells) for 1,4-dioxane using EPA Method 8260 SIM; and



• Periodic supplemental groundwater quality monitoring of groundwater extraction wells and system influent and effluent for 1,4-dioxane EPA Method 8260 SIM and cyanide (total and free).

The following subsections summarize the results of the remedial system performance monitoring and indicate that the remedial system meets the objectives listed in **Section 4.1**.

4.3.1 Treatment System Influent and Effluent Monitoring

Treatment system influent and effluent monitoring results are summarized in **Table 8A** (influent) and **Table 8B** (effluent). Sampling locations are depicted on **Figure 9**. The results of monthly RGP-related monitoring during the period from May 1, 2017, through December 2021 are summarized in **Table 8A** and **Table 8B**, along with the results of sampling performed during the period from February 1, 2017, through April 30, 2017, during which the maximum discharge rate was 1 gpm and discharge was performed under a TGWDP. The following summarize the results of influent and effluent monitoring during 2021:

<u>Influent</u>

- 1,4-dixoane was the only VOC detected in influent samples collected during 2021.
- The detected concentrations of 1,4-dioxane in treatment system influent samples ranged from 5.5 µg/L (August) to 36 µg/L (April). This range includes the results of supplemental influent monitoring for 1,4-dioxane summarized in Table 10. The average of the 2021 influent 1,4-dioxane concentration data is 19.2 µg/L (based on 35 samples). Year 2021 1,4-dioxane concentration data are summarized on Chart 10 with the results of historical monitoring and collectively indicate a decreasing concentration trend consistent with the operation of the groundwater extraction system through 2020. With the startup of the off-site groundwater extraction system, influent 1,4-dioxane concentration trend.
- Total metals including arsenic, copper, iron, nickel, and zinc were detected in one or more of the influent samples collected during 2021 and are anticipated to be naturally occurring.
- Total cyanide was detected in the influent sample collected in April at a concentration of 7.6 μg/L and is anticipated to be naturally occurring. Total cyanide has been detected in influent samples collected in previous years, as summarized in Table 12. The laboratory RL for total cyanide is 5 μg/L.
- Chloride was consistently detected in influent samples collected during 2021 at concentrations ranging from 1,900 μg/L to 5,700 μg/L and is anticipated to be naturally occurring.
- Ammonia-N was not detected in the influent samples collected during 2021 above the laboratory RL (0.05 mg/L). Ammonia-N was detected in the treatment system influent samples collected in 2020. The periodic detection of ammonia-N in the treatment system influent and effluent is consistent with the historical agricultural use of the area, and ammonia-N has not been detected in the effluent at concentrations exceeding surface water quality criteria.
- Measurements of influent pH ranged from 6.53 SU to 6.83 SU and is within the range pH of naturally occurring in groundwater within New Hampshire.
- Laboratory analyses of influent water quality samples for the remainder of the water quality parameters required under the Site's RGP Authorization and listed above were below their respective RLs. Please refer to **Table 8A** for RLs associated with individual samples and parameters.

<u>Effluent</u>

• The concentrations of water quality parameters monitored under the RGP were below their respective Effluent Limitations for the Site throughout 2021.



- VOCs excluding 1,4-dioxane were not detected above analytical laboratory RLs within the effluent (treated water) samples collected during 2021.
- 1,4-dioxane was detected at a concentration of 0.21 μg/L in the treatment system effluent sample collected on July 12, 2021. The detected concentration is below the Effluent Limit under the RGP (3 μg/L) and NHAGQS (0.32 μg/L). Based on the results of supplemental sampling, the detection of 1,4-dioxane in the July 2021 effluent sample is not anticipated to be representative of the effluent water quality. The reason for the detection is not known and a sampling or laboratory error cannot be ruled out. Specifically, 1,4-dioxane was not detected in the treatment system midpoint sample, collected between the two Ambersorb canisters (halfway point in treatment), collected on July 14, 2021, which was collected prior to regeneration of the Ambersorb media later that day. The Ambersorb media was regenerated on June 22, 2021, prior to July 14, 2021, with the next regeneration occurring on July 29, 2021. Samples were also collected from the system midpoint on June 22 and July 29, 2021, prior to regeneration, and from the system midpoint and effluent on July 26, 2021, following receipt of the result of the July 14, 2021 effluent sample. 1,4-dioxane was not detected in any of the supplemental samples above the laboratory RL of 0.20 μg/L.
- Total metals, including chromium, copper, nickel, and zinc, were detected in one or more effluent samples at concentrations below their respective Effluent Limitations.
- Total cyanide was not detected in the effluent samples collected during 2021 above the laboratory RL (5 μg/L).
- Ammonia-N was not detected in the effluent samples collected during 2021 above the laboratory RL (0.05 mg/L).
- Chloride was detected in the effluent samples collected during 2021. Chloride is monitored and reported under the RGP authorization but has no Effluent Limit. Chloride effluent concentrations are consistent with influent concentrations and ranged from 2,000 µg/L to 5,500 µg/L.
- Measurements of effluent pH during 2021 range from 6.52 SU to 6.76 SU. The measurements of pH are within the allowed Effluent Limit range of pH (6.5 SU to 8.0 SU).
- Laboratory analyses of effluent water quality samples for the remainder of the water quality parameters required under the Site's RGP Authorization and listed above were below their respective RLs. Please refer to **Table 8B** for RLs associated with individual samples and parameters.

4.3.2 Treatment System Flow Rate Data

Treatment system flow rate monitoring data are summarized on **Chart 11A** (Feb 2017 – 2021) and **Chart 11B** (2020 and 2021) in **Appendix D**, along with precipitation data from a monitoring station located approximately 6 miles from the Site. Due to the location of the source area groundwater extraction wells within an upland area, the flow rate of the system varies with the rate of infiltration of water from precipitation and snowpack melt. Treatment system flow rates are allowed to vary within the operable range of the treatment system to maintain target drawdown levels within the groundwater extraction wells. Target drawdown levels can be varied by adjusting individual pump intake depths. During 2021 the daily average treatment system flow rate was between approximately 1.3 gpm and 12.1 gpm (arithmetic average 8.1 gpm). Approximately 4,130,677 gallons of groundwater were treated by the groundwater treatment system during 2021, which is approximately 126 percent greater than during 2020.¹⁹ The increase in flow rate relative to 2020 is largely due to the increase in groundwater extraction from the operation of extraction wells RW-13 and RW-14, and to a lesser extend ORW-1 through ORW-15.

4.3.3 Treatment System 1,4-dioxane Concentration Data

Treatment system Ambersorb media regeneration was performed a total of 21 times during 2021. Regeneration was performed on the dates listed in **Table E.1** in **Appendix E**. Results of the analysis of supplemental treatment system

¹⁹ 2020 total system flow equals approximately 1,829,646 gallons.



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1,4-dioxane concentration samples collected during each regeneration are summarized along with the results of RGP- related influent sampling for 1,4-dioxane in **Table 10**. Sample locations are illustrated on **Figure 9**. The following summarize the results of the treatment system 1,4-dioxane concentration monitoring:

- As noted in Section 4.3.1, influent 1,4-dioxane concentrations detected during 2021 range from 5.5 µg/L (August) to 36 µg/L (April) and have an arithmetic average of approximately 19.5 µg/L. For comparison, the averages of the influent concentration data during 2019 and 2020 were approximately 15 µg/L and 10.5 µg/L, respectively. Influent concentration data collected to date are depicted in Chart 10. A Mann Kendall analysis of the influent concentration data²⁰ from startup of the on-Site system until the startup of the off-site extraction system indicated a decreasing concentration trend with a confidence level of 95 percent (Appendix E). Based on extrapolation of the trendline for the data to the NH AGQS prior to the startup of the off-site groundwater extraction system, the estimated time to the influent concentration reaching NH AGQS, based on operation of the onsite system only, was anticipated to be approximately five years from startup of the system (*i.e.*, approximately 2021). The startup of the off-site overburden groundwater extraction system has increased system influent concentrations, as noted above. A Mann Kendall analysis of the influent concentration data collected since startup of the off-site groundwater extraction system did not indicate a trend at the 95 percent confidence interval (Appendix E).
- 1,4-dioxane was not detected in any of the 24 Ambersorb media midpoint samples collected during 2021 above the analytical laboratory RL of 0.2 µg/L, but as noted above, 1,4-dioxane was detected in one treatment system effluent sample (0.21 µg/L; July 12, 2021). While 1,4-dioxane has only been detected within a treatment system midpoint sample one time since the start of the operation of the treatment system (April 15, 2020; 0.39 µg/L), its presence at the midpoint would be a normal occurrence for operation of the treatment system, and the removal capacity of the second Ambersorb media container is available for treatment at that point in the groundwater treatment process. As noted in Section 4.3.1, the detection of 1,4-dioxane in the July 2021 effluent sample is not anticipated to be representative of the effluent water quality, based on the results of supplemental treatment system sampling.
- Condensate treatment influent samples range in concentration from 670 µg/L to 3,500 µg/L. Due to the increased flow rate and influent concentration related to the operation of the off-site overburden groundwater extraction wells, the number of media regenerations increased from 11 in 2020 to 21 in 2021, and the average condensate concentration increased from 1,035 µg/L in 2020 to 1,773 µg/L in 2021. Importantly, the concentration of 1,4- dioxane in the condensate decreases throughout the regeneration of the media, and the influent sample concentration is therefor only an indicator of the concentration near the beginning of the regeneration period and cannot be used to calculate mass removal.
- Relatively low concentrations of 1,4-dioxane have been intermittently detected in the condensate treatment LGAC midpoint, and effluent samples and the data used to manage LGAC. The LGAC effluent is injected into the treatment system influent and treated using the Ambersorb media.

Condensate treatment LGAC canisters (approximately 7 cubic feet of LGAC each), when removed from the condensate treatment system, are drained and carbon transferred to drums and stored on-Site in a custom constructed watertight roll-off prior to off-site disposal. Documentation of the construction of the carbon roll-off is included in **Appendix E**.

During 2021, LGAC was managed at the Site under the guidance of by Chase Environmental Group, Inc. (Chase). Due to the naturally occurring presence of radon in the area, transfer of carbon is performed with the guidance and under the observation of Chase. Removal of carbon from the treatment system had previously been performed on a roughly annual basis. During 2021 within the system, carbon was replaced on May 19 and December 16, 2021, consistent with the increased flowrate and frequency of Ambersorb media regeneration.

²⁰ Based on the results of 92 samples.



4.3.4 Groundwater Extraction System Capture Data

The groundwater level and 1,4-dioxane concentration data collected during 2021 indicate that the objectives of the groundwater extraction system were met during 2021, including:

- 1. Capture of the 1,4-dioxane plume in overburden and shallow fractured bedrock groundwater within the source area.
- 2. Capture of the 1,4-dioxane plume in shallow fractured bedrock groundwater downgradient of the Site to the extent possible east of RW-13 and RW-14.
- 3. Capture of the majority of 1,4-dioxane transported within overburden as practicable prior to transport in groundwater to the unnamed stream east of the Site and Rennie Road.

Depth-to-groundwater level and calculated hydraulic head (expressed as elevation) data are summarized in **Table 6A** and **Table 6B**, respectively. Estimated fractured bedrock groundwater hydraulic head contours based on depth- to- water levels measured during September 2021 are illustrated on **Figure 5A** and **Figure 6B** (**Figure 6B** includes year 2021 1,4-dioxane concentration data for performance monitoring wells). The estimated capture zone of the on- Site groundwater treatment system is depicted on **Figure 5A**. Estimated overburden groundwater hydraulic head contours within the off-site remediation/plume area are depicted on **Figure 5B**. Cross sections depicting hydraulic head and 1,4-dioxane concentration data are included on **Figure 7A** and **Figure 7B**. Water level trends for selected wells are illustrated on **Chart 12** though **Chart 20**.

Collectively, the groundwater level data are consistent with capture of groundwater within the source area and the majority of the 1,4-dioxane plume that is present on Site. Groundwater levels on and off-site fluctuate in response to precipitation events.

Source Area

Groundwater level monitoring data collected during 2021 indicate drawdowns²¹ of the groundwater level of up to approximately 49 feet in bedrock monitoring wells proximate to the source area (GZ-PM-2L; **Chart 21**) and capture of groundwater within the source area (**Figure 6B**). Groundwater level drawdowns within GZ-PM series wells screened in bedrock proximate to the source area during 2021 range from approximately 2.6 feet (GZ-PM-4L; December) to approximately 47 feet (GZ-PM-2L; September), with the averages of the measured drawdowns in the GZ-PM series wells screened in fractured bedrock ranging from 20.5 feet (December) to 29.1 feet (March). Groundwater level drawdowns within GZ-PM series wells screened in overburden²² proximate to the source area during 2021 when water was present range from approximately 2.7 feet (GZ-PM-4U; December) to approximately 11.5 feet (GZ-PM-3U; September) with the averages of the measured drawdowns in the GZ-PM-3U; September) with the averages of the measured drawdowns in the GZ-PM-3U; Teet (December) to 9.5 feet (September). GZ-PM series groundwater level monitoring data are summarized in **Table 6A** and **Table 6B** and in plots on **Chart 20** and **Chart 21**.

Downgradient Fractured Bedrock

Water level data for downgradient on-site wells GZ-9L and GZ-9D and well GZ-17L, located along the eastern Site boundary and near the axis of the plume, continue to indicate that water level decreases have occurred within fractured bedrock downgradient of the groundwater extraction system. **Figure 5A** and **Figure 6B** depict hydraulic head contours in shallow fractured bedrock and are consistent with the capture of the 1,4-dioxane plume within the source area and as far east as Rennie Road.

²¹ Relative to pre-system startup water levels gauged on May 1, 2017.

²² Excluding well GZ-PM-6U which appears to be hydraulically isolated from the groundwater extraction system. Excludes dry wells.



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Recent decreases in water level at wells GZ-9L and GZ-9D and well GZ-17L are likely due to the startup of fractured bedrock groundwater extraction wells RW-13 and RW-14 on September 23, 2020 (**Chart 15**); however, the water levels in each of these wells was at its previous lowest level on September 14, 2020, with the water level in GZ-9D and GZ-17L decreasing further following the startup of RW-13 and RW-14. The water level also decreased by more than 20 feet in fractured bedrock groundwater monitoring wells GZ-51 and GZ-52, located east of Rennie Road, following the startup of RW-13 and RW-14. The water level in these wells increased in the spring of 2021 but remained approximately 10 feet lower than startup of RW-13 and RW-14. Decreases in water levels in on-Site bedrock groundwater monitoring well GZ-24D, anticipated to be located beyond the capture zone of the groundwater extraction system, indicate that a portion of the decrease in bedrock groundwater levels is due to decreases in local precipitation/infiltration rates (**Chart 15**).

Downgradient Overburden

The low hydraulic conductivity of the glacial till deposits and upward hydraulic gradient within the valley east of the Site limit the drawdown that can be created by the off-site overburden groundwater extraction system (*i.e.*, wells ORW-1 through ORW-15). Overburden groundwater hydraulic head contours are depicted on **Figure 5B**.

Twelve overburden performance monitoring wells (*i.e.*, GZ-OMP-6A/6B/6C/6D; GZ-OMP-11A/11B/11C/11D; and GZ-OMP-14A/14B/14C/14D) were installed during October 11 through 14, 2021 to provide additional water quality and level data for evaluation of capture. The wells are constructed in three groups, each consisting of four wells comprising two couplets at radial distances of approximately 5 feet and 10 feet downgradient of overburden groundwater extraction wells ORW-6, ORW-11, and ORW-14.

Overburden Extraction	Monitoring Well ID	Distance from Extraction	Screen Depth
Well		Well	(feet)
		(feet)	
ORW-6	OMP-6A	5	5 - 10
	OPM-6B	5	10 - 15
	OPM-6C	10	5 - 10
	OMP-6D	10	10 - 15
ORW-11	OMP-11A	5	5 - 10
	OPM-11B	5	10 - 15
	OPM-11C	10	5 - 10
	OMP-11D	10	10 - 15
ORW-14	OMP-14A	5	5 - 10
	OPM-14B	5	10 - 15
	OPM-14C	10	5 - 10
	OMP-14D	10	10 - 15

The monitoring wells were installed by New England Boring Contractors (NEBC) of Derry, NH, using drive and wash drilling methods. NEBC collected soil samples at a maximum vertical interval of 5-feet using Standard Penetration Test methods with a 2-foot long, 2-inch outer diameter (OD), 1.5-inch internal diameter (ID) split spoon soil sampler. Monitoring wells were constructed using 2-inch ID PVC screen and riser sections and completed using a protective roadway box.

GZA's field engineer observed and documented NEBC's soil sampling and well installation activities. Soil samples were texturally and visually characterized and field screened for total VOCs using a photoionization detector (PID) by GZA's field engineer. The deposits encountered while drilling the soil borings are consistent with the deposits previously encountered within the subject area (*i.e.*, glacial till deposits). GZA's boring logs, which include monitoring well installation diagrams, are presented in **Appendix F**.



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Transducers have been deployed in each of the off-site overburden groundwater extraction performance monitoring wells to evaluate long-term trends in hydraulic head to evaluate capture. The long-term hydraulic head data will be used along with 1,4-dioxane concentration data to evaluate capture and the rate of reduction in concentration within the overburden plume. Because of the limited effect of the system on groundwater level elevation, groundwater level and 1,4-dioxane concentration data collected over time in conjunction with extraction well 1,4-dioxane concentration data are needed to evaluate the performance of the off-site overburden groundwater extraction system and estimate the time needed to reach the point where further remediation of off-site overburden groundwater will become impracticable.

4.3.5 Supplemental Groundwater Monitoring

Groundwater monitoring and extraction well samples are periodically collected to supplement the Permit-required sampling and provide supplemental data for system operation.

Groundwater Extraction Well Sampling

During 2021 samples were collected of water pumped from each of the off-site overburden groundwater extraction wells during February and September and submitted to EAI for laboratory analysis of 1,4-dioxane. The results of the analyses are summarized below and in **Table 9B**. EAI's laboratory report for samples collected during February were previously submitted to the NHDES. EAI's laboratory report for the samples collected during September are included in **Appendix C**.

Unit	Extraction Well	1,	.4-dioxane concentration (μg/L)	
Date		2/23/21	9/23/21	12/17/21
Bedrock	RW-13	2.2	1.6	1.3
	RW-14	8.1	5.9	5.6
Overburden	ORW-1	21	19	-
	ORW-2	49	38	-
	ORW-3	41	29	-
	ORW-4	41	29	-
	ORW-5	59	46	-
	ORW-6	110	100	-
	ORW-7	140	110	-
	ORW-8	280	190	-
	ORW-9	340	230	-
	ORW-10	340	280	-
	ORW-11	640	490	-
	ORW-12	170	190	-
	ORW-13	200	180	-
	ORW-14	200	170	-
	ORW-15	55	47	-

The spatial distribution of 1,4-dioxane along the 350 foot overburden groundwater extraction well line suggests the axis of the plume is located near well ORW-11, which is approximately 50 feet north of the previous estimate of the location and is considered consistent with the CSM.

The combined initial flow from the overburden groundwater extraction wells is approximately 1.5 gpm. Pumping Module No. 1 effluent was also sampled for analysis of 1,4-dioxane with concentration of 140 μ g/L. While the total flow from the overburden groundwater extraction well field is limited, the higher concentrations of 1,4-dioxane result in the initial estimated rate of mass removal being greater than 20 times the mass removal rate of the on-Site system



at the end of 2020. Short and long-term performance monitoring is needed to evaluate the effects of the system on groundwater quality over time and the time to the end of active remediation.

GZ-PM Series Monitoring Wells

Groundwater samples were collected from GZ-PM series monitoring wells (GZ-PM-1U/L though GZ-PM-9L) during March, June, and September 2021 to provide additional 1,4-dioxane concentration data proximate to the source area for the evaluation of the performance of the operation of the groundwater treatment system. Samples were collected from a total of 7 of the 15 GZ-PM series monitoring wells during March, 12 of the GZ-PM series wells in June, and 11 of the GZ-PM series monitoring wells during September. The amount of water in the remaining wells was not enough to collect a sample due to dewatering by the groundwater system and/or limited infiltration of precipitation.

Samples were submitted to EAI for analysis of 1,4-dioxane by EPA Method 8260B SIM. The results of the analyses are summarized in **Table 9A** (Sample locations and dates are cross-referenced with EAI laboratory report ID numbers in **Table 4D**). Results of the analyses of samples collected for 1,4-dioxane analysis during 2021 are also summarized on **Figure 6B**.

To evaluate the effectiveness of the source remediation, changes in 1,4-dioxane concentration detected since startup of the on-Site groundwater extraction system for the GZ-PM series wells²³ are summarized, along with changes in concentration for other monitoring wells located on-Site and downgradient of the source area are summarized in **Table 11**. During 2021 samples were collected from 20 of the 21 monitoring wells included in the comparisons included in **Table 11**. While continuing to exhibit fluctuations in concentration, the data collected following startup of the remedial system also continue to indicate that decreases in the concentration of 1,4-dioxane have occurred in response to the remedial system.

Based on comparisons included in **Table 11**, the concentrations of 1,4-dioxane in samples collected from 17 of the 20 wells decreased by 26 percent (GZ-9D) to 100 percent (*i.e.*, 1,4-dioxane was not detected above the RL; GZ-PM-1U, GZ-PM-3U, and GZ-PM-9L) relative to pre remedial system startup. The concentration of 1,4-dioxane detected in samples collected from 10 of the 20 monitoring wells decreased relative to 2020²⁴, and 3 remained unchanged. Increases concentration relative to 2020 (GZ-20L, GZ-7L, GZ-10L, GZ-17L, GZ-PM-4L, GZ-PM-5L, and GZ-PM-6U) are related to fluctuations in concentration and are anticipated to be consistent with the overall decreasing concentration trend. Relative to the pre-startup data, the average of the decreases in concentration is approximately 38 µg/L, and the average of the percent change in concentration at locations where concentrations decreased is approximately 81 percent²⁵. The precent decrease in concentration is greater for source area wells (88%) and GZ-PM series wells (84%) relative to downgradient wells (71%).

The concentration of 1,4-dioxane detected in samples collected from 2 of the 21 wells (GZ-17L and GZ-PM-1L) increased relative to the initial samples. The initial 1,4-dioxane concentrations for these locations are 2.5 μ g/L (GZ-17L) and 2.7 μ g/L (GZ-PM-1L). Based on the concentration trend for well GZ-17L (**Chart 2**), the increase in concentration at well GZ-17L to 3.4 μ g/L (December 2021) is likely due to changes in the direction of groundwater flow related to the startup of fractured bedrock groundwater extraction well RW-13 during September 2021. Based on the historical data for well GZ-PM-1L, the pre-startup concentration for this well (2.7 μ g/L) may be anomalously low, or the concentration may have been increased due to the operation of the system. The concentration at this location increased to a maximum of 22 μ g/L (August 2017) following the startup of the system and has generally decreased to the present. Relative to the maximum concentration at this location, the December 2021 concentration (3.9 μ g/L) indicates a decrease of 18.1 μ g/L (approximately 82 %).

²³ Wells that have been consistently dry (GZ-PM-7U and GZ-PM-8U) or for which results of analyses have never detected 1,4-dioxane (GZ-PM-8L) are not included in the comparison.

²⁴ Based on last sample collected during 2020.

 $^{^{25}}$ Calculations exclude wells where the decrease in the detected concentration was less than 5 μ g/L due to the disproportionate effect on the average value and potential for the change to be unrelated to the operation of the remedial system.



Fluctuations in concentration within the areas of the plume downgradient of the source area and within the capture zone are apparent in the groundwater quality data and may be the result of seasonal variation in infiltration and the effects of the groundwater capture by the remedial system. The concentration of 1,4-dioxane in groundwater samples collected from the Site monitoring wells is anticipated to vary as groundwater with varying concentrations of 1,4-dioxane flows under the influence of the remedial system, past the monitoring wells, and toward the extraction wells.

GZ-OMP Series Monitoring Wells

The monitoring wells were sampled by GZA on November 3, 2021, and samples submitted to EAI for analysis of 1,4- dioxane by EPA Method 8260B SIM. The following table summarizes the results of the analyses. EA's analytical laboratory reports are included **Appendix C**.

Monitoring Well	1,4-dioxane Concentration (ug/L)
GZ-OPM-6A	62
GZ-OPM-6B	96
GZ-OPM-6C	59
GZ-OPM-6D	110
GZ-OPM-11A	69
GZ-OPM-11B	81
GZ-OPM-11C	99
GZ-OPM-11D	430
GZ-OPM-14A	250
GZ-OPM-14B	280
GZ-OPM-14C	120
GZ-OPM-14D	400

The detected concentrations of 1,4-dioxane are consistent with our understanding of the spatial distribution of 1,4- dioxane based on the sampling of monitoring and groundwater extraction wells screened within overburden off- site. The GZ-OMP series wells will be sampled periodically to evaluate changes in concentration within the plume over time.

Supplemental Overburden Groundwater Monitoring Wells

Supplemental sampling of overburden groundwater monitoring wells during 2021 included 14 wells located in the off- site groundwater remediation area. The samples were collected by GZA and submitted to EAI for analysis of 1,4- dioxane using EPA Method 8260 SIM to provide additional concentration data needed to evaluate the long-term performance of the off-site overburden groundwater extraction system. Monitoring wells sampled include GZ-40M, GZ-40L, GZ-42L, GZ-44 through GZ-50, GZ-53, GZ-54U, GZ-54D, and GZ-55. The locations of the monitoring wells are depicted on **Figure 2C**.

Except for well GZ-54U, each of the wells was sampled on March 18, 2021. The results of the analyses were previously reported in GZA's year 2020 ASR and are summarized in **Table 3A.3**. Wells GZ-47 and GZ-54U were sampled on September 24, 2021. The results of the analyses are also summarized in **Table 3A.3** and **Section 3.1.2**, and EAI's laboratory report is included in **Appendix C**.



Supplemental Fractured Bedrock Groundwater Monitoring Wells

Two wells screened in fractured bedrock and located downgradient of fractured bedrock groundwater extraction wells RW-13 and RW-14 (GZ-51 and GZ-52) were sampled by GZA on March 18, September 24, and December 17, 2021. Samples were collected from the wells to provide data needed to evaluate the influence of pumping RW-13 and RW- 14.

The samples were submitted to EAI for analysis of 1,4-dioxane using EPA Method 8260 SIM. The results of the analyses are summarized in **Table 3A.3**, and EAI's laboratory reports not previously submitted in GZA's year 2020 ASR are included in **Appendix C**. The results of the analyses indicate stable concentrations of 1,4-dioxane within the fractures intersected by GZ-51 and GZ-52, averaging 9.9 μ g/L and 4.2 μ g/L, respectively.

4.3.6 Estimate of Duration of Active Remediation for Financial Assurance

Continued collection of groundwater and remedial system performance data are necessary to calculate estimates of the duration of active remediation (*i.e.*, operation of the groundwater extraction and treatment systems).

Relative to the operation of source area groundwater extraction system, the decreases in 1,4-dioxane concentration in source area groundwater (**Table 11**), the decrease in treatment system influent concentration (**Chart 10**), and the miscibility of 1,4-dioxane (*i.e.*, dissolved-phase source) suggest that the period of active remediation of the source area will be less than 10 years (*i.e.*, to be completed prior to 2027). Notably, the treatment system influent concentration trend prior to startup of the off-site overburden wells suggests that, without the operation of the off-site groundwater extraction wells, the influent concentration might have already decreased to the point where operation of the source area groundwater extraction wells would become impracticable (*i.e.*, concentrations become too low to justify treatment). The increase in the influent concentration related to the operation of the off-site overburden groundwater extraction wells necessitates operation of the treatment system and extends the period during which it is impracticable to operate the source area groundwater extraction wells.

The decreasing influent concentration trend related to the source area is in part due to the dewatering of source area (i.e., leaving 1,4-dioxane in pore water within the unsaturated zone and reducing the rate of removal from the source area). 1,4-dioxane stranded in pore water is transported to groundwater through infiltration of precipitation, but this process is anticipated to be slower than transport within the saturated zone. Supplemental measures may be needed to remove 1,4-dioxane from the unsaturated zone, potentially including periodically turning off the groundwater pumps within the source area to allow rebound of the groundwater level and reconnection of the stranded porewater. Any change in operation will be reviewed with the NHDES prior to implementation.

Monitoring of the off-site portion of the 1,4-dioxane plume continues to indicate that the plume is in a steady state condition and water supply well monitoring indicates that no additional private water supply wells have been impacted by the Site. Notwithstanding, Dartmouth College voluntarily expanded the groundwater extraction system during 2020 to include additional capture of bedrock and overburden groundwater to accelerate the remediation of groundwater and further protect human health and the environment. Startup of the off-site groundwater extraction system was completed during January 2021.

GZA had proposed including an estimate of the time to completion of the active remediation off-site in this ASR. However, based on the available data, it is GZA's opinion that additional monitoring of 1,4-dioxane concentration trends and water level response to the operation of the off-site overburden groundwater extraction wells is needed to calculate an estimate of the time at which operation of the off-site system will become impracticable and monitored natural attenuation will become the remedial alternative for the residual contamination. This was in part due to the time need to install the GZ-OPM series monitoring wells during 2021. The likely period of active remediation will be further evaluated based on data collection completed through 2022, and an estimate of the duration of active remediation provide within the year 2022 annual summary report.



5.0 SUMMARY

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This section summarizes GZA's conclusions and the results of monitoring based on the information described in **Section 3.0** and **Section 4.0** and the CSM included in **Appendix B**.

5.1 Water Quality Monitoring and Permit Compliance

The results of Permit-required and supplemental groundwater monitoring performed during 2021 indicate compliance with the GMZ described in the Permit and are consistent with the GZA's CSM. The following subsections describe conclusions specific to groundwater, surface water, water supply well monitoring, and 1,4-dioxane transport.

5.1.1 Groundwater Monitoring Well Sampling

• The 1,4-dioxane concentration trends for off-site groundwater monitoring wells suggest the lateral and vertical extents of the plume are relatively stable. The off-site monitoring data indicate the potential for 1,4-dioxane transport northward within in the valley is limited, and discharge of the plume to the stream is occurring.

5.1.2 Surface Water Sampling

• 1,4-dioxane was not detected above the laboratory RL in samples collected from the surface water monitoring locations during 2021.

5.1.3 Water Supply Sampling

- Except for the results from the analysis of samples collected from the inactive private water supply at 9 Rennie Road, the analysis of each of the off-site residential water supply samples did not detect 1,4-dioxane above the laboratory RL. The 9 Rennie Road property is currently vacant and is owned by Dartmouth College.
- The analysis of samples from the residential water supply well at 9 Rennie Road during the 2021 detected 1,4-dioxane at concentrations ranging from 8.6 µg/L to 14 µg/L. The results of the analyses are generally consistent with the results of the analysis of samples collected during prior years but indicate overall higher and more stable concentrations of 1,4-dioxane that, in the absence of withdrawals from the water supply well, likely reflect the concentration in groundwater.

5.1.4 <u>1,4-dioxane Transport</u>

- The spatial distribution of the 1,4-dioxane concentration and hydraulic head data collected during 2021 are consistent with previously collected data and advective 1,4-dioxane transport, including:
 - Historic transport of 1,4-dioxane within groundwater vertically downward through overburden and into fractured bedrock within in the source area, with subsequent transport toward the east and northeast within the fractured bedrock groundwater system.
 - Historic 1,4-dioxane transport within the fractured bedrock groundwater system consistent with the dominant northeast trending and steeply dipping bedrock fracture orientation.
 - Lateral and vertical 1,4-dioxane concentration gradients indicate that the vertical axis of the plume, downgradient of the capture zone of the groundwater extraction system, transitions from fractured bedrock to overburden at approximately elevation 850 feet to elevation 860 feet at a location east of Rennie Road.
 1,4- dioxane is transported laterally and vertically upward relative to the ground surface, discharging through the glacial till deposits, eventually flowing to the unnamed tributary to Hewes Brook, where it is diluted within the flow of surface water.



 Limited underflow of the stream in the valley area occurs, as indicated by the detection of low concentrations of 1,4-dioxane in samples collected from bedrock groundwater monitoring well GZ-37D. The underflow is estimated to be limited to the areas surrounding the stream by the convergent groundwater flow to the west associated with the upland area to the east of the stream.

5.2 <u>Groundwater Remediation System Monitoring</u>

- Collectively, the treatment system performance data indicate that the combined groundwater extraction and treatment systems are meeting the remedial objectives and performance criteria.
- Effluent water quality throughout 2021 met the RGP Effluent Limitations.
- 1,4-dioxane concentration data collected following startup of the remedial system continue to indicate that overall decreases in the concentration of 1,4-dioxane have occurred within the capture zone. The concentrations of 1,4- dixoane at 17 of 20 wells decreased by 26 percent to 100 percent relative to the pre-startup data. The average of the decreases in concentration is approximately 28 µg/L, and the average of the percent change in concentration at locations where concentrations decreased is approximately 69 percent.
- During 2021 the treatment system flow rate was between approximately 1.3 gpm to 12.1 gpm (arithmetic average 8.1 gpm). Approximately 4,130,677 gallons of groundwater were treated by the groundwater treatment system during 2021, which is approximately 126 percent greater than during 2020. The increase flow rate trend is due to the operation of groundwater extraction wells RW-13, RW-14, and ORW-1 through ORW-15.
- The detected concentrations of 1,4-dioxane in treatment system influent samples ranged from 5.5 μg/L to 36 μg/L (average 19.2 μg/L). Influent concentrations increased from a low of 3.7 μg/L due to the operation of off-site overburden groundwater extraction wells ORW-1 through ORW-15.
- The groundwater level and 1,4-dioxane concentration data collected during 2021 indicate that the objectives of the groundwater extraction system were met during 2021, including:
 - Capture of the 1,4-dioxane plume in overburden and shallow fractured bedrock groundwater within the source area.
 - Capture of the 1,4-dioxane plume in shallow fractured bedrock groundwater downgradient of the Site to the extent possible east of RW-13 and RW-14.
 - Capture of the majority of 1,4-dioxane transported within overburden as practicable prior to transport in groundwater to the unnamed stream east of the Site and Rennie Road.
- The low hydraulic conductivity of the glacial till deposits and upward hydraulic gradient within the valley east of the Site limit the drawdown that can be created by the off-site overburden groundwater extraction system. Because of the limited effect of the system on groundwater level elevation, groundwater level and 1,4-dioxane concentration data collected over time in conjunction with extraction well 1,4-dioxane concentration data are needed to evaluate the performance of the off-site overburden groundwater extraction system and estimate the time needed to reach the point where off-site overburden groundwater will become impracticable.
- Additional monitoring of 1,4-dioxane concentration trends and water level response to the operation of the off- site overburden groundwater extraction wells is needed to calculate an estimate of the time at which operation of the off-site system will become impracticable, and monitored natural attenuation will become the remedial alternative for the residual contamination.



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6.0 **RECOMMENDATIONS**

Based on our understanding of Site conditions and the results of monitoring during 2021, GZA recommends continued operation of the remedial systems constructed on-Site and off-site.

GZA also recommends continued collection of supplemental hydraulic head and water quality data as needed to evaluate concentration trends and estimate the time at which the operation of the off-site groundwater extraction system will become impracticable (*i.e.*, concentrations become too low to justify treatment) and requests an extension of the time originally proposed to complete the evaluation and determination of the need for Financial Assurance plan²⁶. GZA currently anticipates that an estimate of the time to discontinuation of the active phase of the remediation can be prepared and included within the ASR for 2022. This request for an extension consider the limited operational time of the off-site system and available performance monitoring data; the stability of the 1,4-dioxane plume; lack of human receptors; success of the source remediation measures, and voluntary nature and operational condition of the off-site groundwater extraction system constructed by Dartmouth.

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²⁶ As required under State of New Hampshire Code of Administrative Rues Env-Or 606.02.



Tables

TABLE 1 SUMMARY OF PREVIOUSLY COMPLETED REPORTS

Dartmouth College, Rennie Farm Site Hanover, New Hampshire DES Site #201111109, DES Project #27737

Date	Report Title	Author	Subject
9-Dec-11	Dartmouth College Rennie Farm Site, Discovery and Management of Chemical Wastes, Etna, New Hampshire	G7A	VOC contaminated soil discovery and management
5 500 11	Dartmouth conege hemile rann site, Discovery and Wandgement of enemical wastes, Etha, New Hampshire		
17-Jan-12	Dartmouth College Rennie Farm Site, Chemical Waste Management/Groundwater Monitoring Program, Etna, New Hampshire		VOC contaminated soil discovery and management
14-Jun-12	Dartmouth College Rennie Farm Site, Groundwater Monitoring Results/Notice of AGQS Exceedance, Etna, New Hampshire		Notification of detection of 1,4-dioxane in groundwater
15-Jan-13	Groundwater Monitoring Results for July and November Sampling Events, Dartmouth College Rennie Farm Site, Etna, New Hampshire		Water quality monitoring
17-Jan-14	Groundwater Monitoring Results for 2013 Sampling Events, Dartmouth College Rennie Farm Site, Etna, New Hampshire		Water quality monitoring
24-Jun-14	Supplemental Hydrogeologic Investigation Work Plan, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		Supplement Site Investigation (SSI) work plan
31-Dec-14	Letter Report and Work Plan, Supplemental Hydrogeologic Investigation, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		SSI results and work plan for additional investigations
1-Sep-15	Work Plan, Off-Site Water Supply Well Sampling, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		Summary of SSI activities and work plan for off-site water supply sampling
11-Nov-15	Letter Report, Off-site Water Supply Well Sampling, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		Summary of off-site water supply sampling
2-Dec-15	Work Plan, Supplemental Hydrogeologic Investigation – Phase I, Groundwater Management Zone Delineation and Water Supply Investigation, Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		SSI Work Plan including two phases of SSI activities, with activities focused on on-site (Phase I) and off- site (Phase II) investigations
10-Feb-16	Water Quality Monitoring Summary, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		Interim summary of groundwater quality data provide at the request of NHDES
6-May-16	Report Phase I - Supplemental Hydrogeologic Investigation, Groundwater Management Zone Delineation and Water Supply Investigation, Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, NHDES site No. 201111109, DES Project No. 277737		Results of Phase I SSI and proposal for Phase II SSI
25-Jul-16	License No. 276R Amendment Request, Rennie Farm Decommissioning, Laboratory Waste Test Pit Excavation Work Plan, Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, DES Site No. 201111109, Project No. 27737		Work plan describing laboratory waste encountered in test pit excavations and proposed removal of the waste
5-Aug-16	Revised License No. 276R Amendment Request, Rennie Farm Decommissioning, Laboratory Waste Test Pit Excavation Work Plan, Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, DES Site No. 201111109, Project No. 27737		Version of July 25, 2016 work plan revised to address NHDES and NHRHS comments
1-Sep-16	Remedial Action Plan Report, Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, NHDES site No. 201111109, DES Project No. 277737		Remedial Action Plan (RAP) summarizing additional on site investigations and proposing groundwater extraction and treatment as a remedial approach

TABLE 1 SUMMARY OF PREVIOUSLY COMPLETED REPORTS

Dartmouth College, Rennie Farm Site Hanover, New Hampshire DES Site #201111109, DES Project #27737

Date	Report Title	
28-Sep-16	Work Plan Addendum, Supplemental Hydrogeologic Investigation – Phase II, Groundwater Management Zone Delineation, Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, NHDES site No. 201111109, DES Project No. 277737	
25-Oct-16	Work Plan Addendum, Proposed Borehole Geophysical Logging and Groundwater Sampling, 668 Hanover Center Road, Hanover, New Hampshire (Ivan and Olga Garlova Property), Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
23-Nov-16	Remedial Design Monitoring Well Data Summary, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
12-Feb-16	Remedial Design Plans and Construction Specifications Report, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
27-Dec-16	Application for Temporary Groundwater Discharge Permit, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
10-Feb-17	Data Transmittal, Initial Treatment System Analytical Data, Temporary Groundwater Discharge Permit (Permit), Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
8-Mar-17	Source Investigation – 668 Hanover Center Road, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
7-Apr-17	National Pollution Discharge Elimination System, Notice of Intent (NOI), Remediation General Permit, Rennie Farm Site, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
14-Jul-17	Phase II - Supplemental Hydrogeologic Investigation, Groundwater Management Zone Delineation and Application for Groundwater Management Permit, Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
10-Nov-17	Remediation General Permit Effluent Limitation Violation Documentation, Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
16-Nov-17	Data Transmittal - September 2017 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
14-Mar-18	Annual Summary Report - 2017 Annual Summary Report, groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
11-May-18	Data Transmittal - March 2018 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
3-Aug-18	Data Transmittal - June 2018 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
14-Nov-18	Data Transmittal - September 2018 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737	
30-Nov-18	Results of Initial PFAS Screening, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 2777737	

Author	Subject					
GZA	Work plan proposing additional off-site monitoring well locations					
	Nork plan proposing source investigations related to the water supply well at 668 Hanover Center Road					
	Summary of preliminary results in support of remedial design					
	Description of remedial design proposed in the RAP					
	Application to discharge treated water from the groundwater extraction and treatment system under a Temporary Groundwater Discharge Permit (TGWDP) until authorization to discharge treated water under the EPA Remediation General Permit can be obtained					
	Initial treatment system performance monitoring data performed under the TGWDP					
	Results of source investigations related to the water supply well at 668 Hanover Center Road					
	Notice of Intent to discharge treated groundwater under the EPA Region One Remediation General Permit.					
	Results of Phase II hydrogeologic investigation, including off-site investigations, and source area excavation; includes Groundwater Management Permit application					
	Documentation of Effluent Limitation violation and response actions					
	September 2017 Groundwater Management Permit-related sampling round results					
	2017 Groundwater Management annual summary results and discussion					
	March 2018 Groundwater Management Permit-related sampling round results					
	June 2018 Groundwater Management Permit-related sampling round results					
	September 2018 Groundwater Management Permit-related sampling round results					
GZA	PFAS sampling results in groundwater					

Dartmouth College, Rennie Farm Site Hanover, New Hampshire DES Site #201111109, DES Project #27737

Date	Report Title	Author	Subject
29-Mar-19	Annual Summary Report - 2018 Annual Summary Report, groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		2018 Groundwater Management annual summary results and discussion
14-May-19	Data Transmittal - March 2019 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		March 2019 Groundwater Management Permit-related sampling round results
30-Jul-19	Data Transmittal - June 2019 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		June 2019 Groundwater Management Permit-related sampling round results
18-Nov-19	Data Transmittal - September 2019 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		September 2019 Groundwater Management Permit-related sampling round results
23-Mar-20	Remedial Design Plans and Construction Specifications Report, Groundwater Extraction System Expansion, Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737, Groundwater Management Permit No. GWP-201111109-H-001		Results of off-site subsurface investigation and groundwater extraction system expansion design plans and construction specifications
14-Apr-20	Annual Summary Report - 2019 Annual Summary Report, groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		2019 Groundwater Management annual summary results and discussion
11-May-20	Data Transmittal - March 2020 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		March 2020 Groundwater Management Permit-related sampling round results
29-Jul-20	Data Transmittal - June 2020 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		June 2020 Groundwater Management Permit-related sampling round results
8-Dec-20	Data Transmittal - September 2020 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		September 2020 Groundwater Management Permit-related sampling round results
1-Jul-21	Annual Summary Report - 2020 Annual Summary Report, groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		2020 Groundwater Management annual summary results and discussion
13-Oct-21	Data Transmittal - June 2021 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		June 2021 Groundwater Management Permit-related sampling round results
8-Nov-21	Data Transmittal - September 2021 Water Quality Monitoring Round, Groundwater Management Permit GWP-201111109-H-001, Dartmouth College, Rennie Farm Site, Hanover Center Road, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737		September 2021 Groundwater Management Permit-related sampling round results

Notes:

1. NHDES and DES indicate New Hampshire Department of Environmental Services; NHRHS indicates New Hampshire Radiological Health Section; EPA indicates United States Environmental Protection Agency. 2. SSI indicates supplemental site investigation; RAP indicates remedial action plan.
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Well ID	Screened Hydrogeologic Unit	Ground Surface Elevation	PVC/TOC Reference Point Elevation	Depth to Bedrock	Bedrock Surface Elevation	Top of Well Screen Depth	Top of Well Screen Elevation	Bottom of Well Screen Depth	Bottom of Well Screen Elevation
GZ-1	Bedrock	1,083.6	1,086.73	6.0	1,077.6	6.5	1,077.1	11.5	1,072.1
GZ-2	Overburden	1,077.9	1,081.91	12.5	1,065.4	8.0	1,069.9	13.0	1,064.9
GZ-3	Overburden	1,076.8	1,079.93	14.5	1,062.3	4.5	1,072.3	14.5	1,062.3
GZ-4	Overburden	1,081.2	1,084.47	-	-	7.0	1,074.2	12.0	1,069.2
GZ-5U	Overburden	1,043.2	1,045.57	12.0	1,031.2	8.0	1,035.2	13.0	1,030.2
GZ-5L	Bedrock	1,042.6	1,045.37	18.5	1,024.1	25.0	1,017.6	30.0	1,012.6
GZ-6	Overburden	1,062.4	1,065.04	10.0	1,052.4	6.0	1,056.4	11.0	1,051.4
GZ-7U	Overburden	1,061.5	1,064.44	25.0	1,036.5	20.0	1,041.5	25.0	1,036.5
GZ-7L	Bedrock	1,061.8	1,064.71	25.0	1,036.8	28.0	1,033.8	33.0	1,028.8
GZ-8U	Overburden	1,046.3	1,049.28	-	-	12.0	1,034.3	17.0	1,029.3
GZ-8L	Bedrock	1,046.4	1,049.38	17.0	1,029.4	28.0	1,018.4	33.0	1,013.4
GZ-9U	Overburden	1,009.1	1,011.31	-	-	12.0	997.1	17.0	992.1
GZ-9L	Bedrock	1,008.1	1,010.33	23.0	985.1	37.5	970.6	42.5	965.6
GZ-9D	Bedrock	1,007.5	1,009.93	19.0	988.5	83	924.5	93	914.5
GZ-10U	Overburden	999.6	1,002.09	8.0	991.6	3.0	996.6	8.0	991.6
GZ-10L	Bedrock	999.8	1,002.50	9.2	990.6	20.0	979.8	25.0	974.8
GZ-11U	Overburden	985.3	987.97	4.0	981.3	4.0	981.3	9.0	982.3
GZ-11L	Bedrock	985.6	988.34	4.0	981.6	15.0	970.6	20.0	965.6
GZ-12L	Bedrock	1,080.6	1,083.29	7.5	1,073.1	9.0	1,071.6	14.0	1,066.6
GZ-13L	Bedrock	1,080.9	1,083.52	5.5	1,075.4	11.0	1,069.9	15.0	1,065.9
GZ-14U	Overburden	1,079.5	1,081.87	6.0	1,073.5	12.5	1,067.0	7.8	1,071.7
GZ-14L	Bedrock	1,079.7	1,082.06	6.0	1,073.7	12.5	1,067.2	16.0	1,063.7
GZ-15L	Bedrock	1,085.2	1,087.65	11.5	1,073.7	27.8	1,057.4	37.8	1,047.4
GZ-16D	Bedrock	1,089.5	1,090.83	2.0	1,087.5	18.0	1,071.5	260.0	829.5
GZ-17L	Bedrock	968.9	971.40	23.0	945.9	48.0	920.9	53.0	915.9

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Well ID	Screened Hydrogeologic Unit	Ground Surface Elevation	PVC/TOC Reference Point Elevation	Depth to Bedrock	Bedrock Surface Elevation	Top of Well Screen Depth	Top of Well Screen Elevation	Bottom of Well Screen Depth	Bottom of Well Screen Elevation
GZ-18U	Overburden	1,077.6	1,080.06	12.7	1,064.9	5.0	1,072.6	10.0	1,067.6
GZ-18L	Bedrock	1,077.7	1,080.67	12.7	1,065.0	16.0	1,061.7	21.0	1,056.7
GZ-19U	Overburden	1,077.3	1,080.46	11.0	1,066.3	5.0	1,072.3	10.0	1,067.3
GZ-19L	Bedrock	1,077.1	1,080.03	11.0	1,066.1	15.0	1,062.1	20.0	1,057.1
GZ-20U	Overburden	1,080.4	1,083.16	9.5	1,070.9	3.5	1,076.9	8.5	1,071.9
GZ-20L	Bedrock	1,080.4	1,083.52	9.5	1,070.9	14.0	1,066.4	19.0	1,061.4
GZ-22U	Overburden	1,079.2	1,078.66	8.2	1,071.0	3.2	1,076.0	8.2	1,071.0
GZ-23U	Overburden	1,080.2	1,083.13	8.5	1,071.7	4.5	1,075.7	8.5	1,071.7
GZ-24U	Overburden	983.2	984.92	-	-	13.5	969.7	18.5	964.7
GZ-24L	Bedrock	982.9	984.75	25.0	957.9	31.0	951.9	36.0	946.9
GZ-24D	Bedrock	982.5	984.99	25.0	957.5	72.0	910.5	82.0	900.5
GZ-25U	Overburden	859.0	861.47	-	-	20.0	839.0	25.0	834.0
GZ-25L	Overburden	858.0	860.25	-	-	42.0	816.0	47.0	811.0
GZ-25D	Bedrock	858.6	861.17	81.0	777.6	90.0	768.6	105.0	753.6
GZ-26U	Overburden	881.9	884.12	-	-	15.0	866.9	20.0	861.9
GZ-26D	Bedrock	882.0	no well	31.0	851.0	80.0	802.0	85.0	797.0
GZ-27U	Overburden	897.0	898.83	-	-	19.0	878.0	24.0	873.0
GZ-27L	Overburden	897.1	899.13	-	-	46.4	850.7	51.4	845.7
GZ-27D	Bedrock	896.4	898.23	69.0	827.4	70.5	825.9	80.5	815.9
GZ-28U	Overburden	906.0	907.91	-	-	45.0	861.0	50.0	856.0
GZ-28L	Overburden	906.0	908.15	-	-	69.0	837.0	79.0	827.0
GZ-28D	Bedrock	905.9	908.24	102.0	803.9	107.5	798.4	122.5	783.4
GZ-29L	Bedrock	1,011.6	1,014.01	5.4	1,006.2	25.0	986.6	40.0	971.6
GZ-30U	Bedrock	1,081.3	1,083.65	2.0	1,079.3	13.0	1,068.3	18.0	1,063.3
GZ-30L	Bedrock	1,080.9	1,083.47	2.0	1,078.9	30.0	1,050.9	40.0	1,040.9
GZ-31L	Bedrock	1,084.1	1,086.72	6.0	1,078.1	26.5	1,057.6	41.5	1,042.6

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Well ID	Screened Hydrogeologic Unit	Ground Surface Elevation	PVC/TOC Reference Point Elevation	Depth to Bedrock	Bedrock Surface Elevation	Top of Well Screen Depth	Top of Well Screen Elevation	Bottom of Well Screen Depth	Bottom of Well Screen Elevation
GZ-32U	Overburden	834.4	836.09	-	-	27.0	807.4	32.0	802.4
GZ-32L	Overburden	834.3	836.78	-	-	63.0	771.3	68.0	766.3
GZ-32D	Bedrock	836.3	838.03	70.0	766.3	112.0	724.3	122.0	714.3
GZ-33U	Overburden	847.6	849.32	-	-	15.0	832.6	20.0	827.6
GZ-33L	Overburden	848.4	850.22	-	-	45.0	803.4	50.0	798.4
GZ-34U	Overburden	891.8	894.44	-	-	15.5	876.3	20.5	871.3
GZ-34L	Bedrock	892.2	894.46	60.0	832.2		892.2		892.2
GZ-34D	Bedrock	892.4	894.40	60.0	832.4	120.0	772.4	130.0	762.4
GZ-35U	Overburden	868.3	870.96	-	-	40.0	828.3	45.0	823.3
GZ-35L	Overburden	867.5	869.56	-	-	64.0	803.5	69.0	798.5
GZ-35D	Bedrock	867.8	868.75	84.0	783.8	104.0	763.8	124.0	743.8
GZ-36U	Overburden	823.0	825.06	-	-	20.5	802.5	25.5	797.5
GZ-37U	Overburden	896.2	898.02	-	-	15.0	881.2	20.0	876.2
GZ-37L	Bedrock	896.4	898.26	72.0	824.4	85.0	811.4	95.0	801.4
GZ-37D	Bedrock	896.7	898.27	72.0	824.7	123.0	773.7	143.0	753.7
GZ-38U	Overburden	891.0	892.94	-	-	14.0	877.0	19.0	872.0
GZ-39U	Overburden	888.7	890.62	-	-	9.5	879.2	14.5	874.2
GZ-39L	Overburden	889.4	891.31	-	-	22.5	866.9	27.5	861.9
GZ-39D	Bedrock	888.7	890.65	49.0	839.7	94.0	794.7	99.0	789.7
GZ-40U	Overburden	876.7	878.62	-	-	10.0	866.7	15.0	861.7
GZ-40M	Overburden	876.5	878.79	-	-	30.0	846.5	35.0	841.5
GZ-40L	Overburden	877.3	879.63	-	-	50.0	827.3	55.0	822.3
GZ-40D	Bedrock	875.9	877.87	64.0	811.9	76.5	799.4	86.5	789.4
GZ-41U	Overburden	876.8	878.82	-	-	10.0	866.8	15.0	861.8
GZ-42U	Overburden	858.6	860.53	-	-	14.5	844.1	19.5	839.1
GZ-42L	Overburden	859.4	861.72	-	-	30.0	829.4	35.0	824.4

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Well ID	Screened Hydrogeologic Unit	Ground Surface Elevation	PVC/TOC Reference Point Elevation	Depth to Bedrock	Bedrock Surface Elevation	Top of Well Screen Depth	Top of Well Screen Elevation	Bottom of Well Screen Depth	Bottom of Well Screen Elevation
GZ-43U	Overburden	1,075.4	1,077.80	8.2	1,067.2	5.0	1,070.4	13.0	1,062.4
GZ-44	Overburden	852.6	854.90	-	-	10.0	842.6	15.0	837.6
GZ-45	Overburden	856.5	858.81	-	-	10.0	846.5	15.0	841.5
GZ-46	Overburden	863.8	866.16	-	-	15.0	848.8	20.0	843.8
GZ-47	Overburden	871.5	873.83	-	-	43.0	828.5	48.0	823.5
GZ-48	Overburden	888.0	890.29	-	-	10.0	878.0	15.0	873.0
GZ-49	Overburden	902.8	905.15	-	-	10.0	892.8	15.0	887.8
GZ-50	Overburden	922.5	924.87	-	-	10.0	912.5	15.0	907.5
GZ-51	Bedrock	938.7	941.16	20.0	918.7	54.0	884.7	64.0	874.7
GZ-52	Bedrock	942.2	945.17	20.0	922.2	49.0	893.2	79.0	863.2
GZ-53	Overburden	871.8	874.09	-	-	15.0	856.8	20.0	851.8
GZ-54U	Overburden	872.8	875.09	-	-	20.1	852.7	25.1	847.7
GZ-54D	Overburden	872.8	875.15	-	-	61.3	811.5	66.3	806.5
GZ-55	Overburden	871.9	874.21	62.5	809.4	60.0	811.9	65.0	806.9
GZ-PM-1U	Bedrock	1,075.3	1,077.48	33.0	1,042.3	30.0	1,045.3	40.0	1,035.3
GZ-PM-1L	Bedrock	1,075.4	1,077.43	33.0	1,042.4	53.0	1,022.4	58.0	1,017.4
GZ-PM-2U	Bedrock	1,075.4	1,077.24	6.0	1,069.4	33.0	1,042.4	48.0	1,027.4
GZ-PM-2L	Bedrock	1,072.1	1,073.93	6.0	1,066.1	68.5	1,003.6	78.5	993.6
GZ-PM-3U	Overburden	1,072.2	1,074.05	11.0	1,061.2	5.0	1,067.2	15.0	1,057.2
GZ-PM-3L	Bedrock	1,079.7	1,081.97	10.1	1,069.6	25.0	1,054.7	50.0	1,029.7
GZ-PM-4U	Overburden	1,079.4	1,081.61	9.0	1,070.4	2.0	1,077.4	20.0	1,059.4
GZ-PM-4L	Bedrock	1,077.3	1,080.28	9.0	1,068.3	30.0	1,047.3	45.0	1,032.3
GZ-PM-5U	Overburden	1,078.0	1,080.36	13.0	1,065.0	10.0	1,068.0	20.0	1,058.0
GZ-PM-5L	Bedrock	1,072.4	1,074.38	13.0	1,059.4	20.0	1,052.4	50.0	1,022.4
GZ-PM-6U	Overburden	1,072.2	1,074.41	14.0	1,058.2	5.0	1,067.2	15.0	1,057.2
GZ-PM-7U	Overburden	1,075.3	1,077.36	20.0	1,055.3	10.0	1,065.3	20.0	1,055.3
GZ-PM-8U	Overburden	1,077.8	1,080.18	-	-	9.5	1,068.3	14.5	1,063.3
GZ-PM-8L	Bedrock	1,079.2	1,081.29	17.0	1,062.2	25.0	1,054.2	50.0	1,029.2
GZ-PM-9L	Bedrock	1,079.3	1,081.48	9.5	1,069.8	19.5	1,059.8	49.5	1,029.8

Dartmouth College, Rennie Farm Site Hanover, New Hampshire DES Site #201111109, DES Project #27737

Well ID	Screened Hydrogeologic Unit	Ground Surface Elevation	PVC/TOC Reference Point Elevation	Depth to Bedrock	Bedrock Surface Elevation	Top of Well Screen Depth	Top of Well Screen Elevation	Bottom of Well Screen Depth	Bottom of Well Screen Elevation
GZ-OPM-6A	Overburden	869.4	869.07	-	-	5.0	864.4	10.0	859.4
GZ-OPM-6B	Overburden	869.4	869.02	-	-	15.0	854.4	20.0	849.4
GZ-OPM-6C	Overburden	869.2	868.92	-	-	5.0	864.2	10.0	859.2
GZ-OPM-6D	Overburden	869.3	869.02	-	-	15.0	854.3	20.0	849.3
GZ-OPM-11A	Overburden	869.4	869.17	-	-	5.0	864.4	10.0	859.4
GZ-OPM-11B	Overburden	869.3	868.97	-	-	15.0	854.3	20.0	849.3
GZ-OPM-11C	Overburden	869.0	868.71	-	-	5.0	864.0	10.0	859.0
GZ-OPM-11D	Overburden	869.1	868.77	-	-	15.0	854.1	20.0	849.1
GZ-OPM-14A	Overburden	867.5	867.21	-	-	5.0	862.5	10.0	857.5
GZ-OPM-14B	Overburden	867.7	867.30	-	-	15.0	852.7	20.0	847.7
GZ-OPM-14C	Overburden	867.5	867.21	-	-	5.0	862.5	10.0	857.5
GZ-OPM-14D	Overburden	867.4	867.15	-	-	15.0	852.4	20.0	847.4
WSW-1	Bedrock	1,080.2	1,082.38	22.0	1,058.2	120.0	960.2	580.0	500.2

Notes:

1. Units are feet.

2. Vertical datum is NAVD 88.

3. Overburden encountered in borings by GZA generally consist of glacial till deposits.

4. Well screen depths are relative to ground surface elevation; depth-to-groundwater is relative to top of PVC riser of monitoring well.

5. "-" indicates no data/not measured.

6. Ground surface and reference elevations are based on surveys by WSP Transportation and Infrastructure during October 2014, June 2015, January 2016, June 2016, and January 2017, and level elevation surveys by GZA during April and July 2019, and November 2021.

7. PVC indicates top of PVC well riser; TOC indicates top of protective well casing.

Date Sampled	GZ-1/R	GZ-2	GZ-3	GZ-4	GZ-12L	GZ-13L	GZ-14U	GZ-14L	GZ-18U	GZ-18L	GZ-19U	GZ-19L	GZ-20U	GZ-20L	GZ-22U	GZ-23U	GZ-43U
11/20/2009	-	-	-	-													
10/12/2010	-	-	-	-													
5/19/2011	-	-	-	-													
10/27/2011	-	-	-	-													
11/29/2011	<50	<50	<50	<50													
12/5/2011	_	_	_	-													
12/12/2011	-	-	-	-													
12/19/2011																	
12/13/2011		150		.50													
4/19/2012	-	150	<50	<50													
5/23/2012	-	190	<50	<50													
7/25/2012	-	250/370*	<50/30*	-													
11/30/2012	-	160/220*	<50/32*	-													
3/13/2013	-	170/220*	<50/<0.25*	<50/1.4*													
6/20/2013	-	90/71*	<50/3.9*	<50/0.59*													
7/31/2013	-	120/150*	<50/4.2*	<50/0.37*													
9/25/2013	-	140/120*	<50/25*	<50/<0.25*													
12/19/2013	-	90/94*	<50/59*	<50/<0.25*													
4/17/2014	-	<50/9.6*	<50/19*	<50/<0.25*													
6/12/2014	-	<50/91*	<50/2.7*	<50/<0.25*													
8/22/2014	dry	160	21	dry													
9/5/2014	-	_	-	, _													
7/8/2015	<0.25	47	2.7	<0.25													
7/32/2015	-0.25	47	2.7	<0.25													
//22/2015	_	-	-	-													
9/15/2015	-	-	-	-													
10/1/2015	-	-	-	-													
11/10/2015	-	-	52	-													
12/9/2015	-	37/40	38	-													
1/6/2016	-	15	17	-													
2/11/2016	-	27	8.5	-	2.4	0.65	550	27									
2/19/2016	-	-	-	-	-	-	-	-									
3/8-9/2016	-	13	4.4	-	1.5	0.45	600	13									
4/11/2016	-	21	4.3	-	0.96	0.39	560	27									
4/21/2016	-	-	-	-	-	-	-	-									
5/11-13/2016	_	51	2.1	-	-	_	500	49									
6/23-24/2016	-	90	4.8	-	-	-	drv	170	89	67	51	19	drv	3.2	drv	drv	
7/18 10/2016		08	dry		day	day	dry	dry	day	70	dry	69	dry	6.9	dry	dry	
//18-19/2010	-	90	dry	-	diry	dry	dry	dry	dry	70	dry	00	dry	0.8	dry	dry	
8/18/2016	-	ary	dry	-	dry	dry	dry	dry	dry	dry	dry	ary	dry	13	dry	dry	
9/15-20/2016	-	-	dry	dry	dry	dry	dry	dry	dry	dry	dry	-	dry	16	-	dry	
10/27/2016	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	-	dry	20	-	dry	
11/29/2016	-	dry	dry	-	-	-	-	250	-	190	-	73	-	-	-	-	
12/2-8/2016	-	75	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/28-29/2016	-	74	15	dry	dry	1.8	34	120	dry	88	dry	53	dry	43	dry	<0.25	
1/18/2017	-	-	-	-	-	-	-	-	97	-	dry	-	dry	-	-	dry	dry
1/24/2017	-	37	37	-	-	-	-	81	-	-	-	-	-	10	-	-	dry
2/21-24/2017	-	50	64	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8
3/27-29/2017	-	4.0	33	-	-	-	-	39	-	-	-	-	37	2.7	-	-	-
4/24/2017	-	9.6	20	-	-	-	140	23	-	-	-	-	-	-	-	-	12
5/17/2017	<0.25	24	12	-	-	_	-	58	-	30	dry	_	_	_	-	-	_
6/19/2017	dry	15	15	dry	dry	_	dry	180	dry	15	drv	42	dry	_	_	_	_
7/27/2017	drv	drv	drv	, drv	drv	_	, drv	drv	, drv	5.1	, drv	drv	, drv	0.85	<u> </u>	drv	_
8/25/2017		dry	dry	dry	dry	dry	J	,	dry	dry	drv	dry	dry	A D	<u> </u>	dry	
0/28/2017	- 	dry	dry	dry	dry	dry	dev	- 	dry	dry	dry	dry	dry	4.2	dev	diy diy	dev
9/28/2017	ury	dry	dry	ary	ury	ary	dry	dry	ury	ury	dry	ury	ary	4.5	ury	ury	dry
12/11-22/2017	-	ary	-	-	-	-	dry	dry	-	-	-	-	-	-	-	-	-
3/22/2018	-	dry	48	-	-	-	dry	36	dry	14	dry	dry	dry	1.4	Could not locate	dry	-
6/22/2018	-	8.9	-	-	-	-	dry	dry	-	-	-	-	-	-	-	-	-
9/10/2018	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	5.8	Could not locate	dry	dry
12/14-20/2018	-	2.5	-	-	-	-	dry	120	-	-	-	-	-	-	-	-	-
3/19-22/2019	-	dry	19	-	-	-	-	150	-	20	-	-	<0.2	0.97	Could not locate	-	-
6/21/2019	-	16	-	-	-	-	dry	110	-	-	-	-	-	-	-	-	-
9/12/2019	dry	27	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	30	Could not locate	dry	dry
12/13/2019	-	5.9	-	-	-	-	dry	27	-	-	-	-	-	-	- 1	-	-
3/11/2020	-	1.1	5.7	<u> </u>	-	-	5.5	40	0.86	3.6	0.57	4.5	<0.2	0.74	25	<0.2	-
6/9/2020	_	10	-		_	_	drv	drv	-	_	-	-	_			_	_
9/18/2000	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
12/10/2020	ury	ury 2 1	ury		ury	ury	dry	day	ury	ury	ury	ury	ury	ury		ury	ury
12/10/2020	-	3.2	-	-	-	-	ury	ury	-		-	-	-	-		-	-
3/15/2021	-	ary	ary	-	-	-	ary	ary	ary	ary	ary	ary	ary	1.5	0.39	ary	ary
6/14/2021	-	11	-		-	-	dry	dry	-	-	-	-	-	-	-	-	-
9/22/2021	dry	22 ⁸	dry	dry	dry	dry	dry	dry	dry	23	dry	dry	dry	10	1.3	dry	dry
12/16/2021	-	1.4	-	-	-	-	dry	17	-	-	-	-	-	-	-	-	-

Notes:

1. Data indicate concentrations of 1,4-dioxane in micrograms per liter.

2. "<" indicates that 1,4-dioxane was not detected above the referenced reporting limit. 3. "/" indicates results of labeled and blind duplicate sample, respectively.

4. "-" indicates sampling location not included in respective sampling round.

1,4-DIOXANE CONCENTRATION DATA – SOURCE AREA GROUNDWATER MONITORING LOCATIONS

Dartmouth College, Rennie Farm Site Hanover, New Hampshire

DES Site #201111109, DES Project #27737

5. "dry" indicates no water in monitoring well at the time of the respective sampling round.

6. "Value/Value*" indicates analysis for 1,4-dioxane performed using EPA Method 8260B and 8260B SIM, respectively.

7. Shaded cells indicate well location was not installed at the time of the referenced sampling round. 8. Indicates GZ-2 resampled on October 14, 2021 based on comment included in laboratory report regarding potential lack of representativeness of sample collected on September 22, 2021 (21 ug/L).

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Date Sampled	GZ-5U	GZ-5L	GZ-6	GZ-7U	GZ-7L	
11/20/2009						
10/12/2010	•					
10/12/2010						
5/19/2011						
10/27/2011						
11/29/2011						
12/5/2011						
12/12/2011						
12/12/2011						
12/19/2011						
4/19/2012						
5/23/2012						
7/25/2012						
11/20/2012						
11/30/2012						
3/13/2013						
6/20/2013						
7/31/2013						
9/25/2013	•					
572572015						
12/19/2013						
4/17/2014						
6/12/2014						
8/22/2014	12/11	9.1	24	drv	2.1	
0/5/2014	10	0.0			3.1	
3/3/2014	13	ō.ŏ	ury	ury	5.1	
7/8/2015	8.7	4.9	17	5.9	1.1	
7/22/2015	-	-	-	-	-	
9/15/2015	-	-	-	-	-	_
10/1/2015	-	-	-	-	_	
11/10/2015						
11/10/2015	-	-	-	-	-	
12/9/2015	-	-	-	-	-	
1/6/2016	-	-	-	-	-	
2/11/2016	-	-	-	-	-	
2/10/2016						
2/19/2010	-	-	-	-	-	
3/8-9/2016	-	-	-	-	-	
4/11/2016	-	-	-	-	-	
4/21/2016	-	-	-	-	-	
5/11-13/2016	-	-	11	-	-	
c/22 20/2010						
6/23-24/2016	-	-	-	-	-	
7/18-19/2016	-	-	-	-	-	
8/18/2016	dry	6.9	dry	dry	1.4	
9/15-20/2016	dry	12	dry	-	-	
10/27/2016	day	22	day	day	1 1	
10/2//2010	ury	52	ury	ury	1.1	
11/11/2016	-	-	-	-	-	
11/22-29/2016	-	-	-	-	-	
12/2-8/2016	dry	13	0.50	dry	0.43	
12/28-29/2016	dry	7.8	dry	dry	0.39	
1/10 19/2017	,		,			
1/10/2017	_				_	
1/24-25/2017	6.2	6.8	2.8	-	2.9	
2/21-24/2017	-	9.3	-	-	1.1	
3/27-29/2017	3.7	11	-	-	-	
4/24/2017	5.0	11	4.3	5.4	2.3	
5/17/2017	Л 1	ς 1	_	_	_	
	7.1	5.1	-	-	- 	
6/19-20/2017	2.6	2.8	2.9	3.8	0.45	
7/27/2017	1.4	2.9	-	0.69	-	
8/25/2017	dry	4.8	dry	dry	1.8	
9/27-29/2017	dry	5.7	dry	dry	1.2	
12/11-22/2017	, _	_	, 	-		
2/22/22/2					0.00	
3/22/2018	0.33	2.7	1.2	1.6	0.60	
6/19/2018	-	-	-	-	-	
9/10/2018	dry	2.8	dry	dry	1.6	
12/14-20/2018	-	-	-	-	-	
3/10.22/2010	0.44	1 6	0.20	<u> </u>	0.42	
5/15-22/2019	0.44	1.0	0.30	-	0.42	
6/21-26/2019	-	-	-	-	-	
9/12/2019	dry	2.5	dry	dry	1.5	
12/13/2019	-	-	-	-	-	_
3/11-17/2020	0.26	1 2	<0.5	U 30	<0.2	
C/0/2020	0.20	±.£	~v.2	0.00		
0/9/2020	-	-	-	-	-	
9/18/2000	dry	2.8	dry	dry	1.3	
12/18/2020	-	-	-	-	-	
3/15/2021	dry	2.1	0.59	dry	1.3	
6/14/2021	-	-	-	-	_	
0/22/2024		0.00	0.20	. سام	4 5	
9/22/2021	ary	0.88	0.38	ary	1.5	<u> </u>
12/15/2021	-	-	-	-	-	

Notes:
1. Data indicate concentrations of 1,4-dioxane in micrograms per liter.
2. "<" indicates that 1,4-dioxane was not detected above the referenced reporting limit.
3. "/" indicates results of labeled and blind duplicate sample, respectively.
4. "-" indicates sampling location not included in respective sampling round.

\\GZABedford\Jobs\04Jobs\0190000s\04.0190030.00\04.0190030.02\Report\2021 ASR\Tables\ 04.0190030.02 Table 3A.1, 3A.2, 3A.3 and 3B 1,4-Dioxane Concentrations 020522.xlsx\Table 3A.2 - On-Site Non-Source

Dartmouth College, Rennie Farm Site Hanover, New Hampshire

DES Site #201111109, DES Project #27737

GZ-8U	GZ-8L	GZ-9U	GZ-9L	GZ-9D	GZ-10U	GZ-10L	GZ-11U	GZ-11L	GZ-15L	GZ-16D	GZ-17L	GZ-24U	GZ-24L	GZ-24D	GZ-29L	GZ-30U	GZ-30L	GZ-31L	AS-WSW	Dug Well
	•	•		•	•			•	•		•	•	•	1	•	•			•	
																				Location not
																				sampling rounds
																				<50/1.8*
																				<50/1.5*
1																				<50/1.2*
-																				- 2.0
<0.25	<0.25	<0.25	270		<0.25	0.93/1.0	<0.25	<0.25]											1.1
<0.25	<0.25	<0.25	520		<0.25	1.5	<0.25	<0.25												-
-	-	-	300/380*		-	<50/1.6*	-	-												-
-	-	-	-		-	-	-	-	-											2.8/3.0
-	-	-	350		-	1.1	-	-	-											-
-	-	-	340		-	1.3	-	-											-	- 1.5
-	-	-	290	-	-	1.2	-	-	-	-	-]							-	1.6
-	-	-	-	75	-	-	-	-		-	3.6	-							-	-
-	-	-	160	83	-	0.90	-	-		-	3.5								-	1.1
<0.25	<0.25	<0.25	77	94	<0.25	0.95	<0.25	<0.25	-		4.1	4							-	0.93
-	-	-	-	-	-	-	-	-	-	<0.25 ⁸	-	4							-	-
-	-	-	160	-	-	0.57	-	-	-	-	4.0	-							-	0.95
-	-	-	180	190	-	1.4	-	-	-		4.5	-							-	1.7
-	-	-	190	210	-	2.2	-	-		-	4.2	-							-	2.3
-	-	-	180	190	-	2.2	-	-		-	3.7				_				<0.25	3.3
-	-	dry	120	160	-	dry	-	-	-	-	12	-	<0.25	0.39				<0.25	-	-
-	-	-	-	-	-	-	-	-	-	- ·	-	dry prior to	<0.25	<0.25	-			-	-	-
- dry	-	- drv	-	- 120		- 0.67		-	-		- 3.0	1/18/2-17	-	-				<0.25	-	- 3.6
dry	_	<0.25	110	110	-	1.6	-	-	-	-	1.6	-	_	-	-	-	1		-	1.6
-	-	-	-	-	-	-	-	-	<0.25	-	-	<0.25	-	-	<0.25	<0.25	<0.25	-	-	-
-	-	-	88	86	-	2.1	-	-	-	-	2.5	-	-	-	<0.25	<0.25	<0.25	-	-	2.8
-	-	-	76	230	-	1.8	-	-	<0.25	-	2.9	-	-	-	-	-	-	-	-	3.9
-	-	-	120	200	-	1.2	-	-	-	-	2.9	-	-	<0.25	-	-	-	-	-	1.6
-	-	-	52	6.7	-	0.65	-	-	-	-	2.9	-	-	-	-	-	-	-	-	0.97
_	dry	-	71	22	dry	1.1	-	-	-	-	1.6	-		<0.25	-	-	-	-	-	0.35
-	-	-	93	23	dry	-	-	-	-	-	1.8	-	-	<0.25	-	-	-	-	-	0.46
-	-	-	120	22	-	1.4	-	-	-	-	1.6	-	-	<0.25	-	-	-	-	-	-
<0.25	<0.25	<0.25	110	22	dry	1.6	<0.25	<0.25	<0.25	<0.25	1.4	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	-	-
-	-	-	25	21	-	-	-	-	-	-	-	-	<0.25	<0.25	-	-	-	-	-	-
- <0.25	ary -	-	3.2 66	15	-	- 2.1	- <0.25	- <0.25	- <0.25	- <0.25	-	- <0.25	<0.25	<0.25	- <0.25	- <0.25	- <0.25	- <0.25	-	-
<0.25	dry	<0.25	130	13	dry	1.3	dry	<0.2	<0.25	<0.25	0.53	<0.25	<0.25	<0.25	<0.2	<0.25	<0.25	<0.25	-	-
-	-	-	110	11	-	-	-	-	-	-	-	-	<0.2	Frozen	-	-	-	-	-	-
<0.2	-	-	12	13	-	0.26	<0.2	<0.2	<0.2	<0.2	1.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
-	-	-	19	12	-	-	-	-	-	-	-	-	<0.2	<0.2	-	-	-	-	-	-
<0.2	dry	<0.2	55	14	dry	0.39	dry	<0.2	<0.2	<0.2	0.92	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
-	-	-	100	15	-	- 0 29			-	-	- 10		<0.2	Frozen	-	-	-		-	-
-	-	-	63	13	-	-	-	-	-	-	-	-	<0.2	<0.2	-	-	-	-	-	-
dry	dry	dry	dry	62	dry	dry	dry	<0.2	<0.2	<0.2	0.38	dry	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
-	-	-	dry	78	-	-	-	-	-	-	-	-	<0.2	Frozen	-	-	-	-	-	-
<0.2	<0.2	-	6.3	79	-	0.21	<0.2	<0.2	<0.2	<0.2	8.70	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
-	-	-	2.4	25	-	-	-	-	-	-	-	-	<0.2	<0.2	-	-	-		-	-
- <0.2	- <0.2	- <0.2	0.0	45 64	ary -	-	- <0.2	- <0.2	- <0.2		- 3.4	- <0.2	<0.2	<0.2	- <0.2	- <0.2	- <0.2	- <0.2	-	-
	1		1		1	1		1	1	1	1	1	1	1	1	1	1	1	1	1

GZ-8U	GZ-8L	GZ-9U	GZ-9L	GZ-9D	GZ-10U	GZ-10L	GZ-11U	GZ-11L	GZ-15L	GZ-16D	GZ-17L	GZ-24U	GZ-24L	GZ-24D	GZ-29L	GZ-30U	GZ-30L	GZ-31L	AS-WSW	Dug Well
					II								11							
																				Location not included in prior
																				sampling rounds
																				<50/1.8*
																				<50/1.5*
																				<50/1.2*
																				2.0
<0.25	<0.25	<0.25	270		<0.25	0.93/1.0	<0.25	<0.25												1.1
<0.25	<0.25	<0.25	520		<0.25	1.5	<0.25	<0.25												-
-	-	-	300/380*		-	<50/1.6*	-	-												-
-	-	-	-		-	-	-	-												2.8/3.0
-	-	-	350		-	1.1	-	-												-
-	-	-	340		-	1.3	-	-												-
-	-	-	300		-	1.2	-	-		F		1							-	1.5
-	-	-	290	- 75	-	1.2	-	-		-	-								-	1.6
-	-	-	- 160	83	-	-	-	-			3.0								-	- 11
<0.25	<0.25	<0.25	77	94	<0.25	0.95	<0.25	<0.25			4.1								-	0.93
-	-	-	-	-	-	-	-	-		<0.25 ⁸	-								-	-
-	-	-	160	-	-	0.57	-	-		-	4.0								-	0.95
-	-	-	210	180	-	0.97	-	-		-	3.6								-	1.7
-	-	-	180	190	-	1.4	-	-			4.5								-	1.6
-	-	-	190	210	-	2.2	-	-		· ·	4.2								-	2.3
-	-	-	180	190	-	2.2	-	-		· ·	3.7								<0.25	3.3
-	-	ary	120	160	-	dry	-	-			12		<0.25	0.39 <0.25				<0.25	-	-
-	_		-	_	-		-	-			-	dry prior to	-	-				<0.25	-	
dry	-	dry	160	120	<0.25	0.67	<0.25	<0.25			3.0	1/18/2-17	-	-				-	-	3.6
dry	-	<0.25	110	110	-	1.6	-	-		-	1.6		-	-		-	1	-	-	1.6
-	-	-	-	-	-	-	-	-	<0.25	-	-	<0.25	-	-	<0.25	<0.25	<0.25	-	-	-
-	-	-	88	86	-	2.1	-	-	-	-	2.5	-	-	-	<0.25	<0.25	<0.25	-	-	2.8
-	-	-	76	230	-	1.8	-	-	<0.25	-	2.9	-	-	-	-	-	-	-	-	3.9
-	-	-	120	200	-	1.2	-	-	-	-	2.9	-	-	<0.25	-	-	-	-	-	1.6
-	-	-	64	6.7	-	0.65	-	-	-	-	2.9	-	-	-	-	-	-	-	-	0.97
-	- drv	-	71	40 22	- drv	1.1	-	-	-	-	1.6	-	-	- <0.25	-	-	-	-	-	0.84
-	-	-	93	23	dry		-	-	-	-	1.8	-	-	<0.25	-	-	-	-	-	0.46
-	-	-	120	22	-	1.4	-	-	-	-	1.6	-	-	<0.25	-	-	-	-	-	-
<0.25	<0.25	<0.25	110	22	dry	1.6	<0.25	<0.25	<0.25	<0.25	1.4	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	-	-
-	-	-	25	21	-	-	-	-	-	-	-	-	<0.25	<0.25	-	-	-	-	-	-
<0.25	dry	-	3.2	15	-	2.1	<0.25	<0.25	<0.25	<0.25	1.1	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	-	-
-	-	-	66	13	-	-	-	-	-	-	-	-	<0.25	<0.25	-	-	-	-	-	-
<0.25	dry	<0.25	130	14	dry	1.3	dry	<0.2	<0.25	<0.25	0.53	<0.25	<0.25	<0.25	<0.2	<0.25	<0.25	<0.25	-	-
-	-	-	110	11	-	- 0.26	-		-		- 11		<0.2	Frozen	-				-	-
	-	-	19	13	_	-	-	-	-	-	-	-	<0.2	<0.2	-	-	-	-	-	-
<0.2	dry	<0.2	55	14	dry	0.39	dry	<0.2	<0.2	<0.2	0.92	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
-	-	-	100	15	-	-	-	-	-	-	-	-	<0.2	Frozen	-	-	-	-	-	-
<0.2	<0.2	-	46	12		0.29	<0.2	<0.2	<0.2	<0.2	1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
-	-	-	63	13	-	-	-	-	-	-	-	-	<0.2	<0.2	-	-	-	-	-	-
dry	dry	dry	dry	62	dry	dry	dry	<0.2	<0.2	<0.2	0.38	dry	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
-	-	-	dry	78	-	-	-	-	-	-	-	-	<0.2	Frozen	-	-	-	-	-	-
<0.2	<0.2	-	b.3	/9 25	-	0.21	- <0.2	- <0.2	<0.2	<0.2	8.70	<0.2	<0.2 <0.2	<0.2	<0.2	<0.2	<0.2	- <0.2	-	-
<0.2	<0.2	<0.2	6.0	45	drv	0.37	<0.2	<0.2	<0.2	<0.2	3.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-
-	-	-	0.46	64		-	-	-	-	-	-	-	<0.2	<0.2	-	-	-	-	-	-
	1	1	1	1	1		1	1	1	1		1				1	1	1		1

5. "dry" indicates no water in monitoring well at the time of the respective sampling round.
6. "Value/Value*" indicates analysis for 1,4-dioxane performed using EPA Method 8260B and 8260B SIM, respectively.
7. Shaded cells indicate well location was not installed at that time.

8. GZ-16D sampled on April 21, 2016 at 5 depths within the well; refer to GZA's report dated May 6, 2016 for additional information.

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GZA GeoEnvironmental, Inc.

67	2511	67	-251	67-	25D	67-	2611	67	-261	67-	2711	67	-271	67-	27D	67-	-2811	67-	281	G7-	280	67	3211	GZ	-321	67	32D	67-	3311
Sample Date	Result [ug/L]	Sample Date	Result [ug/I]	Sample Date	Result [ug/I]	Sample Date	Result [ug/I]	Sample Date	Result [ug/L]	Sample Date	Result [ug/L]	Sample Date	Result [ug/I]	Sample Date	Result [ug/1]	Sample Date	Besult [ug/L]	Sample Date	Result [ug/L]	Sample Date	Result [ug/L]	Sample Date	Besult [ug/1]	Sample Date	Besult [ug/L]	Sample Date	Besult [ug/L]	Sample Date	Result [ug/L]
9/8/2016	<0.25	9/20/2016	<0.25	9/9/2016	0.5	9/16/2016	33	9/9/2016	26	10/6/2016	5 1	11/11/2016	5 9	11/11/2016	11	12/8/2016	<0.25	12/12/2016	<0.25	11/23/2016	<0.25	10/18/2016	<0.25	12/9/2016	0 47	11/23/2016	<0.25	10/6/2016	<0.25
9/20/2016	<0.25	11/11/2016	<0.25	9/20/2016	0.29	11/11/2016	21	Well Deco	mmissioned	11/11/2016	6.4	1/11/2017	<u> </u>	1/11/2017	43	1/18/2017	<0.25	1/18/2017	<0.25	1/18/2017	<0.25	11/11/2016	<0.25	1/11/2017	<0.25	1/11/2017	<0.25	11/11/2016	<0.25
10/6/2017	<0.25	8/29/2017	<0.25	8/28/2017	0.62	5/18/2017	18			7/27/2017	5.5	10/12/2017	6.1	7/27/2017	6	10/11/2017	<0.25	10/11/2017	<0.25	10/11/2017	<0.25	2/8/2017	<0.25	1/31/2017	<0.25	2/8/2017	<0.25	10/6/2017	<0.25
3/29/2018	<0.25	10/6/2017	<0.25	10/6/2017	0.57	10/12/2017	29	-		10/12/2017	6.9	12/11/2017	7.8	10/12/2017	5,9	4/2/2018	<0.25	12/22/2017	Frozen	12/14/117	<0.25	7/27/2017	<0.25	2/8/2017	<0.25	7/27/2017	<0.25	3/29/2018	<0.25
9/17/2018	<0.2	3/29/2018	<0.25	3/27/2018	0.77	3/28/2018	23	-		12/11/2017	9.7	3/28/2018	6.2	12/11/2017	5.6	9/12/2018	<0.25	4/2/2018	<0.25	4/2/2018	<0.25	8/28/2017	<0.25	3/9/2017	<0.25	8/28/2017	<0.25	9/18/2018	<0.2
3/20/2019	<0.2	9/17/2018	<0.2	9/17/2018	0.69	9/17/2018	19	-		3/28/2018	7.4	6/21/2018	4.2	3/28/2018	4.6	3/22/2019	<0.2	6/27/2018	<0.25	6/27/2018	<0.25	10/6/2017	<0.25	8/28/2017	<0.25	10/6/2017	<0.25	3/20/2019	<0.2
9/16/2019	<0.2	3/20/2019	Frozen	3/20/2019	1.1	3/20/2019	Frozen	-		6/21/2018	7.1	9/17/2018	5.1	6/21/2018	3.6	9/13/2019	<0.2	9/12/2018	<0.25	9/12/2018	<0.25	12/21/2017	Frozen	10/6/2017	<0.25	12/21/2017	Frozen	9/17/2019	<0.2
3/16/2020	Frozen	9/16/2019	<0.2	9/16/2019	0.71	9/16/2019	15	-		9/17/2018	9.1	12/18/2018	4.1	9/17/2018	3.3	3/17/2020	<0.2	12/18/2018	<0.2	12/18/2018	<0.2	3/28/2018	Frozen	12/21/2017	<0.25	3/28/2018	Frozen	3/10/2020	<0.2
6/16/2020	<0.2	3/16/2020	Frozen	3/16/2020	0.95	3/16/2020	Frozen	-		12/18/2018	6.5	3/22/2019	5.7	12/18/2018	2.3	9/17/2020	<0.2	3/22/2019	<0.2	3/22/2019	<0.2	6/20/2018	<0.25	3/28/2018	<0.25	6/20/2018	<0.25	9/18/2020	<0.2
9/17/2020	<0.2	6/16/2020	<0.2	9/16/2020	1.2	6/16/2020	19	-		3/22/2019	8.8	6/25/2019	5.3	3/22/2019	3.3	3/26/2021	<0.2	6/24/2019	<0.2	6/24/2019	<0.2	9/12/2018	<0.25	6/20/2018	<0.25	9/12/2018	<0.25	3/16/2021	<0.2
3/17/2021	<0.2	9/17/2020	<0.2	3/23/2021	1.3	9/16/2020	16	-		6/25/2019	7.2	9/16/2019	4.4	6/25/2019	2.5	9/21/2021	<0.2	9/13/2019	<0.2	9/13/2019	<0.2	12/17/2018	Frozen	9/12/2018	<0.25	12/17/2018	<0.2	9/22/2021	<0.2
9/23/2021	<0.2	3/16/2021	<02	9/21/2021	1.4	3/24/2021	17	-		9/16/2019	7.5	12/16/2019	6.9	9/16/2019	2.4			12/18/2019	Frozen	12/18/2019	Frozen	3/20/2019	Frozen	12/17/2018	<0.2	3/20/2019	<0.2		
		9/23/2021	<0.2			9/22/2021	17			12/16/2019	9.9	3/16/2020	4.4	12/16/2019	3.4	-		3/16/2020	Frozen	3/16/2020	Frozen	6/24/2019	<0.2	3/20/2019	Frozen	6/24/2019	<0.2		
				L				_		3/16/2020	Frozen	6/9/2020	5.1	3/16/2020	3.0	-		6/10/2020	<0.2	6/9/2020	<0.2	9/17/2019	<0.2	6/24/2019	<0.2	9/17/2019	<0.2		
										6/9/2020	Packer In Well	9/17/2020	3.8	6/9/2020	3.0	_		9/18/2020	<0.2	9/17/2020	<0.2	12/18/2019	Frozen	9/17/2019	<0.2	12/18/2019	<0.2		
										9/17/2020	9.4	12/16/2020	3.7	9/16/2020	3.0	_		3/24/2021	<0.2	12/15/2020	<0.2	3/11/2020	Frozen	12/18/2019	<0.2	3/10/2020	<0.2		
										12/16/2020	8.6	6/15/2021	3.7	3/24/2021	3.2			6/16/2021	<0.2	3/24/2021	<0.2	6/9/2020	<0.2	3/10/2020	<0.2	6/9/2020	<0.2		
										3/16/2021	7.7	9/23/2021	3.5	6/15/2021	2.8			9/21/2021	<0.2	6/16/2021	<0.2	9/18/2020	<0.2	6/9/2020	<0.2	9/17/2020	<0.2		
										6/15/2021	8.3	12/15/2021	3.5	9/21/2021	3.1			12/15/2021	<0.2	9/21/2021	<0.2	3/24/2021	<0.2	9/17/2020	<0.2	12/21/2020	<0.2		
										9/22/2021	7.2			12/16/2021	2.6					12/15/2021	<0.2	6/17/2021	<0.2	12/15/2020	<0.2	3/23/2021	<0.2		
										12/15/2021	5.7											9/22/2021	<0.2	3/24/2021	<0.2	6/16/2021	<0.2		
																						12/16/2021	<0.2	6/16/2021	<0.2	9/21/2021	<0.2		
																								9/21/2021	<0.2	12/16/2021	<0.2		
																								12/16/2021	<0.2				

GZ-33L		GZ-3	34U	GZ-3	4L	GZ-S	34D	GZ-S	35U	GZ-	-35L	GZ-	-35D	GZ-	36U	GZ-3	37U	GZ-	37L	GZ-	37D	GZ-3	80	GZ-:	39U	GZ-3	9L	GZ-39	9D
Sample Date Res	sult [µg/L]	Sample Date	Result [µg/L]																										
10/17/2016	<0.25	1/13/2017	0.25	12/29/2016	<0.25	12/14/2016	<0.25	11/11/2016	<0.25	11/11/2016	<0.25	11/11/2016	<0.25	1/13/2017	<0.25	12/14/2016	<0.25	12/14/2016	<0.25	12/12/2016	0.60	10/3/2016	<0.25	10/3/2016	<0.25	10/3/2016	<0.25	11/22/2016	1.8
10/28/2016	<0.25	1/31/2017	<0.25	1/11/2017	<0.25	1/11/2017	<0.25	1/17/2017	<0.25	1/18/2017	<0.25	1/17/2017	<0.25	1/31/2017	<0.25	1/13/2017	<0.25	1/12/2017	<0.25	1/13/2017	0.48	1/17/2017	<0.25	1/17/2017	<0.25	1/17/2017	<0.25	12/9/2016	2.6
10/6/2017	<0.25	2/8/2017	2.0	2/27/2017	<0.25	2/27/2017	<0.25	8/28/2017	<0.25	8/28/2017	<0.25	3/8/2017	<0.25	2/8/2017	<0.25	6/20/2017	<0.25	6/20/2017	<0.25	2/28/2017	0.30	10/6/2017	<0.25	10/11/2017	0.25	10/11/2017	<0.25	10/11/2017	1.8
3/29/2018	<0.25	4/3/2017	<0.25	7/27/2017	<0.25	7/27/2016	<0.25	10/6/2017	<0.25	10/6/2017	<0.25	8/28/2017	<0.25	2/27/2017	<0.25	10/12/2017	<0.25	10/12/2017	<0.25	4/3/2017	0.48	3/27/2018	<0.25	3/27/2018	<0.25	3/27/2018	<0.25	12/11/2017	1.6
9/18/2018	<0.2	5/19/2017	<0.25	8/28/2017	<0.25	10/11/2017	<0.25	12/21/2017	<0.25	12/21/2017	<0.25	10/12/2017	<0.25	10/6/2017	<0.25	12/21/2017	<0.25	12/11/2017	<0.25	5/19/2017	0.34	9/17/2018	<0.2	9/17/2018	<0.2	9/17/2018	<0.2	3/28/2018	1.2
3/20/2019	<0.2	7/27/2017	<0.25	10/11/2017	<0.25	12/11/2017	Frozen	3/26/2018	<0.25	3/29/2018	<0.25	12/21/2017	<0.25	12/21/2017	<0.25	3/28/2018	<0.25	3/28/2018	<0.25	6/20/2017	<0.25	3/20/2019	<0.2	3/20/2019	<0.2	3/20/2019	Frozen	6/21/2018	1.1
9/17/2019	<0.2	8/28/2017	<0.25	12/11/2017	Frozen	3/28/2018	<0.25	6/20/2018	<0.25	6/20/2018	<0.25	3/26/2018	<0.25	3/27/2018	<0.25	6/26/2018	<0.25	6/26/2018	<0.25	7/26/2017	0.51	9/16/2019	<0.2	9/16/2019	<0.2	9/16/2019	<0.2	9/17/2018	1.0
3/10/2020	<0.2	10/11/2017	<0.25	3/27/2018	<0.25	6/25/2015	<0.25	9/12/2018	<0.25	9/12/2018	<0.25	6/20/2018	<0.25	6/20/2018	<0.25	9/19/2018	<0.2	9/19/2018	<0.2	8/29/2017	0.47	3/16/2020	<0.2	3/16/2020	<0.2	3/16/2020	Frozen	12/17/2018	0.68
9/18/2020	<0.2	12/11/2017	<0.25	6/25/2018	<0.25	9/19/2018	<0.2	12/17/2018	<0.2	12/17/2018	Frozen	9/12/2018	<0.25	9/12/2018	<0.25	12/19/2018	<0.2	12/19/2018	<0.2	10/12/2017	0.54	9/16/2020	<0.2	9/17/2020	<0.2	6/12/2020	0.22	3/20/2019	1.0
3/17/2021	<0.2	3/28/2018	<0.25	9/19/2018	<0.2	12/19/2018	Frozen	3/20/2019	<0.2	3/20/2019	<0.2	12/17/2018	<0.2	12/17/2018	Frozen	3/22/2019	<0.2	3/22/2019	<0.2	12/11/2017	Frozen	3/16/2021	<0.2	3/16/2021	<0.2	9/17/2020	<0.2	6/25/2019	0.68
9/22/2021	<0.2	6/25/2018	<0.25	12/19/2018	<0.2	3/22/2019	Frozen	6/24/2019	<0.2	6/24/2019	<0.2	3/20/2019	<0.2	3/20/2019	Frozen	6/26/2019	<0.2	6/26/2019	<0.2	3/28/2018	1.2	9/22/2021	<0.2	9/21/2021	<0.2	3/18/2021	<0.2	9/16/2019	0.61
		9/25/2018	<0.2	3/22/2019	<0.2	6/21/2019	<0.2	9/17/2019	<0.2	9/17/2019	<0.2	6/24/2019	<0.2	6/24/2019	<0.2	9/18/2019	<0.2	9/18/2019	<0.2	6/26/2018	1.2					6/16/2021	0.22	12/16/2019	Frozen
	-	12/19/2018	<0.2	6/21/2019	<0.2	9/18/2019	<0.2	12/18/2019	<0.2	12/18/2019	Frozen	9/17/2019	<0.2	9/17/2019	<0.2	12/19/2019	<0.2	12/19/2019	Frozen	9/19/2018	1.5					9/22/2021	0.22	3/16/2020	Frozen
		3/22/2019	<0.2	9/18/2019	<0.2	12/19/2019	Frozen	3/10/2020	<0.2	3/10/2020	<0.2	12/18/2019	<0.2	12/18/2019	Frozen	3/10/2020	<0.2	3/10/2020	<0.2	12/19/2018	0.7					·		6/9/2020	0.47
		6/21/2019	<0.2	12/19/2019	<0.2	3/10/2020	<0.2	6/10/2020	<0.2	6/12/2020	<0.2	3/16/2020	Frozen	3/10/2020	<0.2	6/10/2020	<0.2	6/10/2020	<0.2	3/22/2019	1.0							9/17/2020	0.60
		9/18/2019	<0.2	3/10/2020	<0.2	6/9/2020	<0.2	9/18/2020	<0.2	9/18/2020	<0.2	6/9/2020	<0.2	6/9/2020	<0.2	9/17/2020	<0.2	9/16/2020	<0.2	6/26/2019	0.71							12/15/2020	0.51
		12/19/2019	Frozen	6/9/2020	<0.2	9/17/2020	<0.2	12/21/2020	<0.2	6/17/2021	<0.2	9/18/2020	<0.2	9/18/2020	<0.2	12/16/2020	<0.2	12/15/2020	<0.2	9/18/2019	0.56							3/24/2021	0.34
		3/10/2020	<0.2	9/17/2020	<0.2	12/21/2020	<0.2	3/17/2021	<0.2	9/22/2021	<0.2	3/23/2021	<0.2	12/21/2020	<0.2	3/24/2021	<0.2	3/24/2021	<0.2	12/19/2019	Frozen							6/16/2021	0.35
		6/9/2020	<0.2	12/21/2020	<0.2	3/12/2021	<0.2	6/17/2021	<0.2			6/16/2021	<0.2	3/12/2021	<0.2	6/17/2021	<0.2	6/17/2021	<0.2	3/10/2020	0.37							9/22/2021	0.26
		9/18/2020	<0.2	3/12/2021	<0.2	6/16/2021	<0.2	9/22/2021	<0.2			9/21/2021	<0.2	6/16/2021	<0.2	9/22/2021	<0.2	9/22/2021	<0.2	6/12/2020	0.68							12/15/2021	0.27
		12/21/2020	<0.2	6/16/2021	<0.2	9/22/2021	<0.2	12/16/2021	<0.2			12/16/2021	<0.2	9/22/2021	<0.2	12/16/2021	<0.2	12/16/2021	<0.2	9/16/2020	0.57								
		3/12/2021	<0.2	9/22/2021	<0.2	12/16/2021	<0.2							12/16/2021	<0.2			· · · · ·		12/15/2020	0.54								
		6/16/2021	<0.2	12/16/2021	<0.2															3/12/2021	0.55								
		9/22/2021	<0.2																	6/17/2021	0.44								
		12/16/2021	<0.2																	9/22/2021	0.65								

GZ	40U	GZ-4	40M	GZ	-40L	GZ	-40D	GZ-	-41U	GZ	-42U	GZ-	-42L	GZ	-44	GZ	2-45	GZ	2-46	GZ	-47	GZ	2-48	GZ	49	G	3Z-50
Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]														
10/3/2016	120	4/26/2019	340	4/26/2019	57	11/11/2016	9.4	10/6/2016	70	11/22/2016	370	4/26/2019	440	4/26/2019	88	4/26/2019	16	4/26/2019	47	4/26/2019	150	4/26/2019	43	4/26/2019	15	4/26/2019	7.9
1/17/2017	290	3/18/2021	170	3/18/2021	25	1/17/2017	10	1/17/2017	44	12/8/2016	360	3/18/2021	310	12/16/2020	110	12/16/2020	25	12/16/2020	50	3/18/2021	180	12/16/2020	22	12/16/2020	13	12/16/2020	7.7
4/28/2017	450					2/27/2017	11	10/12/2017	63	2/27/2017	540			3/18/2021	78	3/18/2021	21	3/18/2021	39	9/24/2021	97	3/18/2021	8.7	3/18/2021	13	3/18/2021	5.4
5/18/2017	340					5/18/2017	9.4	12/22/2017	38	4/3/2017	370																
7/25/2017	420					7/25/2017	13	3/29/2018	67	5/18/2017	360																
8/28/2017	490					10/12/2017	11	6/21/2018	48	7/25/2017	500					GZ	2-51	GZ	2-52	GZ	-53	GZ	-54D	GZ-	540	G	jZ-55
10/12/2017	540					12/11/2017	Frozen	9/17/2018	40	8/28/2017	540					Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]
12/11/2017	640					3/27/2018	Frozen	12/18/2018	44	10/12/2017	570					4/26/2019	3.4	4/26/2019	3.1	5/22/2019	340	5/22/2019	26	5/22/2019	80	5/22/2019	25
3/27/2018	570					6/21/2018	12	3/20/2019	34	12/22/2017	440					12/16/2020	6.4	12/16/2020	3.2	12/16/2020	400	12/16/2020	18	9/24/2021	72	3/18/2021	17
6/21/2018	540					9/17/2018	10	6/25/2019	39	3/28/2018	550					3/18/2021	10	3/18/2021	3.9	3/18/2021	410	3/18/2021	17				
9/11/2018	660					12/18/2018	8.5	9/16/2019	43	6/21/2018	540					9/24/2021	9.8	9/24/2021	5.2	_							
12/18/2018	430					3/20/2019	Frozen	12/17/2019	41	9/17/2018	490					12/17/2021	10	12/17/2021	3.6								
3/20/2019	630					6/25/2019	8.6	3/16/2020	29	12/18/2018	380																
6/25/2019	550					9/16/2019	8.9	6/9/2020	37	3/20/2019	540																
9/16/2019	530					12/17/2019	Frozen	9/17/2020	34	6/25/2019	410					RW	V-01	RV	V-02	SW-1	-0522	SW-2	2-0522	SW-3	-0522	SW-	-4-0522
12/17/2019	640					3/16/2020	Frozen	12/16/2020	32	9/16/2019	470					Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]
3/16/2020	530					6/9/2020	8.8	3/16/2021	27	12/17/2019	520					5/31/2019	230	5/31/2019	360	5/22/2019	1.4	5/22/2019	<0.2	5/22/2019	<0.2	5/22/2019	<0.2
6/9/2020	590					9/16/2020	8.9	6/16/2021	26	3/16/2020	80																
9/17/2020	570					3/23/2021	9.5	9/22/2021	28	6/9/2020	450					Notes:											
12/16/2020	580					6/15/2021	12	12/15/2021	27	9/17/2020	450					1. Data indica	ate concentratio	ns of 1,4-dioxan	e in microgram	s per liter.							
3/16/2021	540					9/21/2021	13			12/16/2020	370					2. "<" indicat	tes that 1,4-diox	ane was not det	ected above th	e referenced rep	orting limit.						
6/16/2021	520					12/15/2021	10			3/16/2021	410					3. "/" indicate	es results of labe	eled and blind du	uplicate sample	, respectively.							
9/22/2021	500						1	<u> </u>		6/16/2021	400					5. "dry" indica	ates no water in	monitoring wel	l at the time of	the respective sa	mpling round.						
12/16/2021	390									9/22/2021	390					6. "Value/Value*" indicates analysis for 1,4-dioxane performed using EPA Method 8260B and 8260B SIM, respectively.											
	1									12/16/2021	160	+															
										,,,]															

TABLE 3A.3 1,4-DIOXANE CONCENTRATION DATA – OFF-SITE GROUNDWATER MONITORING LOCATIONS

Dartmouth College, Rennie Farm Site

Hanover, New Hampshire DES Site #201111109, DES Project #27737

\\GZABedford\Jobs\04Jobs\0190000s\04.0190030.00\04.0190030.02\Report\2021 ASR\Tables\ 04.0190030.02 Table 3A.1, 3A.2, 3A.3 and 3B 1,4-Dioxane Concentrations 020522.xlsx\Table 3A.3 - Off-Site

TABLE 3B 1,4-DIOXANE CONCENTRATION DATA – SURFACE WATER MONITORING LOCATIONS

Dartmouth College, Rennie Farm Site Hanover, New Hampshire DES Site #201111109, DES Project #27737

Sample Collection	Sample Collection Surface Water Sampling Location												
Date	Stream - 1	Stream-1A	Stream-2	Stream-3	Stream-4	Stream-5	Stream-6	Stream-7	Stream-8	Stream-9	Stream-10	Stream-11	Stream-12
7/9/2015	0.98	-	-	-	-	-	-	-	-	-	-	-	-
7/22/2015	1.1	-	-	-	-	-	-	-	-	-	-	-	-
11/10/2015	1.0	-	-	-	-	-	-	-	-	-	-	-	-
12/9/2015	1.5	-	<0.25	<0.25	-	-	-	-	-	-	-	-	-
1/6-7/2016	1.5	-	<0.25	<0.25	-	-	-	-	-	-	-	-	-
2/10-11/2016	1.6	-	<0.25	<0.25	-	-	-	-	-	-	-	-	-
3/8/2016	1.1	-	<0.25	<0.25	-	-	-	-	-	-	-	-	-
4/12/2016	0.85	-	-	-	-	-	-	-	-	-	-	-	-
5/11-13/2016	1.0	-	<0.25	<0.25	-	-	-	-	-	-	-	-	-
6/23/2016	1.5	-	-	-	-	-	-	-	-	-	-	-	-
7/19/2016	1.9	-	<0.25	<0.25	-	-	-	-	-	-	-	-	-
8/19/2016	dry	-	<0.25	0.52	-	-	-	-	-	-	-	-	-
8/26/2016	dry	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	-	-	-	-	-	-
9/28-30/2016	dry	dry	<0.25	0.48	0.36	<0.25	<0.25	-	-	-	-	-	-
10/24-28/2016	dry	dry	<0.25	0.57	0.62	0.49	<0.25	<50	<0.25	<0.25	<0.25	<0.25	<0.25
12/2-5/2016	dry	<0.25	<0.25	<0.25	<0.25	<0.25	-	<0.25	-	-	-	<0.25	-
12/28-29/2016	1.3	-	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	-	-	-	<0.25	-
1/23-24/2017	2.6	-	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	-	-	-	<0.25	-
2/23-24/2017	2.9	-	<0.25	<0.25	<0.25	<0.25	<0.25	-	-	-	-	<0.25	-
3/24/2017	1.7	-	<0.25	<0.25	<0.25	<0.25	<0.25	-	-	-	-	<0.25	-
4/24/2017	0.91	-	<0.25	<0.25	<0.25	<0.25	<0.25	-	-	-	-	<0.25	-
5/18/2017	0.26	-	<0.25	<0.25	<0.25	<0.25	-	-	-	-	-	-	-
6/19/2017	<0.25	-	<0.25	<0.25	<0.25	<0.25	<0.25	-	-	-	-	<0.25	-
7/27/2017	0.27	-	<0.25	<0.25	<0.25	<0.25	<0.25	-	-	-	-	<0.25	-
8/25-29/2017	0.35	-	<0.25	0.36	0.26	<0.25	<0.25	-	-	-	-	<0.25	-
9/27/2017	0.37	-	-	-	0.34	<0.25	<0.25	-	-	-	-	<0.25	-
10/11/2017	-	-	<0.25	0.33	-	-	-	-	-	-	-	-	-
12/12-14/17	<0.25	-	<0.25	<0.25	<0.25	<0.25	<0.25	-	-	-	-	-	-
3/22/2018	<0.25	-	<0.25	<0.25	<0.25	<0.25	<0.25	-	-	-	-	<0.25	-
6/25-27/2018	<0.25	-	<0.25	<0.25	<0.25	<0.25	<0.25	-	-	-	-	-	-
9/10/2018	0.28	-	<0.2	0.23	0.21	<0.2	<0.2	-	-	-	-	<0.2	-
12/14-20/2018	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
3/19-22/2019	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	<0.2	-
6/21-25/2019	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
9/11-18/2019	<0.2	-	<0.2	0.28	0.25	<0.2	<0.2	-	-	-	-	<0.2	-
12/16-18/2019	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
3/16/2020	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	<0.2	-
6/11/2020	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
9/18/2020	dry	-	dry	2.8	1.0	dry	<0.2	-	-	-	-	dry	-
12/18/2020	dry	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
3/12/2021	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	<0.2	-
6/16/2021	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
9/21/2021	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	<0.2	-
12/15/2021	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-

Notes:

1. Data indicate concentrations of 1,4-dioxane in micrograms per liter.

2. "<" indicates that 1,4-dioxane was not detected above the referenced reporting limit.

3. "-" indicates sampling location not included in respective sampling round.

4. "dry" indicates no water at present at surface water location on the date of the respective sampling round.

Town	Tax Map No.	Block - Lot Number	Street Address	Sampling Dates	Result of Analysis 1,4-dioxane (ug/L)	EAI Report ID	Comments
Hanover	13	17-1	7 Rennie Road	9/15/15	<0.25 ug/L	148024	Included in September 1, 2015 Work Plan; sampling after August 25, 2017 includes permit related and supplemental
				9/30/15	<0.25 ug/L	148486	sampling.
			Permit Required Sampling Location	11/12/15	<0.25 ug/L	150322	
				12/9/15	<0.25 ug/L	151249	
				1/6/16	<0.25 ug/L	151971	
				2/10/16	<0.25 ug/L	153008	
				3/9/16	<0.25 ug/L	153812	
				3/3/10 1/11/16	<0.25 ug/L	154768	
				4/11/10 5/20/16		156222	
				5/20/10	<0.25 ug/L	150522	
				0/24/10	<0.25 ug/L	157587	
				//18/16	<0.25 ug/L	158450	
				8/1//16	<0.25 ug/L	159610	
				9/16/16	<0.25 ug/L	160639	
				10/21/16	<0.25 ug/L	161929	
				11/30/16	<0.25 ug/L	163377	
				1/10/17	<0.25 ug/L	164654	
				2/23/17	<0.25 ug/L	165942	
				4/12/17	<0.25 ug/L	167511	
				5/16/17	<0.25 ug/L	168809	
				6/5/17	<0.25 ug/L	169474	
				7/7/17	<0.25 ug/L	170707	
				8/14/17	<0.25 ug/L	172209	
				9/18/17	<0.25 ug/L	173579	
				12/1/17	<0.25 µg/l	176561	
				1/18/18	<0.25 ug/L	178011	
				2/14/18	<0.25 ug/L	178005	
				2/14/18	<0.25 ug/L	178903	
				3/22/18	<0.25 ug/L	1/98/4	
				6/1/18	<0.25 ug/L	182503	
				6/22/18	<0.25 ug/L	183434	
				12/28/18	<0.2 ug/L	190703	
				1/23/19	<0.2 ug/L	191464	
				2/18/19	<0.2 ug/L	192211	
				3/18/19	<0.2 ug/L	193103	
				4/22/19	<0.2 ug/L	194469	
				6/6/19	<0.2 ug/L	196328	
				7/8/19	<0.2 ug/L	197515	
				9/3/19	<0.2 ug/L	199871	
				10/14/19	<0.2 ug/L	201831	
				11/25/19	<0.2 ug/L	203906	
				1/17/20	<0.2 ug/L	205865	
				3/2/20	<0.2 ug/L	207338	
				4/20/20	<0.2 ug/L	209299	
				5/21/20	<0.2 ug/L	210637	
				6/25/20	<0.2 µg/l	212065	
				8/1/20	<0.2 μσ/Ι	212000	
				9/1/20	<0.2 Ug/L <0.2 Ug/L	215747	
				J) ±/20 10/10/20	<0.2 ug/L	213147	
				11/10/20	<0.2 ug/L	21/320	
				11/10/20 12/20/20	<0.2 ug/L	213007	
				12/30/20	<0.2 ug/L	22058/	
				1/28/21	<0.2 ug/L	221667	
				2/25/21	<0.2 ug/L	222652	
				3/24/21	<0.2 ug/L	223708	
				4/29/21	<0.2 ug/L	225431	
				5/20/21	<0.2 ug/L	226553	
				6/22/21	<0.2 ug/L	228084	
				7/15/21	<0.2 ug/L	229151	
				8/27/21	<0.2 ug/L	231286	
				10/13/21	<0.2 ug/L	233690	
				11/24/21	<0.2 ug/L	235892	
Hanover	13	18-1	8 Rennie Road (on site dug well)	multiple rounds	Refer to Table 4A for data	Refer to Table 4A for data	Sampled since 12/19/13

Town	Tax Map No.	Block - Lot Number	Street Address	Sampling Dates	Result of Analysis 1,4-dioxane (ug/L)	EAI Report ID	Comments
Hanover	13	81-1	9 Rennie Road	9/15/15	6.0 ug/L (5.9 ug/L duplicate)	148024	Included in September 1, 2015 Work Plan; point-of-entry treatment system also sampled on 11/10/15 through
				9/30/15	6.2 ug/L	148486	4/12/17 at midpoint and effluent (finished treated water) with a result of <0.25 ug/L for each sample. Sampling
			Permit Required Sampling Location	11/10/15	5.6 ug/L	150214	after August 25, 2017 include permit related sampling.
				12/9/15	5.9 ug/L	151249	
				1/6/16	6.7 ug/L	151971	
				2/10/16	5.6 ug/L	153008	
				3/9/16	4.7 ug/L	153812	
				4/11/16	4.5 ug/L	154768	
				5/20/16	4.6 ug/L	156322	
				6/24/16	4.2 ug/L	157587	
				7/18/16	5.0 ug/L	158450	
				8/17/16	6.0 ug/L	159610	
				9/16/16	5.8 ug/L	160639	
				10/21/16	7.8 ug/L	161929	
				12/12/14		4 () 0 0)	
				12/12/16	5.7 ug/L	163803	
				1/10/17	3.1 ug/L	164654	
				2/10/17	6.6 ug/L	165633	
				3/8/17	5.9 ug/L	166421	
				4/12/17	8.2 ug/L	167511	
				5/16/17	9.9 ug/L	168809	
				6/5/17	8.7 ug/L	169474	
				7/7/17	5.8 ug/L	170707	
				8/14/17	7.9 ug/L	172209	
				9/18/17	11 ug/L	173579	
				10/5/17	9.5 ug/L	174337	
				12/5/17	14 ug/L	176705	
				12/19/17	7.9 ug/L	177336	
				1/18/18	6.1 ug/L	178011	
				2/14/18	10.0 ug/L	178905	
				3/22/18	7.1 ug/L	179874	
				6/1/18	6.5 ug/L	182503	
				1/23/19	3.3 ug/L	191464	
				2/18/19	5.6 ug/L	192211	
				3/18/19	5.6 ug/L	193103	
				4/22/19	6.6 ug/L	194469	
				6/6/19	4.9 ug/l	196328	
				7/8/19	6.4 ug/L	197515	
				9/3/19	9.4 µg/l	199871	
				10/14/19	10 ug/l	201831	
				1/23/20	15 ug/l	205032	
				3/26/20	4 3 µg/l	208269	
				4/22/20	3.4 µg/l	209299	
				5/21/20	2 7 ug/l	210637	
				6/10/20	4 6 µg/l	211549	
				8/1/20	9 8 110/1	211345	
				10/22/20	1 <u>4</u> µσ/l	213, 47	
				11/20/20	1 <u>4</u> ug/L	21,000	
				12/30/20	13 110/1	210007	
				1/25/21	13 ug/L 13 ug/L	220307	
				ユ/ンニ/ンコ ン/ンニ/ンコ	13 ug/L	221007	
				2/12/21	12 ug/L	222032	
				J/70/21	12 ug/L	223321	
				+/23/21 5/20/21	12 ug/L	223431	
				5/20/21	12 ug/L	220000	
				0/1//21	13 ug/L	22/0/2	
				//15/21	14 ug/L	229151	
				8/25/21	13 ug/L	2311/6	
				9/23/21	13 ug/L	232632	
				11/24/21	11 ug/L	235892	
Hanover	15	42-1	20 Rennie Road	not sampled	not sampled	not sampled	Included in September 1, 2015 Work Plan - no access

Town	Tax Map No.	Block - Lot Number	Street Address	Sampling Dates	Result of Analysis 1,4-dioxane (ug/L)	EAI Report ID	Comments
Hanover	15	41-1	22 Rennie Road	9/15/15	<0.25 ug/L	148024	Included in September 1, 2015 Work Plan, sampling after August 25, 2017 include permit related sampling.
				9/30/15	<0.25 ug/L	148486	
			Permit Required Sampling Location	9/2/16 11/3/16	<0.25 ug/L	160032	
				1/24/17	<0.25 ug/L	165030	
				5/31/17	<0.25 ug/L	169325	
				9/29/17	<0.25 ug/L	174005	
				12/18/17	<0.25 ug/L	177178	
				3/21/18	<0.25 ug/L	179838	
				6/19/18	<0.25 ug/L	183434	
				9/10/18	<0.25 ug/L	186690	
				12/21/18	<0.2 ug/L	190586	
				6/13/19	<0.2 ug/L	195277	
				9/11/19	<0.2 ug/L	200413	
				12/13/19	<0.2 ug/L	204953	
				3/11/20	<0.2 ug/L	207787	
				6/8/20	<0.2 ug/L	211549	
Hanover	15	51-1	26 Rennie Road	4/12/16	<0.25 ug/L	154768	Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling.
			Dennit Denning d Compliant Location	12/13/16	<0.25 ug/L	163842	
			Permit Required Sampling Location	12/18/17	<0.25 ug/L	177178	
				6/22/18	<0.25 ug/L	183434	
				9/10/2018	<0.25 ug/L	186690	
				12/13/18	<0.2 ug/L	190367	
				3/21/19	<0.2 ug/L	193277	
				0/28/19	<0.2 ug/L	197241	
				12/18/19	<0.2 ug/L	200413	
				3/11/2020	<0.2 ug/L	207787	
				6/9/20	<0.2 ug/L	211549	
				9/14/20	<0.2 ug/L	215932	
				12/15/20	<0.2 ug/L	220267	
				3/11/21	<0.2 ug/L	223296	
				6/16/21	<0.2 ug/L	227872	
				9/23/21	<0.2 ug/L	232632	
Hanover	15	51-1	28 Rennie Road	11/14/16	<0.25 ug/L	162812	Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling.
				6/12/17	<0.25 ug/L	169816	
			Permit Required Sampling Location	1/25/18	<0.25 ug/L	178218	
				6/8/18	<0.25 ug/L	182945	
Hanover	15	50-1	30 Rennie Road	8/26/16	<0.25 ug/L	159821	Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling.
				9/9/16 10/17/16	<0.25 ug/L	160299	
			Permit Required Sampling Location	10/1//16	<0.25 ug/L	161725	
				12/13/16	<0.25 ug/L	163842	
				1/17/17	<0.25 ug/L	164849	
				2/28/17	<0.25 ug/L	166040	
				3/30/17	<0.25 ug/L	167001	
				7/12/17	<0.25 ug/L	170948	
				9/28/17	<0.25 ug/L	174005	
				12/14/17	<0.25 ug/L	17/120	
				6/19/18	<0.25 ug/L	183434	
				9/10/18	<0.25 ug/L	186690	
				12/13/18	<0.2 ug/L	190367	
				3/19/19	<0.2 ug/L	193277	
				6/20/19	<0.2 ug/L	197018	
				9/12/19	<0.2 ug/L	200413	
				12/17/19	<0.2 ug/L	204953	
				3/9/20	<0.2 ug/L	20//8/	
				U11/20 م(11/20	<∪.∠ Ug/L ∠∩ 2 ug/l	211549 215022	
				12/14/20	<0.2 ug/L	220267	
				3/15/21	<0.2 ug/L	223521	
				6/14/21	<0.2 ug/L	227872	
				9/20/21	<0.2 ug/L	232632	
				12/14/21	<∩ 2 µσ/I	236845	

Sectory 15 36.1 Manual Manua Manual Manual Manual Manua Manual Manual Manua Manual	Town	Tax Map No.	Block - Lot Number	Street Address	Sampling Dates	Result of Analysis 1,4-dioxane (ug/L)	EAI Report ID	Comments
Interver 1<	Hanover	15	38-1	38 Rennie Road	9/20/16	<0.25 ug/L	160742	Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling.
Horne All Start 73/21 4.1 Start 73/21					12/14/16	<0.25 ug/L	163943	
How Part Part Part Part Part Part Part Part				Permit Required Sampling Location	7/12/17	<0.25 ug/L	170948	
Home 13 41 41 400 are biolog 100 are biolog					9/29/17	<0.25 ug/L	174005	
Image: Part of the state of the st					12/12/17	<0.25 ug/L	17/120	
Horse 15 87.1 9 Same See See See See See See See See See S					6/26/18	<0.25 ug/L	183584	
Harry H					9/12/18	<0.25 ug/l	186690	
Ham 15 Value Valu					12/13/18	<0.2 ug/L	190367	
Hateway Association Association Association Association Mateway Association Association Association Association Association Mateway Association Association Association Association Association Association Mateway Association Association Association Association Association Association Mateway Association					3/19/19	<0.2 ug/L	193277	
Integra 1/2 <th1 2<<="" th=""><th></th><th></th><th></th><th></th><th>6/26/19</th><th><0.2 ug/L</th><th>197141</th><th></th></th1>					6/26/19	<0.2 ug/L	197141	
Markan Markan Markan Markan Markan Markan Markan Markan Marka					9/12/19	<0.2 ug/L	200413	
Harver 13 37.1 8 Percent Required Sampling Location 12/12/12 (0/12)					12/17/19	<0.2 ug/L	204953	
Interver 15 37-2 80 Permit fload 0.000 300,000 300,000 300,000 0.0000 300,000 300,000 0.0000 200,000 0.0000					3/13/20	<0.2 ug/L	207878	
Hardow 15 37.1 9 Stability 10 L galo (11/1) 20.387 (20.98) 20.387 (20.98) Hardow 15 37.1 9 Stability State (11/1) -0.2 w/L (11/1)					6/8/20	<0.2 ug/L	211549	
Interver 13 47.3 48.2 eV 2.00% 2.00% Vencer 13 47.3 49.8 emit field 10.710/31 40.2 eV 227921 Vencer 13 47.3 49.8 emit field 10.710/31 40.2 eV 227921 Vencer 13 47.3 49.8 emit field 10.710/31 40.2 eV 20085 Vencer 13 74.3 49.8 emit field 10.710/31 40.2 eV 20085 Vencer 13 74.3 49.8 emit field 10.710/31 40.2 eV 20085 Vencer 13.9 74.2 40.2 eV 20185 10.8 eV 10.8 eV Vencer 13.8 8.74 40.8 eV 20185 10.8 eV <					9/15/20	<0.2 ug/L	215932	
Interver 13 47.1 40.2 kg/L 10,000 227873 (48.9 Honser 13 47.1 # Konne Kaid 10,007 40.2 kg/L 10,007 10.007 50.00 Honser 13 47.1 # Konne Kaid 10,007 40.2 kg/L 10,007 10.007 50.00 Honser 13 47.1 # Konne Kaid 10,007 40.0 kg/L 10,007 10.007 50.00 Honser 13 47.1 # Konne Kaid 10,007 40.0 kg/L 10,007 10.000 10.000 Honser 13 47.1 # Konne Kaid 10.000 10.000 10.000 10.000 17,117 40.0 kg/L 12,1101 40.0 kg/L 12,1101 10.0 kg/L 12,1101 <th></th> <th></th> <th></th> <th></th> <th>12/15/20</th> <th><0.2 ug/L</th> <th>220267</th> <th></th>					12/15/20	<0.2 ug/L	220267	
Interver					3/11/21 6/17/21	<0.2 ug/L	223290	
Hanckert 13 37-1 9 Bernie Road 12/12/12 12/12/15/15 002/300/2 25/32/2 Samples at Owner Request, sampling after August 25, 2017 include permit relates sampling. 14 movert 13 77-1 9 Bernie Required Sampling Location 12/12/12/12/12/12/12/12/12/12/12/12/12/1					9/21/21	<0.2 ug/L	227872	
Henorer 15 57-1 42 Remine Road 50/14 10/14 10/044 100 mm 10.21 mg/L 10.044 10.044 10/044 10/044 0.21 mg/L 0.21 mg/L 10.044 10/044 10/044 10/044 0.21 mg/L 0.21 mg/L 0.21 mg/L 10/044 10/044 10/044 0.21 mg/L 0.21 mg/L 0.21 mg/L 10/044 10/044 10/044 0.21 mg/L 0.21 mg/L 0.21 mg/L 10/044 10/044 10/045 0.21 mg/L 0.21 mg/L 0.21 mg/L 10/044 10/045 10/044 0.21 mg/L 0.21 mg/L 10/044 10/045 10/044 10/045 11/11/11/11/11/11/11/11/11/11/11/11/11/	Hanover	15	37-1	39 Rennie Road	11/12/15	<0.25 ug/L	150322	Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling.
Image: Partic Regulard Sampling Location 9/29/16 0/29/16 10035 1/1 0/29/16 0/29/16 10035 1/1 0/29/16 0/29/16 10035 1/1 0/29/16 0/29/16 10035 1/1 0/29/16 0/29/16 10035 1/1 0/29/16 0/29/16 10035 1/1 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 10026 0/21/18 0/21/18 0/21/18 0/21/18 10026 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/18 0/21/17 0/21/17 0/21/18 0/21/18 0/21/18 0/21/18					12/15/15	<0.25 ug/L	151437	
Innover 15 67-1 42 mmile Required Sampling Location 97/17 0.03.00/1 10000 Innover 15 67-1 42 mmile Required Sampling Location 97/17 0.03.00/1 10000 Innover 15 67-1 42 mmile Required Sampling Location 97/17 0.03.00/1 10000 Innover 15 67-1 42 mmile Required Sampling Location 97/17 0.03.00/1 10000 Innover 15 67-1 42 mmile Required Sampling Location 97/17 0.03.00/1 20005 Innover 15 67-1 42 mmile Required Sampling Location 97/17 0.02.00/1 20005 Innover 15 67-1 42 mmile Required Sampling Location 97/17 0.02.00/1 20005 11000 10 97/17 0.02.00/1 20005 100005 11000 10 10 0.00/1 20005 100005 11000 10 10.00/1 20.00/1 20.00/1 20.00/1 110000 10 10.00/1				Permit Required Sampling Location	9/28/16	<0.25 ug/L	160983	
Hanner 13 67.1 -0.35 sp.1 -1.003 11 11 -0.35 sp.1 -1.003 12 11 11 -0.35 sp.1 -1.003 12 11 11 -0.35 sp.1 -1.003 12 11 -0.35 sp.1 -1.003 -1.003 12 11 -0.35 sp.1 -1.003 -1.003 12 11 -0.35 sp.1 -1.003 -1.003 12 12 -0.2 sp.1 -1.003 -1.003 12 12 -0.2 sp.1 -1.003 -1.003 12 12 -0.2 sp.1 -0.2 sp.1 -1.003 12 11 -0.2 sp.1 -0.02 sp.1 -0.004 12 11 -0.2 sp.1 -0.02 sp.1 -0.004 12 01 -0.2 sp.1 -0.2 sp.1 -0.2 sp.1 -0.2 sp.1 12 01 -0.2 sp.1 -0.2 sp.1 -0.2 sp.1 -0.2 sp.1 12 12 01 -0.2 sp.1 -0.2 s					6/12/17	<0.25 ug/L	169816	
Harrower 15 67.1 4 Remite Road 1372/32					9/29/17	<0.25 ug/L	174005	
Hanover 15 67.1 68.25 supple (919)38 153.92 m, 153.93 m					3/26/18	<0.25 ug/L	179895	
Hanevet 15 68-1 42 Rennie Road 9/19/18 ~0.2 ug/L 134844 1212118 ~0.2 ug/L 19303 19303 19303 371819 ~0.2 ug/L 19303 19303 19303 9/1811 ~0.2 ug/L 20053 19303 19303 9/1814 ~0.2 ug/L 20053 1154 100000 100000 9/1814 ~0.2 ug/L 20335 1154 100000 1154 9/1817 ~0.2 ug/L 20378 1154 1154 1154 9/18700 ~0.2 ug/L 21392 1154 1154 1154 9/18700 ~0.2 ug/L 21392 12164/19 12164/19 12392 1216/19 ~0.2 ug/L 12392 12164/19 12216/19 1220/17 9/18711 ~0.2 ug/L 12392 12164/19 12002 12092 1212/19/L ~0.2 ug/L 12021/19 12002 12021/19 1212/19/L ~0.2 ug/L 12021/11 120202 120002 <th></th> <th></th> <th></th> <th></th> <th>6/21/18</th> <th><0.25 ug/l</th> <th>183434</th> <th></th>					6/21/18	<0.25 ug/l	183434	
Hanover 15 67.1 4 Remie Reguined Sampling Location 6/2/1/3 -0.2 ug/L 19303 11/16/19 -0.2 ug/L 193103 -0.2 ug/L 193103 12/17/8 -0.2 ug/L 193103 -0.2 ug/L 193103 13/16/19 -0.2 ug/L 20033 -0.2 ug/L 20033 11/16/19 -0.2 ug/L 20037 -0.2 ug/L 21584 9/15/0 -0.2 ug/L 22057 -0.2 ug/L 22057 11/16/20 -0.2 ug/L 22051 -0.2 ug/L 22051 11/16/20 -0.2 ug/L 22051 -0.2 ug/L 22057 31/1/10 -0.2 ug/L 22057 -0.2 ug/L 22057 31/1/11 -0.2 ug/L 22057 -0.2 ug/L 22057 31/1/12 -0.2 ug/L 22057 -0.2 ug/L 22057 31/11/11 -0.2 ug/L 22057 -0.2 ug/L 22057 31/11/11 -0.2 ug/L 10.2 ug/L 10.2 ug/L 10.2 ug/L 11/12/11/11 -0.2 ug/L 10.2 ug/					9/19/18	<0.2 ug/L	186834	
Hence 15 68-1 4 Renuie Road 373/20 -0.2 ug/L 19303 11/16/19 -0.2 ug/L 20053 - - 200433 31/3/20 -0.2 ug/L 200433 - - - 31/3/20 -0.2 ug/L 20787 - - - 6//20 -0.2 ug/L 20287 - - - 31/3/20 -0.2 ug/L 20287 - - - 31/3/20 -0.2 ug/L 22287 - - - 31/3/20 -0.2 ug/L 22287 - - - 31/3/21 -0.2 ug/L 22287 - - - 31/3/21 -0.2 ug/L 22782 - - - 31/3/21 -0.2 ug/L 22782 - - - - 41/17/11 -0.2 ug/L -0.2 ug/L 10003 - - - 11/21/17 -0.2 ug/L 10201/L 10202/L 10202/L					12/21/18	<0.2 ug/L	190586	
Harover 15 67-11 42, gente 6/2/3/9 -0.2, og/L 10741 9/16/19 -0.2, og/L 20053 -0.2, og/L 20053 -0.2, og/L 20053 10/16/19 -0.2, og/L 20159 -0.2, og/L 20159 -0.2, og/L 20159 11/16/20 -0.2, og/L 20159 -0.2, og/L 20159 -0.2, og/L 20159 11/16/20 -0.2, og/L 20252 -0.2, og/L 20252 -0.2, og/L 20252 11/16/20 -0.2, og/L 20252 -0.2, og/L 20252 -0.2, og/L 20252 11/16/20 -0.2, og/L -0.2, og/L 20252 -0.2, og/L 10.5787 9/12/10 -0.2, og/L -0.2, og/L 10.5787 -0.2, og/L 10.5787 11/10/15 -0.2, og/L -0.2, og/L 10.5787 -0.2, og/L 10.5787 11/10/16 -0.2, og/L -0.2, og/L 10.5787 -0.2, og/L 10.5787 11/10/16 -0.2, og/L -0.2, og/L 10.5787 -0.2, og/L					3/18/19	<0.2 ug/L	193103	
Hanover 15 67.1 42 Retnic Road 9/16/19 -0.2 ug/L 200535 121/16/39 -0.2 ug/L 200778 -0.2 ug/L 201778 3/13/20 -0.2 ug/L 201778 -0.2 ug/L 20167 9/15/70 -0.2 ug/L 20267 -0.2 ug/L 20267 121/16/20 -0.2 ug/L 20267 -0.2 ug/L 20267 3/17/71 -0.2 ug/L 20267 -0.2 ug/L 20267 9/15/70 -0.2 ug/L 20267 -0.2 ug/L 20267 9/17/71 -0.2 ug/L 20267 -0.2 ug/L 20267 9/17/71 -0.2 ug/L 20267 -0.2 ug/L 20267 9/17/11 -0.2 ug/L 20267 -0.2 ug/L 20267 11/17/71 -0.2 ug/L 15002 -0.2 ug/L 15002 11/17/17 -0.2 ug/L 16002 -0.2 ug/L 17078 11/17/71 -0.2 ug/L 1202/178 -0.2 ug/L 1202/178 12/17/17 -0.2 ug/L 200676 -0.2 ug/					6/25/19	<0.2 ug/L	197141	
Hanover 15 67-1 42 Rennie Road 6/3/13/20 -0.2 ug/L 207878 9/3/13/20 -0.2 ug/L 211549 -0.2 ug/L 212569 12/16/20 -0.2 ug/L 220367 -0.2 ug/L 223632 12/16/20 -0.2 ug/L 223632 -0.2 ug/L 223632 6/17/21 -0.2 ug/L 223632 -0.2 ug/L 23632 6/17/21 -0.2 ug/L 23632 -0.2 ug/L 23632 9/1/16 -0.25 ug/L 15587 Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling. 9/1/16 -0.25 ug/L 157887 Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling. 9/1/16 -0.25 ug/L 15787 Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling. 9/1/16 -0.25 ug/L 17738 172718 -0.25 ug/L 17938 6/2/18 -0.25 ug/L 1797018 -0.25 ug/L 127018 -0.2 ug/L 9/1/2/11 -0.2 ug/L 220367 -0.2 ug/L 220367 -0.2 ug/L					9/16/19	<0.2 ug/L	200535	
Hanover 15 67.1 42 Remite Road 6//30 <0.2 ug/L					12/16/19	<0.2 ug/L	204953	
Hanover 15 67.1 42 Remit Reguired Sampling Location 6/3/16 -0.2 ug/L 220267 12/15/20 -0.2 ug/L 220267 - </th <th></th> <th></th> <th></th> <th></th> <th>3/13/20</th> <th><0.2 ug/L</th> <th>207878</th> <th></th>					3/13/20	<0.2 ug/L	207878	
Hanover 15 67-1 42 Rennie Road 6/2/16 (2/2/17) -0.2 ug/L -0.2 ug/L 22352 -222872 Hanover 15 67-1 42 Rennie Road -6/2/15 -0.2 ug/L 223627 1/17/21 -0.2 ug/L 223872 - - - 9/13/20 -0.2 ug/L 223872 - - 9/11/16 -0.25 ug/L 15587 Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling. 11/1/18 -0.25 ug/L 150032 - - - - 12/21/17 -0.25 ug/L 18384 - - - - - 12/21/18 -0.25 ug/L 18884 - <td< th=""><th></th><th></th><th></th><th></th><th>6/9/20</th><th><0.2 ug/L</th><th>211549</th><th></th></td<>					6/9/20	<0.2 ug/L	211549	
Image: Part of the stand					9/15/20 12/16/20	<0.2 ug/L	215952	
Image: bit					3/17/21	<0.2 ug/L	223521	
Image: second					6/17/21	<0.2 ug/L	227872	
Hanover 15 67-1. 4 Renie Road -11/C/11 -2-0-/h -32-00/ Hanover 15 67-1. 4 Renie Road -6/2/1/6 -0.25 ug/L 157587 Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling. Permit Required Sampling Location -6/2/1/16 -0.25 ug/L 160032 177336 3/21/18 -0.25 ug/L 183434 -0.50 ug/L 188494 197018 -6/2/18 -0.25 ug/L 188690 12/20/18 -0.2 ug/L 197018 -6/2/19 -0.2 ug/L 197018 -0.2 ug/L 197018 -0.2 ug/L -11/2/0/18 -0.2 ug/L 197018 -0.2 ug/L 197018 -0.2 ug/L -11/2/0/18 -0.2 ug/L 200413 -0.2 ug/L 200413 -0.2 ug/L 200413 -11/2/0/17 -0.2 ug/L 2019/L 202067 -0.2 ug/L 21549 -0.2 ug/L 21549 -9/15/20 -0.2 ug/L -0.2 ug/L 22326 -0.2 ug/L 22326 -6/17/21 -0.2 ug/L -0.2 ug/L					9/23/21	<0.2 ug/L	232632	
Hanover 15 6-7.1 42 Remine Road 6/24/16 <0.25 ug/L		1 5	67.1	42 Departs Depart	12/16/21		<u>226015</u>	Compled at Owner Desweet, compling often Avgust 25, 2017 include neuroit related compling
Hanover 15 68-1 44 Rennie Road 7/19/10 Co.2.5 ug/L 110032- 1077336 Hanover 15 68-1 44 Rennie Road 7/19/16 <0.2.5 ug/L 117838 11/2/1/17 <0.25 ug/L 183434 <0.25 ug/L 183434 9/12/2018 <0.2.5 ug/L 180586 <0.2.10/L 190586 6/20/19 <0.2.0g/L 190586 <0.2.0g/L 204953 9/12/2018 <0.2.0g/L 204953 <0.2.0g/L 211549 9/12/201 <0.2.0g/L 211549 <0.2.0g/L 212067 3/12/21 <0.2.0g/L 220267 <0.2.0g/L 223296 11/14/20 <0.2.0g/L 223296 <0.2.0g/L 223296 11/14/20 <0.2.0g/L 223296 <0.2.0g/L 223296 11/14/16 <0.2.5.0g/L 158450 Sampled at Owner Request; surface water in pond also sampled with result of <0.2.5 ug/L	Hanover	15	67-1	142 Kennie Koad	6/24/16 0/1/16	<0.25 ug/L	15/58/	Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling.
Hanover 15 68-1 44 Rennie Road 7/19/16 <0.25 ug/L				Permit Required Sampling Location	9/1/10 12/21/17	<0.25 ug/L	177336	
Hanover 15 68-1 44 Rennie Road 7/19/16 <0.25 ug/L					3/21/18	<0.25 ug/l	179838	
Hanover 15 68-1 44 Rennie Road 7/19/16 <0.25 ug/L 186690 11/20/18 <0.2 ug/L 190586 6/11/20/18 <0.2 ug/L 190718 9/12/2018 <0.2 ug/L 190586 9/12/2018 <0.2 ug/L 200413 9/12/2018 <0.2 ug/L 200413 9/12/2018 <0.2 ug/L 200413					6/22/18	<0.25 ug/L	183434	
Hanover 15 68-1 44 Rennie Road 7/19/16 <0.2 ug/L 190586 Hanover 15 68-1 44 Rennie Road 7/19/16 <0.2 ug/L 190586 11/14/16 <0.2 ug/L 200413 11/14/16 <0.2 ug/L 200453 11/14/16 <0.2 ug/L 211549 9/15/20 <0.2 ug/L 215932 12/14/20 <0.2 ug/L 220267 11/14/16 <0.2 ug/L 222047 11/14/16 <0.2 ug/L 222876 11/14/16 <0.2 ug/L 227872 11/14/16 <0.2 ug/L 232632 14anover 15 68-1 44 Rennie Road 7/19/16 <0.25 ug/L 15845 Sampled at Owner Request; surface water in pond also sampled with result of <0.25 ug/L					9/12/2018	<0.25 ug/L	186690	
Hanover 15 68-1 44 Rennie Road 7/19/16 <0.2 ug/L 197018 Manover 15 68-1 44 Rennie Road 7/19/16 <0.2 ug/L 200413 11/4/16 <0.2 ug/L 200413 200413 12/18/19 <0.2 ug/L 2004953 6/9/20 <0.2 ug/L 211549 9/15/20 <0.2 ug/L 215932 12/14/20 <0.2 ug/L 220267 3/12/21 <0.2 ug/L 223296 6/17/21 <0.2 ug/L 223296 6/17/2 <0.2 ug/L 2232632 Hanover 15 68-1 44 Rennie Road 7/19/16 <0.25 ug/L 15850 Sampled at Owner Request; surface water in pond also sampled with result of <0.25 ug/L					12/20/18	<0.2 ug/L	190586	
Hanover 15 68-1 44 Rennie Road 7/19/16 <0.2 ug/L 200413 12/18/19 <0.2 ug/L 204953 204953 6/9/20 <0.2 ug/L 2115492 9/15/20 <0.2 ug/L 2125932 12/14/20 <0.2 ug/L 220267 3/12/21 <0.2 ug/L 223296 6/17/21 <0.2 ug/L 232632 Hanover 15 68-1 44 Rennie Road 7/19/16 <0.25 ug/L 158450 8/2/16 <0.25 ug/L 158913 Sampled at Owner Request; surface water in pond also sampled with result of <0.25 ug/L					6/20/19	<0.2 ug/L	197018	
Hanover 15 68-1 44 Rennie Road 7/19/16 <0.2 ug/L 204953 211549 111//116 <0.2 ug/L 211549 215932 215932 21214/20 202077 3/12/21 <0.2 ug/L 2023296 3/12/21 <0.2 ug/L 227872 Hanover 15 68-1 44 Rennie Road 7/19/16 <0.25 ug/L 158450 Sampled at Owner Request; surface water in pond also sampled with result of <0.25 ug/L					9/13/19	<0.2 ug/L	200413	
Hanover 15 68-1 44 Rennie Road 7/19/16 <0.2 ug/L 211549 <0.2 ug/L 215932 <0.2 ug/L 220267 <0.2 ug/L 220267 <0.2 ug/L 223296 <0.2 ug/L 227872 <0.2 ug/L 223263 <0.2 ug/L 227872 <0.2 ug/L 232632 <0.2 ug/L 232632 <0.2 ug/L 232632 <0.2 ug/L 3162 <0.2 ug/L 3163 <0.2 ug/L 3162465					12/18/19	<0.2 ug/L	204953	
Hanover 15 68-1 44 Rennie Road 7/19/16 <0.2 ug/L 215932 220267 3/12/21 <0.2 ug/L 223296 6/17/21 <0.2 ug/L 227872 9/20/21 <0.2 ug/L 232632					6/9/20	<0.2 ug/L	211549	
Hanover 15 68-1 44 Rennie Road 7/19/16 <0.25 ug/L					9/15/20	<0.2 ug/L	215932	
No.2 ug/L No.2 ug/L Z25250 6/17/21 <0.2 ug/L 227872 9/20/21 <0.2 ug/L 232632 Hanover 15 68-1 44 Rennie Road 7/19/16 <0.25 ug/L 158450 8/2/16 <0.25 ug/L 158913 11/4/16 <0.25 ug/L 162465					12/14/20 2/12/21	<0.2 ug/L	220267	
Image: Marking and Markin					6/17/21	<0.2 ug/L <0.2 ug/L	223230	
Hanover 15 68-1 44 Rennie Road 7/19/16 <0.25 ug/L					9/20/21	<0.2 ug/l	232632	
Name //19/16 <0.25 ug/L	Hanovor	15	68-1	44 Rennie Road	7/10/10		450450	Sampled at Owner Request: surface water in nond also sampled with result of <0.25 ug/l
0/2/10 <0.25 ug/L 158915 11/4/16 <0.25 ug/L 162465	nanover	12	1-00	אדר הפוווופ הטמע	//19/16 0/2/16	<0.25 ug/L	158450	Sampled at Owner Nequest, surface water in pond also sampled with result of <0.25 ug/L
					0/2/10 11///16	<0.25 Ug/L ∠0.25 ug/l	162465	
2/28/17 <0.25 ug/l 166040					2/28/17	<0.25 ug/l	166040	
4/12/17 <0.25 ug/L 167511					4/12/17	<0.25 ug/L	167511	
11/20/17 <0.25 ug/L 176215					11/20/17	<0.25 ug/L	176215	
6/8/20 <0.2 ug/L 211549					6/8/20	<0.2 ug/L	211549	
6/8/20 (Pond) <0.2 ug/L (Pond) 211549 (Pond)					6/8/20 (Pond)	<0.2 ug/L (Pond)	211549 (Pond)	

Town	Tax Map No.	Block - Lot Number	· Street Address	Sampling Dates	Result of Analysis 1,4-dioxane (ug/L)	EAI Report ID	Comments
Hanover	15	36-1	47 Rennie Road	//15/16	<0.25 ug/L	158334	Sampled at Owner Request, sampling after August 25, 2017 include permit related sampling.
				8/3/16	<0.25 ug/L	158957	
			Permit Required Sampling Location	10/13/16	<0.25 ug/L	161641	
				6/12/17	<0.25 ug/L	169816	
				9/28/17	<0.25 ug/L	174005	
				12/18/17	<0.25 ug/L	177178	
				3/22/18	<0.25 ug/L	179838	
				6/20/18	<0.25 ug/L	183434	
				9/17/18	<0.2 ug/L	186834	
				12/21/18	<0.2 ug/L	190586	
				3/19/19	<0.2 ug/L	193277	
				6/24/19	<0.2 ug/L	197141	
				9/12/19	<0.2 ug/L	200413	
				12/19/19	<0.2 ug/L	204953	
				6/8/20	<0.2 ug/L	211549	
				9/14/20	<0.2 ug/L	215932	
				12/14/20	<0.2 ug/L	220267	
				3/16/21	<0.2 ug/L	223521	
				6/14/21	<0.2 ug/L	227872	
				9/21/21	<0.2 ug/L	232632	
Hanover	15	21_1	18 Pennie Poad	12/16/21		236845	Owner sampled well data not reported: GZA sampled rounds shown
Hanover	15	51-1		10/2//16	<0.25 ug/L	162127	owner sampled wen data not reported, 02A sampled rounds shown
				12/1/16	<0.25 ug/L	163445	
				10/2//1/	<0.25 ug/L	1/5220	
				6/8/20	<0.2 ug/L	211549	
Hanover	15	33-1	50 Rennie Road	10/27/2017	<0.25 ug/L	175220	Sampled at Owner Request
Hanover	15	32-1	52 Rennie Road	9/16/16	<0.25 ug/L	160639	Sampled at Owner Request
				11/16/16	<0.25 ug/L	162940	
Hanover	5	95-1	272 Hanover Center Road	1/10/2017	<0.25 ug/L	164637	Sampled at Owner Request
Hanover	9	52-1	331 Hanover Center Road (Hanover Center Reservoir)	9/30/16	<0.25 ug/L	1610/3	Sampled at Request of Hanover Water Department
		-		10/2//16	<0.25 ug/L	162127	
Hanover	9	51-1	361 Hanover Center Road	9/2/16	<0.25 ug/L	160032	Sampled at Owner Request
	0	50.4	205 Hawayan Cantan Daad	9/22/16	<0.25 ug/L	160828	Controlled at Output Destruct
Hanover	9	50-1	365 Hanover Center Road	9/15/16	<0.25 ug/L	160639	Sampled at Owner Request
Hanovor	0	01.1	401 Hanover Center Read	11/7/10	<0.25 ug/L	162736	Sampled at Owner Request
папочег	9	91-1		2/14/17	<0.25 ug/L	102/30	Sampled at Owner Request
Hanovor	12	76.1	462 Hanover Center Boad	2/14/17	<0.25 ug/L	168102	Sampled at Owner Request
папочег	15	70-1		7/12/17		170048	Sampled at Owner Request
Hanover	12	170-1	472 Hanover Center Road	10/13/16	<0.25 ug/l	161641	Sampled at Owner Request
				11/14/16	<0.25 µg/l	162804	
Hanover	13	3-1	487 Hanover Center Road	12/8/16	<0.25 ug/l	163741	Sampled at Owner Request
				1/12/17	<0.25 ug/l	164764	
Hanover	12	13-1	494 Hanover Center Road	10/13/16	<0.25 ug/L	161641	Sampled at Owner Request
				11/3/16	<0.25 ug/L	162444	
				10/27/17	<0.25 ug/L	175220	
Hanover	13	10-1	544 Hanover Center Road	3/30/17	<0.25 ug/L	167001	Sampled at Owner Request
				4/27/17	<0.25 ug/L	168102	
Hanover	13	11-1	552 Hanover Center Road	9/2/16	<0.25 ug/L	160032	Sampled at Owner Request
				9/22/16	<0.25 ug/L	160828	
Hanover	13	12-1	562 Hanover Center Road	11/12/15	<0.25 ug/L	150322	Sampled at Owner Request
				12/22/15	<0.25 ug/L	151632	
Hanover	13	13-1	566 Hanover Center Road	1/6/16	<0.25 ug/L	151971	Sampled at Owner Request
				8/19/16	<0.25 ug/L	159611	
				10/20/16	<0.25 ug/L	161885	
				12/22/16	<0.25 ug/L	164218	
				6/12/17	<0.25 ug/L	169816	
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Town	Tax Map No.	Block - Lot Number	Street Address	Sampling Dates	Result of Analysis 1,4-dioxane (ug/L)	EAI Report ID	Comments
Hanover	13	22-1	587 Hanover Center Road	not reported	not reported	not reported	Owner sampled well
Hanover	13	15-1	588 Hanover Center Road	9/17/15	<0.25 ug/L	148124	Abandoned overburden water supply well sampled at owner request
				10/9/15	<0.25 ug/L	148910	
Hanover	13	71-1	593 Hanover Center Road	9/15/16	<0.25 ug/L	160639	Sampled at Owner Request
				10/12/16	<0.25 ug/L	161641	
Hanover	13	19-1	594 Hanover Center Road	9/14/15	<0.25 ug/L	147961	Included in September 1, 2015 Work Plan; sampling after August 25, 2017 include permit related sampling.
				10/1/15	<0.25 ug/L	148589	
			Permit Required Sampling Location	1/14/16	<0.25 ug/L	152271	Well winterized; no access during December 2017, March 2018, December 2018.
				5/20/16	<0.25 ug/L	156322	
				9/30/16	<0.25 ug/L	161073	
				1/17/17	<0.25 ug/L	164849	
				2/28/17	<0.25 ug/L	166040	
				4/12/17	<0.25 ug/L	167511	
				5/31/17	<0.25 ug/L	169325	
				3/23/21	<0.2 ug/L	223745	
				6/14/21	<0.2 ug/L	227872	
				9/21/21	<0.2 ug/L	232632	
	- 10	22.4		12/14/21	<0.2 ug/L	236845	
Hanover	13	20-1	603 Hanover Center Road	9/14/15	<0.25 ug/L	147961	Included in September 1, 2015 Work Plan; owner requested follow on sampling
				9/30/15	<0.25 ug/L	148486	
				9/28/16	<0.25 ug/L	160983	
	10	11.1	CO7 Llanavar Canton Dood	10/20/16	<0.25 ug/L	161885	Compled at Oursen Deswart
Hanover	10	11-1	607 Hanover Center Road	9/20/16	<0.25 ug/L	160742	Sampled at Owner Request
Hanovor	16	7 1	612 Hanavar Contar Poad	11///10	<0.25 ug/L	102551	Sampling after August 25, 2017 include parmit related campling
папочег	10	/-1	Barmit Required Sampling Location	9/30/16	<0.25 ug/L	1610/3	Sampling after August 25, 2017 include permit related sampling.
				2/29/19	<0.25 ug/L	102405	
				3/26/19		19375	
Hanovor	16	6.1	626 Hanover Center Pead	10/13/16		193540	Sampled at Owner Request
Hanover	10	0-1		11/14/16	<0.25 ug/L	162804	Sampled at Owner Request
				5/6/20	<0.2 µg/L	210024	
Hanover	16	29-1	641 Hanover Center Road	10/18/16	<0.25 ug/L	161787	Sampled at Owner Request
				11/16/16	<0.25 ug/L	162940	
Hanover	16	4-1	642 Hanover Center Road	2/28/17	<0.25ug/L	166040	Sampled at Owner Request
				4/27/17	<0.25 ug/L	168102	
Hanover	16	3-1	643 Hanover Center Road	10/20/16	<0.25 ug/L	161885	Sampled at Owner Request
	4.6	20.4		11/21/16	<0.25 ug/L	163128	
Hanover	16	28-1	648 Hanover Center Road	10/20/16	<0.25 ug/L	161885	Sampled at Owner Request
	10	10.1	CE 4 Hanayan Cantan Daad	11/21/16	<0.25 ug/L	163128	Concelled at Oursen Deswart
Hanover	10	19-1	654 Hanover Center Road	12/8/16		1637/1	Sampled at Owner Request
				8/10/17	<0.25 ug/L	172128	
Hanover	16	33-1	655 Hanover Center Road	9/22/16	<0.25 ug/l	160828	Sampled at Owner Reguest
				10/24/16	<0.25 ug/L	161967	
				12/31/18	<0.2 ug/L	190726	
Hanover	16	1-1	663 Hanover Center Road	9/22/16	<0.25 µg/l	160828	Sampled at Owner Request
				10/6/16	<0.25 ug/L	161366	
				11/29/16	<0.25 ug/L	163305	
				1/3/17	<0.25 ug/L	164413	
				6/21/19	<0.2 ug/L	197018	
Hanover	16	21-1	668 Hanover Center Road	9/30/16	0.30 ug/L	161073	Sampled at Owner Request
				10/6/16	0.28 ug/L	161367	
				10/26/17	0.31 ug/L	162070	
				12/6/16	<0.25 ug/L	163631	
				2/1/17	0.27 ug/L	165269	
				11/29/17	<0.25 ug/L	176460	
		•					-

Introde 35 354 off-line/sec fairs isad NMM -0.73 kg/line/sec fairs isad Surgest down isages: -0.73 kg/line Surgest down isages: -0.75 kg/line Norme 10 7.85 kg/line -0.75 kg/line	Town	Tax Map No.	Block - Lot Number	Street Address	Sampling Dates	Result of Analysis 1,4-dioxane (ug/L)	EAI Report ID	Comments
Interval	Hanover	16	32-1	669 Hanover Center Road	9/30/16	<0.25 ug/L	161073	Sampled at Owner Request
Image: Process of the second					10/18/16	<0.25 ug/L	161787	
Image Image <th< th=""><th></th><th></th><th></th><th></th><th>6/26/18</th><th><0.25 ug/L</th><th>183584</th><th></th></th<>					6/26/18	<0.25 ug/L	183584	
Internet					6/20/19	<0.2 ug/L	197018	
Interver					8/13/20	<0.2 ug/L	214424	
Introde 10 210 20air (are 91/10 -0.0.4 by/10 -0.0.4 by/10 -0.0.4 by/10 -0.0.4 by/10 -0.0.4 by/10 Hame 11 21 21 21.4<					7/7/21	<0.2 ug/L	228720	
Interver 15 25.1 3 Dairy Late 127.16 -0.25 g/L -0.25 g/L </th <th>Hanover</th> <th>16</th> <th>22-1</th> <th>1 Dairy Lane</th> <th>9/15/16</th> <th><0.25 ug/L</th> <th>160639</th> <th>Previous owner sampled well, data not reported; data shown for samples collected by GZA</th>	Hanover	16	22-1	1 Dairy Lane	9/15/16	<0.25 ug/L	160639	Previous owner sampled well, data not reported; data shown for samples collected by GZA
Hendow 19 25 35 25.4 3 Dary Lane 67/8/5 0.03 kg/t 1014/4 1101/16 0.03 kg/t 0.03 kg/t 0.01 kg/t 1101/16 0.03 kg/t 0.03 kg/t 0.01 kg/t 1101/16 0.03 kg/t 0.03 kg/t 0.03 kg/t 1101/16 0.03 kg/t 0.03 kg/t 0.05 kg/t 1101/16 0.03 kg/t 0.05 kg/t 0.05 kg/t 1101/16 0.03 kg/t 0.05 kg/t 0.05 kg/t 1101/16 0.02 kg/t 0.07 kg/t 0.02 kg/t 1101/16 0.02 kg/t 0.07 kg/t 0.02 kg/t 1101/16 0.02 kg/t 0.07 kg/t 0.02 kg/t 1101/16 0.02 kg/t 0.00 kg/t 0.00 kg/t 1101/16 0.02 kg/t 0.00 kg/t 0.00 kg/t 1111/16 0.02 kg/t 0.00 kg/t 0.00 kg/t 11111/16 0.02 kg/t 0.00 kg/t<					11/7/16	<0.25 ug/L	162531	
Horne 1 Sample for the second	Hanover	16	23-1	3 Dairy Lane	8/26/16	<0.25 ug/L	159821	Sampled at Owner Request
Hanne 11/27/19 0.03 /07 1033/07 11/27/19 0.03 /07 1033/07 1033/07 11/10/16 0.03 /07 1039/07 1039/07 11/10/17 0.03 /07 1039/07 1050/07 11/10/17 0.03 /07 1039/07 1000/07 11/10/17 0.03 /07 1003/07 1000/07 11/10/17 0.03 /07 1003/07 1000/07 11/10/17 0.02 /07 1003/07 1000/07 11/10/17 0.02 /07 1003/07 1000/07 11/10/17 0.02 /07 1000/07 1000/07 11/10/17 0.02 /07 1000/07 1000/07 11/10/17 0.02 /07 100/07 100/07 11/10/17 100/17/16 0.02 /07 100/07 11/10/17 100/17/16 0.02 /07 100/07 11/10/17 100/17/16 0.02 /07 100/07 11/11/17 100/17/16 0.02 /07 100/07 11/11/17 100/17/16 0.02 /07 100/07 </th <th></th> <th></th> <th></th> <th></th> <th>10/11/16</th> <th><0.25 ug/L</th> <th>161542</th> <th></th>					10/11/16	<0.25 ug/L	161542	
Interver 15 15/14/15 0.05.9(1) 0.0549/1 17/10/1 0.12.9(1) 0.01549/1 10649/1 17/10/1 0.12.9(1) 0.01549/1 10649/1 17/10/1 0.12.9(1) 0.01549/1 10649/1 17/10/1 0.12.9(1) 10632 10649/1 17/10/1 0.02.9(1) 10532 10649/1 17/10/1 0.02.9(1) 17218 10741/1 17/10/1 0.02.9(1) 17218 10741/1 17/10/1 0.02.9(1) 17218 17218 17/10/1 0.02.9(1) 17218 17218 17/10/1 0.02.9(1) 18049 17218 17/10/1 0.02.9(1) 18049 18049 18/10/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1 19/14/1					11/22/16	<0.25 ug/L	163150	
Hanner 16 2/11 0 2/12/14 0					12/14/16	<0.25 ug/L	163943	
Hanne 16 2/14/19 -0.05 s.g./. 165072 16/10 -0.55 s.g./. 160010 -0.05 s.g./. 160020 16/11 -0.05 s.g./. 160020 -0.05 s.g./. 160020 17/12 -0.05 s.g./. 109326 -0.05 s.g./. 109326 9/13/17 -0.05 s.g./. 109326 -0.05 s.g./. 109326 9/13/17 -0.05 s.g./. 109326 -0.05 s.g./. 109326 9/13/17 -0.05 s.g./. 103326 -0.05 s.g./. 103326 9/13/17 -0.05 s.g./. 103326 -0.05 s.g./. 103326 1100000 10 -0.05 s.g./. 100838 -0.05 s.g./. 100838 110000 2.5 s.g./. -0.05 s.g./. 100838 -0.05 s.g./. 1009000 110000 -0.05 s.g./. -0.05 s.g./. -0.05 s.g./. 100900 -0.05 s.g./. 1100000 -0.05 s.g./. -0.05 s.g./. -0.05 s.g./. 100300 -0.05 s.g./. 100300 1100000 -0.05 s.g./. -0.05 s.g./.					1/17/16	<0.25 ug/L	164849	
Hander 1 <th></th> <th></th> <th></th> <th></th> <th>2/14/16</th> <th><0.25 ug/L</th> <th>165678</th> <th></th>					2/14/16	<0.25 ug/L	165678	
Image Image <td< th=""><th></th><th></th><th></th><th></th><th>3/30/17</th><th><0.25 ug/L</th><th>167001</th><th></th></td<>					3/30/17	<0.25 ug/L	167001	
Image: Provide the second se					4/2//1/	<0.25 ug/L	168102	
Image: Second					5/31/17	<0.25 ug/L	169325	
Image Image <th< th=""><th></th><th></th><th></th><th></th><th>8/10/17</th><th><0.25 ug/L</th><th>172128</th><th></th></th<>					8/10/17	<0.25 ug/L	172128	
Image: A second seco					9/13/17	<0.25 ug/L	1/3423	
Image					6/21/18	<0.25 ug/L	183434	
Inspect Inspect <t< th=""><th></th><th></th><th></th><th></th><th>3/11/20</th><th><0.2 ug/L</th><th>207787</th><th></th></t<>					3/11/20	<0.2 ug/L	207787	
Indirect 10 24° 30 any Late 11/16 40/25 ug/L 10/353 Manuel a towne neutes Hanowr 16 25-1 7 Dary Lane 2/21/6 40/25 ug/L 152/96 Sampled at Owner Request Hanowr 16 25-1 7 Dary Lane 2/21/6 40/25 ug/L 152/96 Sampled at Owner Request Hanowr 16 27-1 8 Dary Lane 9/01/5 40/25 ug/L 161725 Hanowr 16 27-1 8 Dary Lane 9/01/5 40/25 ug/L 148024 Iculade in September 1, 2015 Work Plan; sampling after August 25, 2017 include permit related sampling. Hanowr 16 27-1 8 Dary Lane 9/01/5 40/25 ug/L 148024 Iculade in September 1, 2015 Work Plan; sampling after August 25, 2017 include permit related sampling. 11/14/15 40/25 ug/L 164663 11/14/15 40/25 ug/L 164663 11/18/17 40/25 ug/L 16800 11/14/16 40/25 ug/L 16801 11/18/17 40/25 ug/L 16801 11/14/16 40/25 ug/L 16863 <	Hanovor	16	24.1	E Dainy Lana	0/29/21		229953	Sampled at Owner Request
Hanover 16 25-1 7 Dairy Lane 12/2/16 G.02 Sug/L 152036 Sampled at Owner Request Hanover 16 25-1 7 Dairy Lane 2/2/16 G.02 Sug/L 153271 Hanover 16 27-1 8 Dairy Lane 2/2/16 G.02 Sug/L 165125 Hanover 16 27-1 8 Dairy Lane 97301/5 G.02 Sug/L 168024 Hanover 16 27-1 8 Dairy Lane 97301/5 G.02 Sug/L 164054 17/2/17 G.02 Sug/L 164165 12/2/17 G.02 Sug/L 164165 12/2/17 G.02 Sug/L 164165 12/2/17 G.02 Sug/L 164165 12/2/17 G.02 Sug/L 164165 169102 169102 169102 5/31/17 G.02 Sug/L 169102 169335 16/7/17 G.02 Sug/L 179303 10/7/17 G.2 Sug/L 179303 10/7/17 G.2 Sug/L 179303 10/7/17 G.2 Sug/L 179383 10/7/138 G.02 Sug/L 179383	папочег	10	24-1	5 Dally Lalle	9/20/10	<0.25 ug/L	162444	Sampled at Owner Request
Instruct I/O I/	Hanovor	16	25.1	7 Dainy Lana	2/2/16	<0.25 ug/L	102444	Sampled at Owner Request
Image: Provide a construction of the synthesis of the synthesyntex of the synthesis of the synthesis of the synthesis o	Hallovel	10	23-1		2/2/10	<0.25 ug/L	152090	Sampled at Owner Request
Image Image <th< th=""><th></th><th></th><th></th><th></th><th>2/23/10</th><th><0.25 ug/L</th><th>161725</th><th></th></th<>					2/23/10	<0.25 ug/L	161725	
Hanover 16 27-1 8 Dairy Lane 9/30/15 -0.25 ug/L 148426 Included in September 1, 2015 Work Plan; sampling after August 25, 2017 include permit related sampling. Hanover 16 27-1 8 Dairy Lane 9/30/15 -0.25 ug/L 148486 Permit Required Sampling Location 11/4/16 -0.25 ug/L 164663 12/21/16 -0.25 ug/L 166400 1/1/17 -0.25 ug/L 166040 -0.75 ug/L 166040 -0.75 ug/L 166040 1/2/17/17 -0.25 ug/L 168102 -0.75 ug/L 169325 -0.75 ug/L 179388 6/26/17 -0.25 ug/L 179388 -0.25 ug/L 179388 -0.25 ug/L 179388 6/26/18 -0.25 ug/L 18584 -9/17/2018 -0.25 ug/L 18584 9/17/201 -0.20 ug/L 12065 -9/17/20 -0.2 ug/L 12065 9/17/20 -0.2 ug/L 12056 -9/21/21 -0.2 ug/L 12056 9/17/20 -0.2 ug/L 120567 -0.2 ug/L 120567 9/11/21 -0					11/22/16	<0.25 ug/L	163150	
Instruction Instruction Solution	Hanover	16	27_1	8 Dairy Lane	9/15/15	<0.25 ug/L	148024	Included in Sentember 1, 2015 Work Plan: campling after August 25, 2017 include permit related sampling
Permit Required Sampling Location 11/4/16 -0.25 ug/L 162465 1/2/17 -0.25 ug/L 16463 1/2/17 -0.25 ug/L 166404 4/2/17 -0.25 ug/L 166904 4/2/17 -0.25 ug/L 166904 4/2/17 -0.25 ug/L 166904 4/2/17 -0.25 ug/L 166904 4/2/17 -0.25 ug/L 169325 10/17 -0.25 ug/L 10703 10/17 -0.25 ug/L 17736 10/17 -0.25 ug/L 179835 4/2/17 -0.25 ug/L 179835 9/17/2018 -0.25 ug/L 183584 9/17/2018 -0.25 ug/L 190565 9/17/2018 -0.25 ug/L 190565 9/17/2018 -0.25 ug/L 120057 9/17/2014 -0.25 ug/L 120057 9/17/2015 -0.25 ug/L 120057 9/17/2016 -0.2 ug/L 120057 9/17/2017 -0.2 ug/L 120057 9/17/2018 -0.2 ug/L 120057 9/17/2019 -0.2 ug/L 120057 <t< th=""><th>Hanover</th><th>10</th><th>27-1</th><th></th><th>9/30/15</th><th><0.25 ug/L</th><th>148486</th><th>included in September 1, 2013 work han, sampling after August 23, 2017 include permit related sampling.</th></t<>	Hanover	10	27-1		9/30/15	<0.25 ug/L	148486	included in September 1, 2013 work han, sampling after August 23, 2017 include permit related sampling.
12/21/16 <0.25 ug/L 164165 17/81/7 <0.25 ug/L 166040 12/21/17 <0.25 ug/L 166040 4/27/17 <0.25 ug/L 168102 6/26/17 <0.25 ug/L 169325 6/26/17 <0.25 ug/L 107303 10/7/17 <0.25 ug/L 179303 10/7/17 <0.25 ug/L 179336 3/22/18 <0.25 ug/L 179388 6/26/18 <0.25 ug/L 183584 12/19/18 <0.20 ug/L 183584 12/19/18 <0.20 ug/L 12056 6/25/20 <0.20 ug/L 212065 11/16/20 <0.20 ug/L 212067 3/11/21 <0.20 ug/L 223267 3/11/21 <0.20 ug/L 223267 3/11/21 <0.20 ug/L 223267 3/11/21 <0.20 ug/L 223267 9/21/21 <0.20 ug				Permit Required Sampling Location	11/4/16	<0.25 ug/L	162465	
1/18/17 <0.25 ug/L 164863 2/28/17 <0.25 ug/L 16604 2/28/17 <0.25 ug/L 168102 4/27/17 <0.25 ug/L 169325 6/26/17 <0.25 ug/L 170303 10/17 <0.25 ug/L 170303 11/219/17 <0.25 ug/L 170303 12/19/17 <0.25 ug/L 177336 12/19/17 <0.25 ug/L 179838 6/26/18 <0.25 ug/L 138584 9/17/2018 <0.2 ug/L 186834 12/19/17 <0.2 ug/L 12592 12/19/17 <0.2 ug/L 125932 12/19/18 <0.2 ug/L 125932 12/19/17 <0.2 ug/L 125932 12/16/20 <0.2 ug/L 223296 12/16/20 <0.2 ug/L 223296 12/16/20 <0.2 ug/L 232396 12/16/21 <0.2 ug/L 232362 12/10/11 <0.2 ug/L 325632				· · · · · · · · · · · · · · · · · · ·	12/21/16	<0.25 ug/L	164165	
1 2/28/17 <0.25 ug/L 166000 4/27/17 <0.25 ug/L 168102 6/25/17 <0.25 ug/L 169325 6/26/17 <0.25 ug/L 17030 10/1/17 <0.25 ug/L 17406 12/19/17 <0.25 ug/L 17736 3/22/18 <0.25 ug/L 17938 6/26/18 <0.25 ug/L 17938 6/26/18 <0.25 ug/L 17938 6/26/18 <0.25 ug/L 186834 6/26/18 <0.2 ug/L 190586 6/25/20 <0.2 ug/L 190586 9/17/20 <0.2 ug/L 215932 9/17/20 <0.2 ug/L 220267 3/11/21 <0.2 ug/L 220267 3/11/21 <0.2 ug/L 220267 9/17/20 <0.2 ug/L 220267 9/17/20 <0.2 ug/L 220267 9/17/20 <0.2 ug/L 220267 9/11/21 <0.2 ug/L 220267 9/11/21 <0.2 ug/L 220267 9/11/20 <0.2 ug/L 220267 9/11/20 <0.2 ug/L <th></th> <th></th> <th></th> <th></th> <th>1/18/17</th> <th><0.25 ug/L</th> <th>164863</th> <th></th>					1/18/17	<0.25 ug/L	164863	
4/27/17 <0.25 ug/L 168102 5/31/17 <0.25 ug/L 169325 6/26/17 <0.25 ug/L 170303 10/7/17 <0.25 ug/L 177336 3/22/18 <0.25 ug/L 177386 6/26/18 <0.25 ug/L 179383 6/26/18 <0.25 ug/L 179384 6/26/18 <0.25 ug/L 183584 9/17/2018 <0.25 ug/L 186834 9/17/2018 <0.20 ug/L 12065 9/17/201 <0.20 ug/L 215932 12/16/20 <0.20 ug/L 223296 12/11/21 <0.20 ug/L 223296 6/26/21 <0.20 ug/L 223632 9/12/11 <0.20 ug/L 232632					2/28/17	<0.25 ug/L	166040	
1 1 -0.25 ug/L 169325 6/26/17 -0.25 ug/L 170303 10/7/17 -0.25 ug/L 174406 12/19/17 -0.25 ug/L 177336 3/22/18 -0.25 ug/L 179838 6/26/17 -0.25 ug/L 183844 9/17/2018 -0.25 ug/L 186834 12/19/18 -0.2 ug/L 190586 6/25/20 -0.2 ug/L 121992 12/19/18 -0.2 ug/L 121993 12/19/18 -0.2 ug/L 121065 6/25/20 -0.2 ug/L 121993 12/16/20 -0.2 ug/L 121993 12/16/20 -0.2 ug/L 121993 12/16/20 -0.2 ug/L 121993 12/16/20 -0.2 ug/L 12932 12/16/20 -0.2 ug/L 123296 6/16/21 -0.2 ug/L 123296 6/16/21 -0.2 ug/L 1232632 9/21/21 -0.2 ug/L 1236261					4/27/17	<0.25 ug/L	168102	
6/26/17 <0.25 ug/L 170303 10/7/17 <0.25 ug/L 174406 12/19/17 <0.25 ug/L 17736 3/22/18 <0.25 ug/L 179838 6/26/18 <0.25 ug/L 188544 9/17/2018 <0.2 ug/L 190586 6/25/20 <0.2 ug/L 121655 9/17/201 <0.2 ug/L 215932 9/17/202 <0.2 ug/L 215932 12/16/200 <0.2 ug/L 220267 3/11/21 <0.2 ug/L 220267 3/11/21 <0.2 ug/L 220267 9/17/201 <0.2 ug/L 220267 9/17/202 <0.2 ug/L 220267 9/17/203 <0.2 ug/L 220267 9/17/204 <0.2 ug/L 220267 9/17/205 <0.2 ug/L 220267 9/17/201 <0.2 ug/L 227872 9/21/21 <0.2 ug/L <th></th> <th></th> <th></th> <th></th> <th>5/31/17</th> <th><0.25 ug/L</th> <th>169325</th> <th></th>					5/31/17	<0.25 ug/L	169325	
10/7/17 <0.25 ug/L 174406 12/19/17 <0.25 ug/L 177336 3/22/18 <0.25 ug/L 179838 6/26/18 <0.25 ug/L 183584 9/17/2018 <0.2 ug/L 186834 12/19/18 <0.2 ug/L 190586 6/25/20 <0.2 ug/L 212065 9/17/20 <0.2 ug/L 212065 9/17/20 <0.2 ug/L 212065 9/17/20 <0.2 ug/L 212065 9/17/20 <0.2 ug/L 220267 3/11/21 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 232632 9/21/21 <0.2 ug/L 232632					6/26/17	<0.25 ug/L	170303	
12/19/17 <0.25 ug/L 177336 3/22/18 <0.25 ug/L 179838 6/26/18 <0.25 ug/L 1835844 9/17/2018 <0.2 ug/L 186834 12/19/18 <0.2 ug/L 190586 6/25/20 <0.2 ug/L 121065 9/17/201 <0.2 ug/L 121065 9/17/201 <0.2 ug/L 121065 9/17/201 <0.2 ug/L 215932 12/16/20 <0.2 ug/L 220567 3/11/11 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 22657 9/21/21 <0.2 ug/L 227872 9/21/21 <0.2 ug/L 232632					10/7/17	<0.25 ug/L	174406	
3/22/18 <0.25 ug/L 179838 6/26/18 <0.25 ug/L 183584 9/17/2018 <0.2 ug/L 186834 12/19/18 <0.2 ug/L 12065 6/25/20 <0.2 ug/L 212065 9/17/201 <0.2 ug/L 212932 12/19/18 <0.2 ug/L 220267 3/11/21 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 22677 12/14/14 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 223296 12/14/14 <0.2 ug/L 232632					12/19/17	<0.25 ug/L	177336	
6/26/18 <0.25 ug/L 183584 9/17/2018 <0.2 ug/L 186834 12/19/18 <0.2 ug/L 190586 6/25/20 <0.2 ug/L 212065 9/17/201 <0.2 ug/L 215932 12/16/20 <0.2 ug/L 220267 3/11/21 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 223296 9/21/21 <0.2 ug/L 232632 9/21/21 <0.2 ug/L 232632					3/22/18	<0.25 ug/L	179838	
9/1//2018 <0.2 ug/L 186834 12/19/18 <0.2 ug/L 190586 6/25/20 <0.2 ug/L 212065 9/17/20 <0.2 ug/L 215932 12/16/20 <0.2 ug/L 220267 3/11/21 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 227872 9/21/21 <0.2 ug/L 232632 9/21/21 <0.2 ug/L 232632					6/26/18	<0.25 ug/L	183584	
12/19/18 <0.2 ug/L 190586 6/25/20 <0.2 ug/L 212065 9/17/20 <0.2 ug/L 215932 12/16/20 <0.2 ug/L 220267 3/11/21 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 223296 9/21/21 <0.2 ug/L 232632 9/21/21 <0.2 ug/L 232632					9/17/2018	<0.2 ug/L	186834	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$					12/19/18	<0.2 ug/L	190586	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$					6/25/20	<0.2 ug/L	212065	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$					9/17/20	<0.2 ug/L	215932	
3/11/21 <0.2 ug/L 223296 6/16/21 <0.2 ug/L 227872 9/21/21 <0.2 ug/L 232632 12/(4/21) <0.2 ug/L 236845					12/16/20	<0.2 ug/L	220267	
b/16/21 <0.2 ug/L 22/8/2 9/21/21 <0.2 ug/L 232632 12/(4/21) <0.2 ug/L 236845					3/11/21	<0.2 ug/L	223296	
9/21/21 <0.2 ug/L 232b32					0/10/21	<0.2 ug/L	22/8/2	
					9/21/21	<0.2 ug/L	232032 226015	

Town	Tax Map No.	Block - Lot Number	Street Address	Sampling Dates	Result of Analysis 1,4-dioxane (ug/L)	EAI Report ID	Comments
Hanover	16	26-1	9 Dairy Lane	12/22/15	<0.25 ug/L	151632	Sampled at Owner Request
				1/6/16	<0.25 ug/L	151971	
				9/28/16	<0.25 ug/L	160983	
				2/28/17	<0.25 ug/L	166040	
				9/10/2018	<0.25 ug/L	186690	
Hanover	16	34-1	10 Dairy Lane	9/11/15	<0.25 ug/L	14/923	Included in September 1, 2015 Work Plan; sampling after August 25, 2017 include permit related sampling.
				3/23/13 10/24/16		161067	
			Permit Required Sampling Location	9/29/17	<0.25 ug/L	17/005	
				12/19/17	<0.25 ug/L	177336	
				3/21/18	<0.25 ug/L	179838	
				6/20/18	<0.25 ug/L	183434	
				9/10/18	<0.25 ug/L	186690	
				12/13/18	<0.2 ug/L	190367	
				3/21/19	<0.2 ug/L	193277	
				6/10/19	<0.2 ug/L	196526	
				9/11/19	<0.2 ug/L	200413	
				12/13/19	<0.2 ug/L	204953	
				3/10/20	<0.2 ug/L	207787	
				6/8/20	<0.2 ug/L	211549	
				9/14/20	<0.2 ug/L	215932	
				12/14/20	<0.2 ug/L	220267	
				3/1/21	<0.2 ug/L	223296	
				6/14/21	<0.2 ug/L	227872	
				9/20/21	<0.2 ug/L	232632	
Hanover	13	23-1	2 Ferson Road	4/12/16	<0.25 ug/L	154768	Sampled at Owner Request
				5/5/16	<0.25 ug/L	155778	
				10/24/16	<0.25 ug/L	161967	
Hanover	13	79-1	3 Ferson Road	9/14/16	<0.25 ug/L	160558	Sampled at Owner Request; surface water in pond also sampled with result of <0.25 ug/L
				10/6/14	<0.25 ug/L	161366	
Hanover	13	25-1	8 Ferson Road	11/12/15	<0.25 ug/L	150322	Sampled at Owner Request
				12/15/15	<0.25 ug/L	151437	
		00.4		12/6/16	<0.25 ug/L	163615	
Hanover	13	82-1	11 Ferson Road	9/22/16	<0.25 ug/L	160828	Sampled at Owner Request
Hanavar	12	72.1	12 Forson Dood	10/13/16	<0.25 ug/L	161641	Sampled at Owner Beguest
папочег	15	/5-1	12 Person Road	6/24/16	<0.25 ug/L	150900	sampled at Owner Request
				11/10/16	<0.25 ug/L	162736	
Hanover	13	72-1	16 Ferson Road	12/13/16	<0.25 ug/L	163842	Sampled at Owner Request
Hanover	13	27-1	17 Ferson Road	12/14/20	<0.2 ug/L	220267	Sampled at Owner Request
Hanover	13	28-1	36 Ferson Road	6/7/16	<0.25 ug/L	156966	Sampled at Owner Request
-				6/24/16	<0.25 ug/L	157587	
				3/30/17	<0.25 ug/L	167001	
Hanover	13	58-1	40 Ferson Road	6/7/16	<0.25 ug/L	156966	Sampled at Owner Request
				6/24/16	<0.25 ug/L	157587	
Hanover	13	CO 1	49 Ferson Road	9/17/2018	<0.2 ug/L	186834	Sampled at Owner Request
nariover	13	09-1		1/24/1/	<0.25 ug/L	165030	Sampleu al Owner Request
Hanover	12	21_1	198 Three Mile Road	4/12/17	<0.25 ug/L	167511	Sampled at Owner Request
Hanover	10	51-1		5/31/17	<0.25 ug/l	169325	Sampled at Owner Nequest
Hanover	15	65-1	3 Emily Lane	8/2/16	<0.25ug/L	158913	Sampled at Owner Request
				9/2/16	<0.25 ug/L	160032	
Hanover	15	64-1	5 Emily Lane	8/25/16	<0.25 ug/L	159821	Sampled at Owner Request
				10/6/16	<0.25 ug/L	161366	
Hanover	15	49-1	1 Fern Lane	9/16/16	<0.25 ug/L	160639	Sampled at Owner Request
				10/6/16	<0.25 ug/L	161366	

Town	Tax Map No.	Block - Lot Number	- Street Address	Sampling Dates	Result of Analysis 1,4-dioxane (ug/L)	EAI Report ID	Comments
Hanover	15	69-1	3 Fern Lane	9/2/16 9/30/16	<0.25 ug/L <0.25 ug/L	160032 161079	Sampled at Owner Request
Hanover	15	70-1	5 Fern Lane	9/2/16	<0.25 µg/l	160032	Sampled at Owner Request
				9/30/16	<0.25 ug/l	161073	
				1/24/17	<0.25 ug/l	165030	
				3/30/17	<0.25 ug/L	167001	
				6/12/17	<0.25 ug/L	169816	
				10/6/17	<0.25 ug/L	174406	
				5/7/20	<0.2 ug/L	210024	
Hanover	15	71-1	7 Fern Lane		<0.25 µg/l		Previous owner sampled well, data not reported; data shown for samples collected by GZA
				10/13/16	<0.25 ug/L	161641	
	45	72.4		11/16/16	(0.23 ug/ L	162940	
Hanover	15	/2-1	9 Fern Lane	9/22/16	<0.25 ug/L	160828	Sampled at Owner Request
				10/18/16	<0.25 ug/L	161787	
				1/10/17	<0.25 ug/L	164637	
Hanover	15	73-1	11 Fern Lane	9/16/16	<0.25 ug/L	160639	Sampled at Owner Request
	45	25.4	20 Team will Ber als Law a	10/18/16	<pre><0.25 ug/L <0.25 ug/L</pre>	161/8/	Consultant office Associat 25, 2017 in shade a constitue late discussible a
Hanover	15	35-1	39 Tranquil Brook Lane	10/6/17	<0.25 ug/L	174406	Sampling after August 25, 2017 include permit related sampling.
			Demait Demained Compliant Location	1/18/18	<0.25 ug/L	178011	
			Permit Required Sampling Location	3/26/18	<0.25 ug/L	179895	
				6/27/18	<0.20 ug/L	183584	
				4/10/19	<0.25 ug/L	194047	
				6/25/19	<0.2 ug/L	197141	
				1/23/20	<0.2 ug/L	206032	
				6/8/20	<0.2 ug/L	211549	
				9/15/20	<0.2 ug/L	215932	
				3/18/21	<0.2 ug/L	223521	
				6/14/21	<0.2 ug/L	227872	
				9/20/21	<0.2 ug/L	232632	
lleneuen	10	17 1	15 Thomason Dood	12/14/21		7260/5	Commission of Overson Descusses
Hanover	16	1/-1	15 Thompson Road	10/24/16	<0.25 ug/L	161967	Sampled at Owner Request
llenever	10	20.1	22 Thomason Dood	12/1/16	<0.25 ug/L	163445	Commission of Overan Derivat
Hanover	10	20-1	32 Thompson Road	9/16/16	<0.25 ug/L	160639	Sampled at Owner Request
Hanavar	10	90.1	45 Thompson Bood	10/17/16	<0.25 ug/L	161725	Sampled at Owner Deguest
Hanover	15	80-1		10/20/16	<0.25 ug/L	161885	Sampled at Owner Request
Hanovor	15	101 1	2 Dingroo Pood	11/21/10	<0.25 ug/L	163128	Sampled at Owner Request
nanovei	15	101-1	S Finglee Road	11///10	<0.25 ug/L	162531	Sampled at Owner Request
Hanover	15	08-1	4 Dingree Road	11/16/16	<0.25 ug/L	163015	Sampled at Owner Request
Hanover	15	58-1		12/12/16	<0.25 ug/L	162940	Sampled at Owner Request
Hanover	15	100-1	5 Dingree Road	12/13/10	<0.25 ug/L	162521	Sampled at Owner Request: surface water in stream on property also sampled with result of $< 0.25 \text{ ug/l}$
Hanover	15	100-1	S Tinglee Road	12/6/16	<0.25 ug/L	162615	Sampled at Owner Request, surface water in stream on property also sampled with result of <0.25 ug/c
Hanover	15	99_1	7 Pingree Road	11/2/16	<0.25 ug/L	162444	Sampled at Owner Request
TUTOVEL	10	JJ-T		12/1/16	<0.25 ug/L	1620/2	
Hanover	15	76-1	2 Mulherrin Farm Road	11/4/16	<0.25 ug/l	167465	Sampled at Owner Request
TUTOVET	15	,,,,		12/6/16	<0.25 ug/L	162615	
Hanover	15	96-1	3 Mulherrin Farm Road	12/21/16	<0.25 ug/l	164165	Sampled at Owner Request
nanover	15	501		1/17/17	<0.25 ug/l	164849	
Hanover	15	95-1	5 Mulherrin Farm Road	11/21/16	<0.25 µg/l	163128	Sampled at Owner Bequest
indiferen	10	55 1		1/3/17	<0.25 µg/l	164413	
Hanover	15	79-1	6 Mulherrin Farm Road	1/4/17	<0.25 ug/L	164413	Sampled at Owner Bequest
				2/1/17	<0.25 ug/L	165269	
Hanover	15	94-1	7 Mulherrin Farm Road	1/3/17	<0.25 ug/L	164413	Sampled at Owner Request
				2/7/17	<0.25 ug/L	165499	
Hanover	15	81-1	8 Mulherrin Farm Road	9/19/16	<0.25 ug/L	160742	Sampled at Owner Request
				10/18/16	<0.25 ug/L	161787	
Hanover	15	111-1	12 Mulherrin Farm Road	11/7/16	<0.25 ug/L	162531	Sampled at Owner Request
				12/13/16	<0.25 ug/L	163842	
Hanover	15	110-1	14 Mulherrin Farm Road	10/27/16	<0.25 ug/L	162127	Sampled at Owner Request
				1/4/17	<0.25 ug/L	164413	
Hanover	15	109-1	16 Mulherrin Farm Road	11/10/16	<0.25 ug/L	162736	Sampled at Owner Request
				12/6/16	<0.25 ug/L	163615	
				·			

Town	Tax Map No.	Block - Lot Number	Street Address	Sampling Dates	Result of Analysis 1,4-dioxane (ug/L)	EAI Report ID	Comments
Hanover	15	89-1	17 Mulherrin Farm Road	4/27/17	<0.25 ug/L	168102	Sampled at Owner Request
				5/12/17	<0.25 ug/L	168703	
Hanover	15	108-1	18 Mulherrin Farm Road	11/4/16	<0.25 ug/L	162465	Sampled at Owner Request
				12/14/16	<0.25 ug/L	163943	
Hanover	15	88-1	19 Mulherrin Farm Road	1/10/17	<0.25 ug/L	164637	Sampled at Owner Request
				2/7/17	<0.25 ug/L	165499	
Hanover	15	107-1	20 Mulherrin Farm Road	11/7/16	<0.25 ug/L	162531	Sampled at Owner Request
Hanavar	1 Г	07.1	21 Mulherrin Form Dood	12/5/16	<0.25 ug/L	163534	Sampled at Owner Deguest
Hanover	15	87-1		11/3/16	<0.25 ug/L	162444	Sampled at Owner Request
Hanover	15	84-1	27 Mulberrin Farm Boad	11/21/16	<0.25 ug/L	163177	Sampled at Owner Request
Hanover	15	83-1	29 Mulherrin Farm Road	11/14/16	<0.25 ug/l	162804	Sampled at Owner Request: surface water in stream on property also sampled with result of $< 0.25 \text{ µg/l}$
Hanover	15	82-1	31 Mulherrin Farm Road	11/16/16	<0.25 ug/L	162940	Sampled at Owner Request
				12/21/16	<0.25 ug/L	164165	
Hanover	12	91-1	1 Goodfellow Road	2/14/17	<0.25 ug/L	165678	Sampled at Owner Request
Hanover	12	45-1	12 Goodfellow Road	2/7/17	<0.25 ug/L	165499	Sampled at Owner Request
Hanover	12	44-1	13 Goodfellow Road	10/27/16	<0.25 ug/L	162127	Sampled at Owner Request
				11/29/16	<0.25 ug/L	163305	
Hanover	12	41-1	16 Goodfellow Road	10/27/16	<0.25 ug/L	162127	Sampled at Owner Request
				12/1/16	<0.25 ug/L	163445	
Hanover	12	221-1	18 Goodfellow Road	9/28/16	<0.25 ug/L	160983	Sampled at Owner Request
	10	100.1		10/24/16	<0.25 ug/L	161967	
Hanover	12	129-1	33 Goodfellow Road	10/27/16	<0.25 ug/L	162127	Sampled at Owner Request
Hanavar	10	222.1	28 Coodfellow Bood	12/8/16	<0.25 ug/L	163741	Sampled at Owner Deguest
Hanover	12	223-1		9/20/16	<0.25 ug/L	160742	Sampled at Owner Request
Hanover	15	75_1	177 Lyme Road	11/14/10	<0.25 ug/L	162804	Sampled at Owner Request
Hallovel	15	/5-1		1/17/17	<0.25 ug/L	164849	Sampled at Owner Request
Hanover	15	28-1	182 Lyme Road	11/21/16	<0.25 ug/L	163128	Sampled at Owner Request: surface water in stream on property also sampled with result of <0.25 ug/L
Hanover	15	52-1	190 Lyme Road	10/20/16	<0.25 ug/L	161885	Sampled at Owner Reguest
				12/1/16	<0.25 ug/L	163445	
Hanover	15	43	196 Lyme Road	10/24/16	<0.25 ug/L	161967	Sampled at Owner Request
				11/21/16	<0.25 ug/L	163128	
Hanover	12	34-1	1 Wardrobe Road	10/24/16	<0.25 ug/L	161967	Sampled at Owner Request
				11/21/16	<0.25 ug/L	163128	
Hanover	15	7-1	11 Grant Road	10/13/16	<0.25 ug/L	161641	Sampled at Owner Request
				10/24/16	<0.25 ug/L	161967	
Hanover	15	9-1	15 Grant Road	4/2//201/	<0.25 ug/L	168102	Sampled at Owner Request
Hanover	12	150		1/4/1/	<0.25 ug/L	164413	Sampled at Owner Request
Hanover			18 Montview Drive	5/16/17	<0.25 ug/L	168809	Sampled at Owners Request
Hallovel				5/31/17	<0.25 ug/L	169325	
Lyme	401	55-multiple lots	85 Dartmouth College Highway, The Village	12/6/16	<0.25 ug/L	163615	Sampled at Owner Request; three individual wells sampled identified as 85 Dartmouth - 100, 85 Dartmouth - 400,
,					0,		and 85 Dartmouth - 701.
Lyme	401	55-123	95 Dartmouth College Highway, Klee Building	9/9/16	<0.25 ug/L	160299	Sampled at Owner Request
Lyme	401	55-123	95 Dartmouth College Highway, Bancroft Building	9/12/16	<0.25 ug/L	160376	Sampled at Owner Request
Lyme	401	42	36 Goose Pond Road	2/14/17	<0.25 ug/L	165678	Sampled at Owner Request
				3/30/17	<0.25 ug/L	167001	
Lyme	401	39	72 Goose Pond Road	11/23/16	<0.25 ug/L	163198	Sampled at Owner Request; abandoned Kings Land Farm dug well; Stream-12 and shallow temporary PVC well also sampled at owners request with result of <0.25 ug/L (EAI ID 162173)
Lyme	401	20	51 Goose Pond Road	9/28/16	<0.25 ug/L	160983	Sampled at Owner Request
				12/21/16	<0.25 ug/L	164165	
Lyme	401	38	104 Goose Pond Road	9/15/16	<0.25 ug/L	160639	Sampled at Owner Request
				10/20/16	<0.25 ug/L	161885	
Lyme	401	37	138 Goose Pond Road	12/8/16	<0.25 ug/L	163741	Sampled at Owner Request
Lyme	401	36	142 Goose Pond Road	10/24/16	<0.25 ug/L	161967	Sampled at Owner Request
				11/22/16	<0.25 ug/L	163150	

Dartmouth College, Rennie Farm Site Hanover, New Hampshire DES Site #201111109, DES Project #27737

Town	Tax Map No.	Block - Lot Number	Street Address	Sampling Dates	Result of Analysis 1,4-dioxane (ug/L)	EAI Report ID	Comments
Lyme	401	35	144 Goose Pond Road	10/18/16	<0.25 ug/L	161787	Sampled at Owner Request
				1/17/17	<0.25 ug/L	164849	
Lyme	401	34	148 Goose Pond Road	12/14/16	<0.25 ug/L	163943	Sampled at Owner Request
				1/4/17	<0.25 ug/L	164413	
				5/31/17	<0.25 ug/L	169325	
				11/20/17	<0.25 ug/L	176215	
Lyme	401	23	149 Goose Pond Road	1/10/17	<0.25 ug/L	164637	Sampled at Owner Request
				2/28/17	<0.25 ug/L	166040	
Lyme	401	33	154 Goose Pond Road	10/24/16	<0.25 ug/L	161967	Sampled at Owner Request
				11/21/16	<0.25 ug/L	163128	
Lyme	401	31-2	158 Goose Pond Road	11/3/16	<0.25 ug/L	162444	Sampled at Owner Request
Lyme	401	31-1	162 Goose Pond Road	11/3/16	<0.25 ug/L	162444	Sampled at Owner Request
Lyme	410	75	174 Goose Pond Road	11/3/16	<0.25 ug/L	162444	Sampled at Owner Request
				12/8/16	<0.25 ug/L	163741	
Lyme	410	74	176 Goose Pond Road	10/20/16	<0.25 ug/L	161885	Sampled at Owner Request
				11/22/16	<0.25 ug/L	163150	
Lyme	410	70	216 Goose Pond Road	11/3/16	<0.25 ug/L	162444	Sampled at Owner Request
				12/8/16	<0.25 ug/L	163741	
Lyme	410	58	305 Baker Hill Road	1/4/17	<0.25 ug/L	164413	Sampled at Owner Request
				2/1/17	<0.25 ug/L	165269	
Lyme	401	30-1	320 Baker Hill Road	2/7/17	<0.25 ug/L	165499	Sampled at Owner Request
Lyme	410	77	321 Baker Hill Road	1/3/17	<0.25 ug/L	164413	Sampled at Owner Request
Lyme	410	79	331 Baker Hill Road	10/18/16	<0.25 ug/L	161787	Sampled at Owner Request
Lyme	401	29	342 Baker Hill Road	1/3/17	<0.25 ug/L	164413	Sampled at Owner Request
				2/1/17	<0.25 ug/L	165269	
Lyme	12	126-1	4 Buskey Circle	8/10/17	<0.25 ug/L	172128	Sampled at Owner Request
Lyme	401	26	5 Pelton Lane	10/13/16	<0.25 ug/L	161641	Sampled at Owner Request
				11/16/16	<0.25 ug/L	162940	
Lyme	401	28	12 Pelton Lane	10/13/16	<0.25 ug/L	161641	Sampled at Owner Request
				11/14/16	<0.25 ug/L	162804	
Lyme	401	27	32 Pelton Lane	12/21/16	<0.25 ug/L	164165	Sampled at Owner Request
				1/18/17	<0.25 ug/L	164863	
				1/4/22	<0.20 ug/L	237413	

Notes:

1. Results are in micrograms per liter (ug/L).

2. "<" indicates not detected above the laboratory reporting limit shown.

3. "not reported" indicates well sampled by owner, results not reported to Dartmouth College; assumed not detected above reporting limit.

4. EAI Report ID indicates Eastern Analytical, Inc. (EAI) laboratory report identification number associated with referenced result.

Date Sampled	GZ-1/R	GZ-2	GZ-3	GZ-4	GZ-5U	GZ-5L	GZ-6	GZ-7U	GZ-7L	GZ-8U	GZ-8L	GZ-9U	GZ-9L	GZ-9D	GZ-10U	GZ-10L	GZ-11U	GZ-11L	GZ-12L	GZ-13L	
5/17/2017	168977	168977	168977	-	168977	168977	-	-	-	-	-	-	168977	168977	-	168977	-	-	-	-	
6/19/2017	dry	170129	170129	dry	170129	170129	170129	170129	170129	-	dry	-	170129	170129	dry	170129	-	-	dry	-	
7/27/2017	dry	dry	dry	dry	171545	171545	-	171545	-	-	-	-	171545	171545	dry	-	-	-	dry	-	
8/25/2017	-	dry	dry	dry	dry	172686	dry	dry	172686	-	-	-	172686	172686	-	172686	-	-	dry	dry	
9/28/2017	dry	dry	dry	dry	dry	174005	dry	dry	174005	174005	174005	174005	174005	174005	dry	174005	174005	174005	dry	dry	
2/22/2018	-	-	- 170974	-	- 170974	-	-	-	-	-	- dm/	-	17/102	17/102	-	-	- 170974	-	-	-	
6/22/2018	-	183/13/	-	-	1/56/4	1/58/4	1/38/4	-	-	-	ury	-	183/13/	1/38/4	-	1/98/4	1/98/4	1/98/4	-		
9/10/2018	drv	drv	drv	drv	drv	186690	drv	drv	186690	186690	drv	186690	186690	186690	drv	186834	drv	186834	drv	drv	
12/14/2018	-	190367	-	-	-	-	-	-	-	-	-	-	190586	190586	-	-	-	-	-	-	
3/19/2019	-	dry	193277	-	193277	193277	193277	dry	193277	193277	dry	-	193277	193277	-	193277	193277	193277	-	-	
6/21/2019	-	197018	-	-	-	-	-	-	-	-	-	-	197018	197018	-	-	-	-	-	-	
9/12/2019	dry	200413	dry	dry	dry	200413	dry	dry	200413	200413	dry	200413	200413	200413	dry	200413	dry	200413	dry	dry	
12/13/2019	-	204953	-	-	-	-	-	-	-	-	-	-	204953	204953	-	-	-	-	-	-	
3/11/2020	-	207788	207788	-	207788	207788	207788	207788	207788	207983	207983	dry	207788	207788		207983	207983	207983	-	-	
6/9/2020	- dm/	211549 dm/	- dm/	- drs.(-	-	- dm/	-	-	- dm/	- dm/	- dm/	211549 dm/	211549	- drs/	- dru	-	-	- dm/	- dm/	
9/18/2020	ary	220270	dry	ary	dry	215955	ary	ary	215955	ary	ary	dry	dry	215955	ary	ary	ary	215955	ary	ury	
3/15/2020	drv	-	drv	-	dry	223520	223520	-	223520	223520	223520	-	223520	223520	-	223520	223520	223520	drv		
6/14/2021	-	227874	-	-	-	-	-	-	-	-	-	-	227874	227874	-	-	-	-	-	-	
9/22/2021	dry	232617	dry	dry	dry	232617	232617	dry	232617	232617	232617	232617	232617	232617	dry	232617	232617	232617	dry	dry	
12/16/2021	-	236846	-	-	-	-	-	-	-	-	-	-	236846	236846	-	-	-	-	-	-	
						_														,	
Date Sampled	GZ-14U	GZ-14L	GZ-15L	GZ-16D	GZ-17L	GZ-18U	GZ-18L	GZ-19U	GZ-19L	GZ-20U	GZ-20L	GZ-22U	GZ-23U	AS-WSW	Dug Well	-					
5/17/2017	-	168977	-	-	168977	-	168977	dry	-	-	-	-	-	-	-	-					
6/19/2017	dry dry	170129 dm/	-	-	170129	dry	170129	dry	170129 dm/	dry	-	-	-	-	-	-					
8/25/2017	ary -	dry	-	-	171545	dry	171545 drv	dry	dry	dry	172686	-	dry		-	-					
9/28/2017	drv	drv	174005	174005	172080	dry	dry	dry	dry	dry	172080	drv	dry	-	-	-					
12/11/2017	dry	dry	-	-	-	-	-	- -	-	-	-		-	-	-	1					
3/22/2018	dry	179874	179974	179974	179874	dry	179874	dry	dry	dry	179874	-	dry	-	-	1					
6/22/2018	dry	dry	-	-	-	-	-	-	-	-	-	-	-	-	-						
9/10/2018	dry	dry	186690	186690	186690	dry	dry	dry	dry	dry	186690	-	dry	-	-	-					
12/14/2018	dry	190367	-	-	-	-	-	-	-	-	-	-	-	-	-	4					
3/19/2019	dry	193277	193277	193277	193277	dry	193277	dry	dry	193277	193277	-	dry	-	-	-					
6/21/2019	dry	197018	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
9/12/2019	dry	ary 20/953	200413	200413	200535	dry	ary	ary	ary	ary	200413	-	dry	-	-	-					
3/11/2020	207788	207788	207983	207983	207983	207788	207788	207788	207788	207788	207788	207788	207788	-	-	-					
6/9/2020	dry	dry	-	-	-	-	-	-	-	-	-	-	-	-	-	1					
9/18/2020	dry	dry	215933	215933	215933	dry	dry	dry	dry	dry	dry	dry	dry	-	-	1					
12/18/2020	dry	dry	-	-	-	-	-	-	-	-	-	-	-	-	-						
3/15/2021	dry	dry	223520	223520	223520	-	-	dry	dry	dry	223520	223520	dry	-	-						
6/14/2021	dry	dry	-	-	-	-	-	-	-	-	-	-	-	-	-	4					
9/22/2021	dry	dry	232617	232617	232617	dry	232617	dry	dry	dry	232617	232617	dry	-	-	-					
12/16/2021	230840	230840	-	-	-	-	-	-	-	-	-	-	-	-	-	J					
GZ-2	240	GZ-2	24L	GZ-	-24D	GZ-	250	GZ-	25L	GZ-	25D	GZ-2	26U	GZ	26L	GZ-	27U	GZ-2	27L	GZ-	27D
Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]
9/29/2017	174005	9/28/2017	174005	6/20/2017	170129	10/6/2017	174400	8/29/2017	172743	8/28/2017	172743	5/18/2017	168977			7/27/2017	171545	10/12/2017	174618	7/27/2017	171545
3/22/2018	180088	12/12/2017	177102	7/26/2017	171545	3/29/2018	180023	10/6/2017	174400	10/6/2017	174400	10/12/2017	174618			10/12/2017	174618	12/11/2017	177102	10/12/2017	174618
9/10/2018	186690	3/22/2018	180088	8/25/2017	172686	9/17/2018	186834	3/29/2018	180023	3/27/2018	179974	3/28/2018	179974			12/11/2017	177102	3/28/2018	179974	12/11/2017	177102
3/19/2019	193277	6/19/2018	183434	9/28/2017	174005	3/19/2019	193277	9/17/2018	186834	9/17/2018	186834	9/17/2018	186834			3/28/2018	179974	6/21/2018	183434	3/28/2018	179974
9/12/2019	200535	9/10/2018	186690	2/22/2018	177336	9/12/2019	200535	3/19/2019	200525	3/19/2019	193277	3/19/2019	200525			6/21/2018	183434	9/1//2018	186834	0/17/2018	183434
3/17/2020	207365	3/19/2010	193277	6/19/2018	183434	3/17/2020	213535	9/17/2019	200555	3/16/2020	200555	9/16/2020	200355			12/18/2018	190586	3/19/2010	193277	12/18/2018	190586
9/22/2021	232617	6/21/2019	197141	9/10/2018	186690	9/23/2021	232617	3/17/2021	223520	9/16/2020	215933	3/24/2021	223745			3/19/2019	193277	6/21/2019	197141	3/19/2019	193277
-,,+	,	9/12/2019	200535	12/14/2018	Frozen	5,25,2021		9/23/2021	232617	3/23/2021	223745	9/22/2021	232617			6/21/2019	197141	9/12/2019	200535	6/21/2019	197141
	1	12/13/2019	204953	3/19/2019	193277	1		, _,		9/23/2021	232617	, ,				9/12/2019	200535	12/16/2019	204953	9/12/2019	200535
	Ī	3/17/2020	207983	6/21/2019	197141]			I			•				12/16/2019	204953	3/16/2020	207983	3/16/2020	207983
	[6/11/2020	211549	9/12/2019	200535	_										9/17/2020	215933	6/9/2020	211549	6/9/2020	211549
		9/15/2020	215933	3/17/2020	207983	4										12/18/2020	220270	9/17/2020	215933	9/18/2020	215933
	ļ	12/22/2020	220335	6/11/2020	211549	4										3/16/2021	223520	12/18/2020	220270	3/24/2021	223745
	ļ	3/17/2021	223520	9/15/2020	215933	4										6/15/2021	227874	6/15/2021	227874	6/15/2021	227874
		0/14/2021	22/874	5/23/2021	223745	4										9/22/2021	232617	9/22/2021	232617	9/22/2021	232617
		9/22/2021	23201/	0/14/2021	22/8/4	4										12/15/2021	230840	12/15/2021	230840	12/15/2021	230840

6/19/2018	183434	9/28/2017	174005
9/10/2018	186690	12/20/2017	177336
12/14/2018	190367	3/22/2018	180088
3/19/2019	193277	6/19/2018	183434
6/21/2019	197141	9/10/2018	186690
9/12/2019	200535	12/14/2018	Frozen
12/13/2019	204953	3/19/2019	193277
3/17/2020	207983	6/21/2019	197141
6/11/2020	211549	9/12/2019	200535
9/15/2020	215933	3/17/2020	207983
12/22/2020	220335	6/11/2020	211549
3/17/2021	223520	9/15/2020	215933
6/14/2021	227874	3/23/2021	223745
9/22/2021	232617	6/14/2021	227874
12/15/2021	236846	9/22/2021	232617
		12/15/2021	236846
	6/19/2018 9/10/2018 12/14/2018 3/19/2019 6/21/2019 9/12/2019 12/13/2019 3/17/2020 6/11/2020 9/15/2020 12/22/2020 3/17/2021 6/14/2021 9/22/2021 12/15/2021	6/19/20181834349/10/201818669012/14/20181903673/19/20191932776/21/20191971419/12/201920053512/13/20192049533/17/20202079836/11/20202115499/15/202021593312/22/20202203353/17/20212235206/14/20212278749/22/2021236846	6/19/20181834349/28/20179/10/201818669012/20/201712/14/20181903673/22/20183/19/20191932776/19/20186/21/20191971419/10/20189/12/201920053512/14/201812/13/20192049533/19/20193/17/20202079836/21/20196/11/20202115499/12/20199/15/20202159333/17/202012/22/20202203356/11/20203/17/20212235209/15/20206/14/20212278743/23/20219/22/20212368469/22/202112/15/20212368469/22/2021

TABLE 4A GROUNDWATER MONITORING WELL SAMPLE LABORATORY REPORT SUMMARY (4/25 - 12/31/2019)

GZ-2	28U	GZ-	-28L	GZ-2	28D	GZ	-29L	GZ-	30U	GZ-	-30L	GZ	-31L	GZ-	32U	GZ	-32L	GZ-	32D	GZ-	-33U
Sample Date	Result [µg/L]																				
10/11/2017	174618	10/11/2017	174618	10/11/2017	174618	9/27/2017	174005	9/17/2017	174005	9/27/2017	174005	9/27/2017	174005	7/27/2017	171545	8/28/2017	172743	7/27/2017	171545	10/6/2017	174400
4/2/2018	180088	4/2/2018	180088	12/14/2017	177102	3/26/2018	179974	3/23/2018	179874	3/23/2018	179874	3/23/2018	179874	8/28/2017	172743	10/6/2017	174400	8/28/2017	172743	3/29/2018	180023
9/12/2018	186690	6/27/2018	183584	4/2/2018	180088	6/19/2018	-	6/19/2018	-	6/19/2018	-	6/19/2018	-	10/6/2017	174400	12/20/2017	177336	10/6/2017	174400	9/18/2018	186834
3/19/2019	193277	9/12/2018	186690	6/27/2018	183584	9/10/2018	186834	9/10/2018	186690	9/10/2018	186690	9/10/2018	186690	6/20/2018	183434	3/28/2018	179974	6/20/2018	183434	3/19/2019	193277
9/12/2019	200413	12/18/2018	190586	9/12/2018	186690	12/14/2018	-	12/14/2018	-	12/14/2018	-	12/14/2018	-	9/12/2018	186690	6/20/2018	183434	9/12/2018	186690	9/12/2019	200535
3/17/2020	207983	3/19/2019	193277	12/18/2018	190586	3/19/2019	193277	3/19/2019	193277	3/19/2019	193277	3/19/2019	193277	3/19/2019	Frozen	9/12/2018	186690	12/17/2018	190586	3/10/2020	207788
9/17/2020	215933	6/21/2019	197141	3/19/2019	193277	9/12/2019	200413	9/12/2019	200413	9/12/2019	200413	9/12/2019	200413	6/21/2019	197141	12/17/2018	190586	3/19/2019	193277	9/18/2020	215933
3/24/2021	223745	9/12/2019	200413	6/21/2019	197141	3/16/2020	207983	3/17/2020	207983	3/17/2020	207983	3/16/2020	207983	9/12/2019	200535	3/19/2019	Frozen	6/21/2019	197141	3/16/2021	223520
9/21/2021	232617	6/11/2020	211549	9/12/2019	200413	9/15/2020	215933	9/15/2020	215933	9/15/2020	215933	9/15/2020	215933	6/11/2020	211549	6/21/2019	197141	9/12/2019	200535	9/22/2021	232617
		9/18/2020	215933	6/9/2020	211549	3/15/2021	223520	3/15/2021	223520	3/15/2021	223520	3/15/2021	223520	9/18/2020	215933	9/12/2019	200535	12/18/2019	204953		
		3/24/2021	223745	12/15/2020	220270	9/22/2021	232617	9/22/2021	232617	9/22/2021	232617	9/22/2021	232617	3/24/2021	223745	12/18/2019	204953	3/10/2020	207788		
		6/16/2021	227874	9/17/2020	215933									6/17/2021	227874	3/11/2020	207788	6/9/2020	211549		
		9/21/2021	232617	12/18/2020	220270	1								9/22/2021	232617	6/9/2020	211549	9/18/2020	215933		
		12/15/2021	236846	3/24/2021	223745	1								12/16/2021	236846	9/17/2020	215933	12/21/2020	220335		
				6/16/2021	227874	1										12/18/2020	220270	3/23/2021	223745		
				9/21/2021	232617	1										3/24/2021	223745	6/17/2021	227874		
				12/15/2021	236846	1										6/17/2021	227874	9/22/2021	232617		
						-										9/22/2021	232617	12/16/2021	236846		
																12/16/2021	236846				
																		•			
GZ-	33L	GZ-	34U	GZ-	34L	GZ	-34D	GZ-	35U	GZ-	35L	GZ	-35D	GZ-	36U	GZ-	37U	GZ-	-37L	GZ-	-37D
Sample Date	Result [µg/L]																				
10/6/2017	174400	5/19/2017	168977	7/27/2017	171545	7/27/2017	171545	8/28/2017	172743	8/28/2017	172743	8/28/2017	172743	10/6/2017	174400	6/20/2017	170129	6/20/2017	170129	5/19/2017	168977
3/29/2018	180023	7/27/2017	171545	8/28/2017	172743	10/11/2017	174618	10/6/2017	174400	10/6/2017	174400	10/12/2017	174618	12/19/2017	177336	10/12/2017	174618	10/12/2017	174618	6/20/2017	170129
9/18/2018	186834	10/11/2017	174618	10/11/2017	174618	3/28/2018	179974	12/19/2017	177336	12/20/2017	177336	12/19/2017	177336	3/27/2018	179974	12/21/2017	177336	12/11/2017	177102	7/26/2017	171545
3/19/2019	193277	12/11/2017	177102	3/27/2018	179974	6/25/2015	183584	3/26/2018	179974	3/29/2018	180023	3/26/2018	179974	6/20/2018	183434	3/28/2018	179974	3/28/2018	179974	8/29/2017	172743
9/12/2019	200535	3/28/2018	179974	6/25/2018	183584	9/19/2018	186834	6/20/2018	183434	6/20/2018	183434	6/20/2018	183434	9/12/2018	186690	6/26/2018	183584	6/26/2018	183584	10/12/2017	174618
3/10/2020	207788	6/25/2018	183584	9/19/2018	186834	3/19/2019	Frozen	9/12/2018	186690	9/12/2018	186690	9/12/2018	186690	12/13/2018	Frozen	9/19/2018	186834	9/19/2018	186834	3/28/2018	179974
9/18/2020	215933	9/25/2018	187044	12/19/2018	190586	6/21/2019	197018	12/17/2018	190586	3/19/2019	193277	12/17/2018	190586	3/19/2019	Frozen	12/19/2018	190586	12/19/2018	190586	6/26/2018	183584
3/17/2021	223520	12/19/2018	190586	3/19/2019	193277	9/12/2019	200535	3/19/2019	193277	6/21/2019	197141	3/19/2019	193277	6/21/2019	197141	3/19/2019	193277	3/19/2019	193277	9/19/2018	186834
9/22/2021	232617	3/19/2019	193277	6/21/2019	197018	3/10/2020	207788	6/21/2019	197141	9/12/2019	200535	6/21/2019	197141	9/12/2019	200535	6/21/2019	197141	6/21/2019	197141	12/19/2018	190586
		6/21/2019	197018	9/12/2019	200535	6/9/2020	211549	9/12/2019	200535	3/10/2020	207788	9/12/2019	200535	3/10/2020	207788	9/12/2019	200535	9/12/2019	200535	3/19/2019	193277
		9/12/2019	200535	12/19/2019	204953	9/17/2020	215933	12/18/2019	204953	6/12/2020	211549	12/18/2019	204953	6/9/2020	211549	12/19/2019	204953	3/10/2020	207788	6/21/2019	197141
		3/10/2020	207788	3/10/2020	207788	12/21/2020	220335	3/10/2020	207788	9/18/2020	215933	6/9/2020	211549	9/18/2020	215933	3/11/2020	207788	6/11/2020	211549	9/12/2019	200535
		6/9/2020	211549	6/9/2020	211549	3/11/2021	223297	6/11/2020	211549	6/17/2021	227874	9/18/2020	215933	12/21/2020	220335	6/10/2020	211549	9/16/2020	215933	3/10/2020	207788
		9/18/2020	215933	9/17/2020	215933	6/16/2021	227874	9/18/2020	215933	9/22/2021	232617	3/23/2021	223745	3/11/2021	223297	9/17/2020	215933	12/18/2020	220270	6/12/2020	211549
		12/21/2020	220335	12/21/2020	220335	9/22/2021	232617	12/21/2020	220335			6/17/2021	227874	6/16/2021	227874	12/18/2020	220270	3/24/2021	223745	9/16/2020	215933
		3/12/2021	223297	3/12/2021	223297	12/16/2021	236846	3/17/2021	223520			9/22/2021	232617	9/22/2021	232617	3/24/2021	223745	6/17/2021	227874	12/18/2020	220270
		6/16/2021	227874	6/16/2021	227874	-		6/17/2021	227874	4		12/16/2021	236846	12/16/2021	236846	6/17/2021	227874	9/22/2021	232617	3/11/2021	223297
		9/22/2021	232617	9/22/2021	232617			9/22/2021	232617	4						9/22/2021	232617	12/16/2021	236846	6/17/2021	227874
		12/16/2021	236846	12/16/2021	236846	J		12/16/2021	236846	J						12/16/2021	236846	l		9/22/2021	232617
																				12/16/2021	236937
GZ-3	38U	GZ-	390	GZ-3	39L	GZ	-39D	GZ-	40U	GZ-4	40M	GZ	-40L	GZ-	40D	GZ-	41U	GZ-	42U	GZ	-42L

GZ-2	28U	GZ	-28L	GZ-	28D	GZ-	29L	GZ-	-30U	GZ	-30L	GZ·	-31L	GZ-	32U	GZ-	-32L	GZ-	32D	GZ-	-33U
Sample Date	Result [µg/L]	Sample Date	Result [µg/L]																		
10/11/2017	174618	10/11/2017	174618	10/11/2017	174618	9/27/2017	174005	9/17/2017	174005	9/27/2017	174005	9/27/2017	174005	7/27/2017	171545	8/28/2017	172743	7/27/2017	171545	10/6/2017	174400
4/2/2018	180088	4/2/2018	180088	12/14/2017	177102	3/26/2018	179974	3/23/2018	179874	3/23/2018	179874	3/23/2018	179874	8/28/2017	172743	10/6/2017	174400	8/28/2017	172743	3/29/2018	180023
9/12/2018	186690	6/27/2018	183584	4/2/2018	180088	6/19/2018	-	6/19/2018	-	6/19/2018	-	6/19/2018	-	10/6/2017	174400	12/20/2017	177336	10/6/2017	174400	9/18/2018	186834
3/19/2019	193277	9/12/2018	186690	6/27/2018	183584	9/10/2018	186834	9/10/2018	186690	9/10/2018	186690	9/10/2018	186690	6/20/2018	183434	3/28/2018	179974	6/20/2018	183434	3/19/2019	193277
9/12/2019	200413	12/18/2018	190586	9/12/2018	186690	12/14/2018	-	12/14/2018	-	12/14/2018	-	12/14/2018	-	9/12/2018	186690	6/20/2018	183434	9/12/2018	186690	9/12/2019	200535
3/17/2020	207983	3/19/2019	193277	12/18/2018	190586	3/19/2019	193277	3/19/2019	193277	3/19/2019	193277	3/19/2019	193277	3/19/2019	Frozen	9/12/2018	186690	12/17/2018	190586	3/10/2020	207788
9/17/2020	215933	6/21/2019	197141	3/19/2019	193277	9/12/2019	200413	9/12/2019	200413	9/12/2019	200413	9/12/2019	200413	6/21/2019	197141	12/17/2018	190586	3/19/2019	193277	9/18/2020	215933
3/24/2021	223745	9/12/2019	200413	6/21/2019	197141	3/16/2020	207983	3/17/2020	207983	3/17/2020	207983	3/16/2020	207983	9/12/2019	200535	3/19/2019	Frozen	6/21/2019	197141	3/16/2021	223520
9/21/2021	232617	6/11/2020	211549	9/12/2019	200413	9/15/2020	215933	9/15/2020	215933	9/15/2020	215933	9/15/2020	215933	6/11/2020	211549	6/21/2019	197141	9/12/2019	200535	9/22/2021	232617
		9/18/2020	215933	6/9/2020	211549	3/15/2021	223520	3/15/2021	223520	3/15/2021	223520	3/15/2021	223520	9/18/2020	215933	9/12/2019	200535	12/18/2019	204953		
		3/24/2021	223745	12/15/2020	220270	9/22/2021	232617	9/22/2021	232617	9/22/2021	232617	9/22/2021	232617	3/24/2021	223745	12/18/2019	204953	3/10/2020	207788		
		6/16/2021	227874	9/17/2020	215933									6/17/2021	227874	3/11/2020	207788	6/9/2020	211549		
		9/21/2021	232617	12/18/2020	220270									9/22/2021	232617	6/9/2020	211549	9/18/2020	215933		
		12/15/2021	236846	3/24/2021	223745									12/16/2021	236846	9/17/2020	215933	12/21/2020	220335		
				6/16/2021	227874											12/18/2020	220270	3/23/2021	223745		
				9/21/2021	232617											3/24/2021	223745	6/17/2021	227874		
				12/15/2021	236846											6/17/2021	227874	9/22/2021	232617		
																9/22/2021	232617	12/16/2021	236846		
																12/16/2021	236846				
GZ-	33L	GZ-	·34U	GZ-	34L	GZ-3	34D	GZ-	-35U	GZ	-35L	GZ-	-35D	GZ-	36U	GZ-	37U	GZ-	-37L	GZ-	-37D
Sample Date	Result [µg/L]	Sample Date	Result [µg/L]																		
10/6/2017	174400	5/19/2017	168977	7/27/2017	171545	7/27/2017	171545	8/28/2017	172743	8/28/2017	172743	8/28/2017	172743	10/6/2017	174400	6/20/2017	170129	6/20/2017	170129	5/19/2017	168977
3/29/2018	180023	7/27/2017	171545	8/28/2017	172743	10/11/2017	174618	10/6/2017	174400	10/6/2017	174400	10/12/2017	174618	12/19/2017	177336	10/12/2017	174618	10/12/2017	174618	6/20/2017	170129
9/18/2018	186834	10/11/2017	174618	10/11/2017	174618	3/28/2018	179974	12/19/2017	177336	12/20/2017	177336	12/19/2017	177336	3/27/2018	179974	12/21/2017	177336	12/11/2017	177102	7/26/2017	171545
3/19/2019	193277	12/11/2017	17/102	3/2//2018	179974	6/25/2015	183584	3/26/2018	179974	3/29/2018	180023	3/26/2018	179974	6/20/2018	183434	3/28/2018	179974	3/28/2018	179974	8/29/2017	172743
9/12/2019	200535	3/28/2018	179974	6/25/2018	183584	9/19/2018	186834	6/20/2018	183434	6/20/2018	183434	6/20/2018	183434	9/12/2018	186690	6/26/2018	183584	6/26/2018	183584	10/12/2017	174618
3/10/2020	207788	6/25/2018	183584	9/19/2018	186834	3/19/2019	Frozen	9/12/2018	186690	9/12/2018	186690	9/12/2018	186690	12/13/2018	Frozen	9/19/2018	186834	9/19/2018	186834	3/28/2018	1/99/4
9/18/2020	215933	9/25/2018	187044	2/10/2018	190586	6/21/2019	197018	2/10/2018	190586	3/19/2019	1932//	2/10/2018	190586	3/19/2019	Frozen	2/10/2018	190586	2/10/2018	190586	6/26/2018	183584
0/22/2021	223520	2/10/2010	190580	5/19/2019	193277	3/10/2020	200555	6/21/2019	193277	0/12/2019	19/141	6/21/2019	193277	0/12/2019	200525	6/21/2019	193277	6/21/2019	195277	9/19/2018	100596
9/22/2021	232017	6/21/2019	193277	0/21/2019	200525	6/0/2020	207788	0/21/2019	200525	3/12/2019	200333	0/21/2019	200525	2/10/2020	200335	0/21/2019	200525	0/21/2019	200525	2/10/2010	190380
		9/12/2019	200535	12/19/2019	200555	9/17/2020	211545	12/18/2019	200333	6/12/2020	207788	12/18/2019	200333	6/9/2020	207788	12/19/2019	200555	3/10/2020	200333	6/21/2019	1932/7
		3/10/2020	200333	3/10/2020	204555	12/21/2020	210000	3/10/2020	204333	9/18/2020	211543	6/9/2020	204555	9/18/2020	211545	3/11/2020	204555	6/11/2020	211549	9/12/2019	200535
		6/9/2020	211549	6/9/2020	211549	3/11/2021	223335	6/11/2020	211549	6/17/2020	227874	9/18/2020	211545	12/21/2020	220335	6/10/2020	211549	9/16/2020	215933	3/10/2020	200333
		9/18/2020	215933	9/17/2020	215933	6/16/2021	223237	9/18/2020	215933	9/22/2021	232617	3/23/2020	223745	3/11/2021	223397	9/17/2020	215933	12/18/2020	220270	6/12/2020	211549
		12/21/2020	220335	12/21/2020	220335	9/22/2021	232617	12/21/2020	220335	5/22/2021	232017	6/17/2021	227874	6/16/2021	227874	12/18/2020	220270	3/24/2021	223745	9/16/2020	215933
		3/12/2020	223297	3/12/2021	223297	12/16/2021	236846	3/17/2021	223520			9/22/2021	232617	9/22/2021	232617	3/24/2021	223745	6/17/2021	227874	12/18/2020	220270
		6/16/2021	227874	6/16/2021	227874	12/10/2021	2000-10	6/17/2021	227874			12/16/2021	236846	12/16/2021	236846	6/17/2021	227874	9/22/2021	232617	3/11/2021	223297
		9/22/2021	232617	9/22/2021	232617	1		9/22/2021	232617	1		12/10/2021	200010	12/10/2021	200010	9/22/2021	232617	12/16/2021	236846	6/17/2021	227874
		12/16/2021	236846	12/16/2021	236846	1		12/16/2021	236846	1						12/16/2021	236846	12/10/2021	2000-70	9/22/2021	232617
		12/10/2021	200040	12/10/2021	200040	1		12/10/2021	200040	1						12/10/2021	200040	I		12/16/2021	236937
																				12/ 10/ 2021	
	2811	G7.	-39U	GZ-	391	GZ-	39D	GZ-	-40U	GZ-	40M	GZ	-40L	GZ-	40D	GZ-	41U	GZ-	4211	G7-	-421

GZ-3	38U	GZ	-39U	GZ	-39L	GZ-	39D	GZ-	-40U	GZ-	40M	GZ	-40L	GZ	-40D	GZ-	41U	GZ-	-42U	GZ	-42L
Sample Date	Result [µg/L]																				
10/6/2017	174400	10/11/2017	174618	10/11/2017	174618	10/11/2017	174618	5/18/2017	168977	4/26/2019	194680	4/26/2019	194680	5/18/2017	168977	10/12/2017	174618	5/18/2017	168977	4/26/2019	194680
3/27/2018	179974	3/27/2018	179974	3/27/2018	179974	12/11/2017	177102	7/25/2017	171545	3/18/2021	223522	3/18/2021	223522	7/25/2017	171545	12/22/2017	177358	7/27/2017	171545	3/18/2021	223522
9/17/2018	186834	9/17/2018	186834	9/17/2018	186834	3/28/2018	179974	8/28/2017	172743					10/12/2017	174618	3/29/2018	180023	8/28/2017	172743		
3/19/2019	193277	3/19/2019	193277	3/19/2019	Frozen	6/21/2018	183434	10/12/2017	174618					6/21/2018	183434	6/21/2018	183434	10/12/2017	174618		
9/12/2019	200535	9/12/2019	200535	9/12/2019	200535	9/17/2018	186834	12/11/2017	177102					9/17/2018	186834	9/17/2018	186834	12/22/2017	177358		
3/16/2020	207983	3/16/2020	207983	6/12/2020	211549	12/17/2018	190586	3/27/2018	179974					12/18/2018	190586	12/18/2018	190586	3/28/2018	179974		
9/16/2020	215933	9/17/2020	215933	9/17/2020	215933	3/19/2019	193277	6/21/2018	183434					3/19/2019	Frozen	3/19/2019	193277	6/21/2018	183434		
3/16/2021	223520	3/16/2021	223520	3/18/2021	223520	6/21/2019	197141	9/11/2018	186690					6/21/2019	197141	6/21/2019	197141	9/17/2018	186834		
9/22/2021	232617	9/22/2021	232617	6/16/2021	227874	9/12/2019	200535	12/18/2018	190586					9/12/2019	200535	9/12/2019	200535	12/18/2018	190586		
				9/22/2021	232617	12/18/2020	220270	3/19/2019	193277					6/9/2020	211549	12/17/2019	204953	3/19/2019	193277		
						6/9/2020	211549	6/21/2019	197141					9/16/2020	215933	3/16/2020	207983	6/21/2019	197141		
						9/17/2020	215933	9/12/2019	200535					3/23/2021	223745	6/9/2020	211549	9/12/2019	200535		
						12/18/2020	220270	12/17/2019	204953					6/15/2021	227874	9/17/2020	215933	12/17/2019	204953		
						3/24/2021	223745	3/16/2020	207983					9/21/2021	232617	12/18/2020	220270	3/16/2020	207983		
						6/16/2021	227874	6/9/2020	211549					12/15/2021	236846	3/16/2021	223520	6/9/2020	211549		
						9/22/2021	232617	9/17/2020	215933							6/16/2021	227874	9/17/2020	215933		
						12/15/2021	236846	12/18/2020	220270							9/22/2021	232617	12/18/2020	220270		
								3/16/2021	223520							12/15/2021	236846	3/16/2021	223520		
								6/16/2021	227874									6/16/2021	227874		
								9/22/2021	232617									9/22/2021	232617		
								12/16/2021	236846									12/15/2021	236846		
GZ-	43U	GZ	Z-44	GZ	2-45	GZ	-46	GZ	-47	GZ	2-48	GZ	-49	GZ	-50	GZ	-51	GZ	-52	GZ	-53
Sample Date	Result [ug/L]	Sample Date	Recult [ug/L]	Sample Date	Result [ug/L]																

5/12/20
12/18/2
6/9/20
9/17/20
12/18/2
3/24/20
6/16/2
9/22/2
12/15/2

GZ-4	43U	GZ	-44	GZ	-45	GZ	-46	GZ	2-47	GZ	-48	GZ	2-49	GZ	2-50	GZ	-51	GZ	-52	GZ	-53
Sample Date	Result [µg/L]																				
		4/26/2019	194680	4/26/2019	194680	4/26/2019	194680	4/26/2019	194680	4/26/2019	194680	4/26/2019	194680	4/26/2019	194680	4/26/2019	194680	4/26/2019	194680	5/22/2019	195752
		12/16/2020	220268	12/16/2020	220268	12/16/2020	220268	3/18/2021	223522	12/16/2020	220268	12/16/2020	220268	12/16/2020	220268	12/16/2020	220268	12/16/2020	220268	12/16/2020	220268
		3/18/2021	223522	3/18/2021	223522	3/18/2021	223522	9/24/2021	232640	3/18/2021	223522	3/18/2021	223522	3/18/2021	223522	3/18/2021	223522	3/18/2021	223522	3/18/2021	223522
																9/24/2021	232640	9/24/2021	232640		
																12/17/2021	236937	12/17/2021	236937		
																	-				

GZ-	54U	GZ-	54D	GZ	-55
Sample Date	Result [µg/L]	Sample Date	Result [µg/L]	Sample Date	Result [µg/L]
5/22/2019	195752	5/22/2019	195752	5/22/2019	195752
9/24/2021	232640	12/16/2020	220268	3/18/2021	223522
		3/18/2021	223522		

Notes:

This table provides Eastern Analytical, Inc.'s (EAI's) laboratory report number associated with each sample. Refer to Appendix C for the individual laboratory reports.
 "-" indicates sampling location not included in respective sampling round.

3. "dry" indicates no water at present at surface water location on the date of the respective sampling round.

4. Refer to text for information regarding additional surface water samples collected at the request of property owners.

TABLE 4A GROUNDWATER MONITORING WELL SAMPLE LABORATORY REPORT SUMMARY (4/25 - 12/31/2019)

Sample Collection Stream - 1 Stream-1A Stream-2 Stream-3 Stream-4 Date 5/18/2017 168977 168977 168977 168977 -6/19/2017 170129 170129 170129 170129 -7/27/2017 171545 171545 171545 171545 -8/25-29/2017 172686 172743 172743 172743 -9/27/2017 174005 174005 ---10/11/2017 174618 174618 ---12/13/2017 177102 177102 177102 177102 -3/22/2018 179974 179874 179974 180023 -6/25-27/2018 183584 183584 183584 183584 -186834 186834 186834 186834 9/10/2018 -190367 12/14-20/2018 190586 190586 190586 -3/19/2019 193277 193277 193277 193277 6/21/2019 197018 197141 197141 197141 9/12/2019 200413 200535 200535 200535 12/16/2019 204953 204953 204953 204953 -3/16/2020 207983 207983 207983 207983 -6/11/2020 211549 211549 211549 211549 -9/17-18/2020 dry dry 215931 215931 -12/16/2020 dry 220269 220269 220269 -3/12/2021 223297 223297 223297 223297 -6/16/2021 -9/21/2021 -12/15/2021 236846 236846 236846 236846 -

Notes:

1. This table provides Eastern Analytical, Inc.'s (EAI's) laboratory report number associated with each sample. Refer to Appendix C for the individual laboratory reports.

2. "-" indicates sampling location not included in respective sampling round.

3. "dry" indicates no water at present at surface water location on the date of the respective sampling round.

4. Refer to text for information regarding additional surface water samples collected at the request of property owners.

TABLE 4B SURFACE WATER SAMPLE LABORATORY REPORT SUMMARY (4/25 - 12/31/2019)

Surface W	/ater Sampling Lo	ocation					
Stream-5	Stream-6	Stream-7	Stream-8	Stream-9	Stream-10	Stream-11	Stream-12
168977	168977	-	-	-	-	-	-
170129	170129	-	-	-	-	170129	-
171545	171545	-	-	-	-	171545	-
172743	172743	-	-	-	-	172686	-
174005	174005	-	-	-	-	174005	-
-	-	-	-	-	-	-	-
177102	177102	-	-	-	-	-	-
180023	180023	-	-	-	-	179874	-
183584	183584	-	-	-	-	-	-
186834	186834	-	-	-	-	186834	-
190586	190586	-	-	-	-	-	-
193277	193277	-	-	-	-	193277	-
197141	197141	-	-	-	-	-	-
200535	200535	-	-	-	-	200535	-
204953	204953	-	-	-	-	-	-
207983	207983	-	-	-	-	207983	-
211549	211549	-	-	-	-	-	-
dry	215931	-	-	-	-	dry	-
220269	220269	-	-	-	-	-	-
223297	223297	-	-	-	-	223745	-
		-	-	-	-	-	-
		-	-	-	-		-
236846	236846	-	-	-	-	-	-

TABLE 4C SUPPLEMENTAL TREATMENT SYSTEM SAMPLE LABORATORY REPORT SUMMARY (4/25 - 12/31/2019)

Sample Collection	System Inf	Post Carbon	System		LGAC		System
Date	System in.	POSt Carbon	Mid.	Inf.	Mid.	Eff.	Eff.
2/1/2017	165268	-	165268	-	-	-	165268
2/6/2017	165411	-	165411	-	-	-	165411
2/14/2017	165677	-	165677	-	-	-	165677
2/21/2017	165807	-	165807	-	-	-	165807
2/27/2017	166006	-	166006	-	-	-	166006
5/22/2017	169009	169009	169009	-	-	-	169009
5/24/2017	-	-	-	169126	169126	169126	-
5/30/2017	169254	169254	169254	-	-	-	169254
6/2/2017	-	-	-	169435	169435	169435	-
6/7/2017	169644	169644	169644	-	-	-	-
6/9/2017	-	-	-	169774	169774	169744	-
6/12/2017	169814	-	-	-	-	-	169814
6/14/2017	169999	169999	169999	169999	169999	169999	-
6/29/2017	170485	170485	170485	170485	170485	170485	-
7/6/2017	170650	-	-	-	-	-	170650
7/13/2017	171009	171009	171009	171009	171009	171009	-
7/26/2017	171544	171544	171544	171544	171544	171544	-
8/8/2017	171986	-	-	-	-	-	171986
8/15/2017	172338	172338	172338	172338	172338	172338	-
8/22/2017	172527	-	-	-	-	-	172527
9/8/2017	173215	-	-	-	-	-	173215
9/12/2017	173423	173423	173423	173423	173423	173423	-
10/13/2017	174658	-	-	-	-	-	174658
10/18/2017	174887	-	174887	174887	174887	174887	-
11/9/2017	175778	-	-	-	-	-	175778
11/13/2017	175934	-	175934	175934	175934	175934	-

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TABLE 4CSUPPLEMENTAL TREATMENT SYSTEM SAMPLE LABORATORY REPORT SUMMARY(4/25 - 12/31/2019)

Sample Collection	System Inf	Post Carbon	System		LGAC		System
Date	System in.	Post Carbon	Mid.	Inf.	Mid.	Eff.	Eff.
11/27/2017	176421	-	176421	176421	176421	176421	-
12/8/2017	176902	-	-	-	-	-	176902
1/2/2018	177584	-	177584	177584	177584	177584	-
1/8/2018	177675	-	-	-	-	-	177675
1/22/2018	178105	-	178105	178105	178105	178105	-
2/5/2018	178559	-	178559	178559	178559	178559	-
2/9/2018	178700	-	-	-	-	-	178700
2/21/2018	179064	-	179064	179064	179064	179064	-
3/6/2018	179388	-	179388	-	-	-	-
3/15/2018	179647	-	-	179646	179646	179646	179647
3/19/2018	179738	-	179738	179738	179738	179738	-
4/2/2018	180187	-	180187	180187	180187	-	-
4/12/2018	180699	-	180699	180699	180699	180699	-
4/17/2018	180782	-	-	-	-	-	180782
4/25/2018	181133	-	181133	181133	181133	181133	-
5/7/2018	181675	-	181675	181675	181675	181675	-
5/18/2018	182085	-	-	-	-	-	182085
5/22/2018	182193	-	182193	182193	182193	182193	-
6/12/2018	183099	-	183099	183099	183099	183099	-
6/21/2018	183404	-	-	-	-	-	183404
7/16/2018	184317	-	-	-	-	-	184317
7/18/2018	-	-	184509	184509	184509	-	-
7/26/2018	-	184748	184748	-	-	-	-
8/16/2018	185574	-	-	-	-	-	185574
9/6/2018	-	186384	186384	186384	186384	-	-
9/17/2018	186723	186722	-	-	-	-	186723
10/15/2018	187894	-	-	-	-	-	187894

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TABLE 4C SUPPLEMENTAL TREATMENT SYSTEM SAMPLE LABORATORY REPORT SUMMARY (4/25 - 12/31/2019)

Sample Collection	System Inf	Post Carbon	System		LGAC		System
Date	System in.	r ost carbon	Mid.	Inf.	Mid.	Eff.	Eff.
10/18/2018	-	188162	188162	188162	188162	-	-
11/14/2018	189175	-	-	-	-	-	189175
11/19/2018	-	189423	189423	189423	189423	-	-
12/13/2018	-	190368	190368	190368	190368	-	-
12/17/2018	190398	-	-	-	-	-	190398
1/2/2019	190850	-	190850	190850	190850	-	-
1/14/2019	191214	-	-	-	-	-	191214
1/23/2018	191464	-	191464	191464	191464	-	-
2/6/2019	191936	-	191936	191936	191936	-	-
2/12/2019	192058	-	-	-	-	-	192058
2/25/2019	192410	-	192410	192410	192410	-	-
3/14/2019	193027	-	-	-	-	-	193027
3/20/2019	193246	-	193246	193246	193246	-	-
4/8/2019	194036	-	194036	194036	194036	-	-
4/22/2019	194469	-	194469	194469	194469	-	-
4/24/2019	194548	-	-	-	-	-	194548
5/14/2019	195433	-	195433	195433	195433	-	-
5/20/2019	195627	-	-	-	-	-	195627
6/10/2019	196526	-	196526	196526	196526	-	-
6/17/2019	196793	-	-	-	-	-	196793
7/2/2019	197363	-	197363	197363	197363	-	-
7/11/2019	197809	-	-	-	-	-	197809
7/21/2019	198256	198256	198256	198256	198256	-	-
8/15/2019	199214	-	-	-	-	-	199214
8/21/2019	199463	-	199463	199463	199463	-	-

TABLE 4CSUPPLEMENTAL TREATMENT SYSTEM SAMPLE LABORATORY REPORT SUMMARY(4/25 - 12/31/2019)

Sample Collection	System Inf	Post Carbon	System			System	
Date	System in.	POSt Carbon	Mid.	Inf.	Mid.	Eff.	Eff.
9/19/2019	200570	-	-	-	-	-	200570
10/14/2019	201831	-	201831	201831	201831	-	-
10/17/2019	201991	-	-	-	-	-	201991
11/14/2019	203394	-	-	-	-	-	203394
11/18/2019	203633	-	203633	203633	203633	-	-
12/16/2019	204953	-	204953	204953	204953	-	-
12/19/2019	204948	-	-	-	-	-	204948
1/7/2020	205467	-	205467	205467	205467	-	-
1/13/2020	205624	-	-	-	-	-	205624
2/3/2020	206383	-	206383	206383	206383	206383	-
2/10/2020	206616	-	-	-	-	-	206616
3/6/2020	207578	-	207578	207578	207578	-	-
3/9/2020	207646	-	-	-	-	-	207646
3/25/2020	208269	-	208269	208269	208269	208269	-
4/8/2020	-	-	-	-	-	-	208829
4/9/2020	208948	-	-	-	-	-	-
4/15/2020	209172	-	209172	209172	209172	209172	-
5/6/2020	210023	-	210023	-	-	-	210023
5/8/2020	-	-	-	210107	210107	210107	-
6/1/2020	211044	-	211044	211044	211044	211044	-
6/11/2020	211550	-	-	-	-	-	211550
7/13/2020	212804	-	-	-	-	-	212804
8/3/2020	213897	-	213897	213897	213897	213897	-
8/11/2020	214291	-	-	-	-	-	214291
9/14/2020	215699	-	-	-	-	-	215699
10/15/2020	217219	-	217219	217219	217219	217219	-
10/19/2020	217327	-	-	-	-	-	217327
11/12/2020	218736	-	-	-	-	-	218736
11/24/2020	219262	-	219262	219262	219262	219262	-
12/14/2020	220039	-	-	-	-	-	220039
12/29/2020	220525	-	220525	220525	220525	220525	-

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TABLE 4C SUPPLEMENTAL TREATMENT SYSTEM SAMPLE LABORATORY REPORT SUMMARY (4/25 - 12/31/2019)

Sample Collection	System Inf	Post Carbon	System			System	
Date	System in.	Post Carbon	Mid.	Inf.	Mid.	Eff.	Eff.
1/13/2021	221158	-	-	-	-	-	221158
1/19/2021	221320	-	221320	221320	221320	221320	-
2/3/2021	221937	-	221937	221937	221937	221937	-
2/10/2021	222172	-	-	-	-	-	222172
2/17/2021	222441	-	222441	222441	222441	222441	-
3/8/2021	223238	-	223238	223238	223238	223238	-
3/11/2021	223237	-	-	-	-	-	223237
3/23/2021	223708	-	223708	223708	223708	223708	-
4/5/2021	224317	-	224317	224317	224317	224317	-
4/13/2021	224593	-	-	-	-	-	224593
4/14/2021	224748	-	224748	224748	224748	224748	-
4/28/2021	225431	-	225431	225431	225431	225431	-
5/10/2021	225980	-	-	-	-	-	225980
5/11/2021	226169	-	226169	226169	226169	226169	-
5/24/2021	226737	-	226737	226737	226737	226737	-
6/7/2021	227441	-	227441	227441	227441	227441	-
6/10/2021	227526	-	-	-	-	-	227526
6/22/2021	228084	-	228084	228084	228084	228084	-
7/12/2021	228909	-	-	-	-	-	228909
7/14/2021	229151	-	229151	229151	229151	229151	-
7/26/2021	-	-	229674	-	-	-	229674
7/29/2021	229953	-	229953	229953	229953	229953	-
8/10/2021	230511	-	230511	230511	230511	230511	-
8/16/2021	230704	-	-	-	-	-	230704
8/23/2021	231176	-	231176	231176	231176	231176	-
9/7/2021	231808	-	231808	231808	231808	231808	-
9/16/2021	232227	-	-	-	-	-	232227
9/28/2021	232759	-	232759	232759	232759	232759	-
10/11/2021	233431	-	-	-	-	-	233431
10/18/2021	233920	-	233920	233920	233920	233920	-
11/8/2021	235037	-	235037	235037	235037	235037	-

TABLE 4C SUPPLEMENTAL TREATMENT SYSTEM SAMPLE LABORATORY REPORT SUMMARY (4/25 - 12/31/2019)

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

Sample Collection	System Inf	Post Carbon	System			System	
Date	System III.	Post Carbon	Mid.	Inf.	Mid.	Eff.	Eff.
11/18/2021	235560	-	-	-	-	-	235560
11/22/2021	235851	-	235851	235851	235851	235851	-
12/7/2021	236354	-	236354	236354	236354	236354	-
12/13/2021	236597	-	-	-	-	-	236597
12/20/2021	237079	-	237079	237079	237079	237079	-

Notes:

1. This table provides Eastern Analytical, Inc.'s (EAI's) laboratory report number associated with each sample.Refer to **Appendix C** for the individual laboratory reports for samples collected during 2019.

2. "-" indicates sampling location not included in respective sampling round.

3. <u>Refer to text for information regarding additional Treatment System samples collected.</u>

TABLE 4D

SUPPLEMENTAL GROUNDWATER PERFORMANCE SAMPLE LABORATORY REPORT SUMMARY (4/25- 12/31/2019)

GZ-P	M-1U	GZ-P	M-1L	GZ-P	M-2U	GZ-P	M-2L	GZ-P	M-3U	GZ-P	M-3L	GZ-P	M-4U
Sample Date	Result [µg/L]												
12/29/2016	164306	12/29/2016	164306	12/28/2016	164306	12/28/2016	164306	1/26/2017	165127	1/26/2017	165127	1/25/2017	165084
7/27/2017	171545	7/27/2017	171545	1/26/2017	165127	1/26/2017	165127	9/29/2017	dry	9/29/2017	174005	9/29/2017	dry
9/29/2017	dry	8/25/2017	172686	7/27/2017	171545	7/27/2017	171545	1/25/2018	178217	1/25/2018	178217	1/25/2018	178217
1/25/2018	178217	9/29/2017	174005	9/29/2017	174005	8/25/2017	172686	12/20/2018	190586	9/18/2018	186834	12/20/2018	190586
12/26/2018	190622	1/25/2018	178217	1/25/2018	178106	9/29/2017	174005	12/18/2019	204953	12/20/2018	190586	12/18/2019	204953
12/18/2019	204953	12/26/2018	190622	12/26/2018	190622	1/25/2018	178217	6/17/2021	227873	12/18/2019	204953	3/17/2021	223522
12/22/2020	220336	12/18/2019	204953	12/18/2019	204953	9/12/2018	186690	9/27/2021	232859	6/16/2020	211709	6/17/2021	227873
6/17/2021	227873	6/16/2020	211709	6/16/2020	211709	12/26/2018	190622			12/18/2020	220268	9/27/2021	232859
		12/22/2020	220336	12/22/2020	220336	12/18/2019	204953			3/17/2021	223522		
		6/17/2021	227873	3/17/2021	223522	6/16/2020	211709			6/17/2021	227873		
		9/27/2021	232859	6/17/2021	227873	12/22/2020	220336			9/27/2021	232859		
				9/27/2021	232859	3/17/2021	223522						
						6/17/2021	227873						
						9/27/2021	232859						

GZ-P	PM-4L	GZ-P	M-5U	GZ-P	M-5L	GZ-P	M-6U	GZ-P	M-7U	GZ-P	M-8U	GZ-P	M-8L
Sample Date	Result [µg/L]												
1/25/2017	165084	1/25/2017	165084	1/25/2017	165084	1/26/2017	165127	1/26/2017	dry	1/26/2017	dry	1/25/2017	165084
9/29/2017	174005	9/29/2017	dry	9/29/2017	174005	9/29/2017	174005	9/29/2017	dry	9/29/2017	dry	9/29/2017	dry
1/25/2018	178217	1/25/2018	178217	1/25/2018	178217	1/25/2018	178217	1/25/2018	dry	1/25/2018	dry	1/25/2018	178106
9/18/2018	186834	12/26/2018	190622	9/18/2018	186834	12/20/2018	190586					12/26/2018	190622
12/20/2018	190586			12/26/2018	190622	12/18/2019	204953					12/18/2019	204953
12/18/2019	204953			12/18/2019	204953	6/16/2020	211709					12/18/2020	220268
12/18/2020	220268			6/16/2020	211709	3/17/2021	223522					6/17/2021	227873
3/17/2021	223522			12/18/2020	220268	6/17/2021	227873					9/27/2021	232859
6/17/2021	227873			3/17/2021	223522	9/27/2021	232859						
9/27/2021	232859			6/17/2021	227873			-					
				9/27/2021	232859								

GZ-PM-9L									
Sample Date	Result [µg/L]								
1/26/2017	165127								
9/29/2017	174005								
1/25/2018	178106								
9/18/2018	186834								
12/26/2018	190622								
12/18/2019	204953								
12/18/2020	220268								

TABLE 5A FIELD SCREENING DATA - pH

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

weak		GZ-1/R	GZ-2	GZ-3	GZ-4	GZ-5U	GZ-5L	GZ-6	GZ-7U	GZ-7L	GZ-8U	GZ-8L	GZ-9U	GZ-9L	GZ-9D	GZ-10U	GZ-10L	GZ-11U
TATE I		Parameter: pl	H (Standard Uni	its)														-
Symple ·< ·< ·< ·< ·< ·< </td <td>7/22/15</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>7.2</td> <td>7.0</td> <td>7.9</td> <td>6.2</td> <td>14/ - II +</td> <td>-</td> <td>6.8</td> <td>7.1</td>	7/22/15	-	-	-	-	-	-	-	-	-	7.2	7.0	7.9	6.2	14/ - II +	-	6.8	7.1
HADDA · <td>9/15/15</td> <td>-</td> <td>-</td> <td>-</td> <td>_</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>_</td> <td>6.4</td> <td>Well not</td> <td>-</td> <td>7.1</td> <td>-</td>	9/15/15	-	-	-	_	-	-	-	-	-	-	-	_	6.4	Well not	-	7.1	-
37.978 6.3 6.7 6.3	11/10/15	_	-	6.4	_	-	-	_	-	-	-	-	-	63	installed at	_	7.0	-
NAME .	12/9/15	-	63	6.7	_	-	-	_	_	-	_	_	_	6.2	time of	_	7.0	-
JULE LA LA LA LA LA	1/6/16		6.9	6.3			-	_		-				6.4	sampling	_	7.0	-
Symple - CB CD - 6.6 - - - 6.6 - 0.0	2/11/10		0.5	0.5										0.4	rounds		7.0	
30/10 - 5.8 6.5 - - - - - 5.8 6.9 7.2 - 7.2 5V/10 6.5 6.5 - - - - 7.4 5.8 6.8 6.9 7.4 6.5 7.4 6.5 6.8 6.8 6.7 7.4 6.7 6.8 7.4 7.5 6.7 7.4 6.7 6.8 7.4 7.5 6.7 7.4 7.5 6.7 7.4 7.5 6.7 7.4 7.5 6.7 7.4 7.3 6.7 7.4 7.5 6.7 7.4 7.5 6.7 7.4 <td>2/11/16</td> <td>-</td> <td>6.8</td> <td>6.5</td> <td>-</td> <td>7.5</td> <td>-</td> <td>-</td> <td>-</td>	2/11/16	-	6.8	6.5	-	-	-	-	-	-	-	-	-	-	7.5	-	-	-
Agent · <td>2/19/16</td> <td>-</td> <td>7.5</td> <td>-</td> <td>-</td> <td>-</td>	2/19/16	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5	-	-	-
4111 - 6 - - - - - 1 1 1 5 58 63 63 63 63 63 73 65 73 73 1932/006 - 65 55 - - - 63 - 63 - 63 - 63 - 63 - 63 - 63 - 63 - 63 - 63 - 63 - 63 - 63 - 63 - 63 - 63 - 63 -	3/8/16	-	6.8	6.6	-	-	-	-	-	-	-	-	-	6.8	/./	-	7.2	-
Sympo . 6.5 1. . . 6.5 1	4/11/16	-	6.5	6.3	-	-	-	-	-	-	7.4	7.5	6.8	6.8	6.9	7.5	6.7	7.6
BALARDAR - - - - </td <td>5/12/16</td> <td>-</td> <td>6.6</td> <td>7.5</td> <td>-</td> <td>-</td> <td>-</td> <td>6.5</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>6.8</td> <td>-</td> <td>-</td> <td>6.9</td> <td>-</td>	5/12/16	-	6.6	7.5	-	-	-	6.5	-	-	-	-	-	6.8	-	-	6.9	-
7/19/06 . B B B C </td <td>6/23/2016</td> <td>-</td> <td>6.5</td> <td>6.6</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>6.5</td> <td>7.4</td> <td>-</td> <td>7.3</td> <td>-</td>	6/23/2016	-	6.5	6.6	-	-	-	-	-	-	-	-	-	6.5	7.4	-	7.3	-
system - dry dry dry blaz dry blaz dry blaz dry blaz dry blaz	7/19/2016	-	IR	IR	-	-	-	-	-	-	-	-	-	6.7	6.9	-	6.9	-
bill 2020 - dry <	8/5/2016	-	dry	dry	dry	dry	6.7	dry	dry	IR	-	-	-	-	-	-	-	-
Mix Dot - IR dw dw def dw - - - - C 1 - 1 - 1 - 1 - - 1 - - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 <th1< th=""> 1 1 <t< td=""><td>8/18/2016</td><td>-</td><td>dry</td><td>dry</td><td>-</td><td>dry</td><td>6.5</td><td>dry</td><td>dry</td><td>6.2</td><td>-</td><td>-</td><td>-</td><td>6.4</td><td>6.8</td><td>-</td><td>6.7</td><td>-</td></t<></th1<>	8/18/2016	-	dry	dry	-	dry	6.5	dry	dry	6.2	-	-	-	6.4	6.8	-	6.7	-
NIM ·	9/15/2016	-	IR	dry	dry	dry	6.7	dry	-	-	-	-	-	6.7	7.8	-	7.2	-
JMP(202) · · · · </td <td>9/19/2016</td> <td>-</td>	9/19/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/72/005 dry	10/4/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/20/2016 .	10/28/2016	dry	dry	dry	dry	dry	IR	dry	dry	IR	-	-	dry	7.4	7.6	-	dry	-
12/27016 · 1/12/0017 · <td>11/29/2016</td> <td>-</td>	11/29/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/28/2016 · <	12/2/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/10/2017 . <	12/28/2016	-	6.9	6.6	dry	dry	6.3	dry	dry	5.2	dry	IR	8.2	6.9	7.1	-	7.4	-
1/1/1007 - <	1/10/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/12/2017 · <	1/11/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/13/2017 .	1/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/16/2017 .	1/13/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/17/2027 · 1/2/2/2017 · </td <td>1/16/2017</td> <td>-</td>	1/16/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/23/2017 . 6.3 6.6 dry IR 6.4 6.5 dry 5.1 . . . 6.6 6.8 . 6.8 . 1/25/2017 . <	1/17/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/25/2017 · <	1/23/2017	-	6.3	6.6	dry	IR	6.4	6.5	dry	5.1	-	-	-	6.6	6.8	-	6.8	-
121210201 ·	1/25/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/13/2017 - IR 6.5 - dry 5.1 - - - 6.7 7.2 - 6.8 - 3/24/2017 - - - - - - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 7.0 - 7.0 7.0 - 7.0 7.0 - 7.0 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 6.5 6.7 6.7 6.6 - - - 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.6 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0	2/21/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32/42/017 - 6.7 6.4 - - - - - - - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0	2/23/2017	-	IR	6.5	-	dry	6.5	-	dry	5.1	-	-	-	6.7	7.2	-	6.8	-
4/4/2017 Not Not I <t< td=""><td>3/24/2017</td><td>-</td><td>6.7</td><td>6.4</td><td>-</td><td>6.6</td><td>6.8</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>6.8</td><td>7.0</td><td>-</td><td>7.0</td><td>-</td></t<>	3/24/2017	-	6.7	6.4	-	6.6	6.8	-	-	-	-	-	-	6.8	7.0	-	7.0	-
5/1/2017 Motenue/water field screen 6.8 6.7 6.5 6.9 6.8 6/19/2017 dry 6.7 6.1 </td <td>4/24/2017</td> <td>-</td> <td></td> <td></td> <td>-</td> <td></td> <td>-</td>	4/24/2017	-	-	-	-	-	-	-	-	-	-	-	-			-		-
6f.0/2017 dry 6.5 6.1 dry 7.1 6.9 6.3 6.7 6.6 - dry - 6.5 6.7 dry 7.0 - 7.0 - 7.0 - 7.0 - 7.0 - 7.0 7.1 7.0 7.0 7.1	5/17/2017	Not eno	ough water to fie	eld screen	-	6.8	6.7	-	-	-	-	-	-	6.5	6.9	-	6.8	-
7/2/2017 indical indite indical indical	6/19/2017	dry	6.5	6.1	dry	7.1	6.9	6.3	6.7	6.6	-	dry	-	6.5	6.7	dry	7.0	-
8/25/2017 dry dry <thdry< th=""> dry dry</thdry<>	7/27/2017	dry	dry	dry	dry	-	-	-		-	-	-	-			dry	-	-
9/28/2017odydrydrydrydrydrydrydryfor </td <td>8/25/2017</td> <td>-</td> <td>dry</td> <td>dry</td> <td>dry</td> <td>dry</td> <td>5.8</td> <td>dry</td> <td>dry</td> <td>6.0</td> <td>-</td> <td>-</td> <td>-</td> <td>5.5</td> <td>5.3</td> <td>-</td> <td>5.6</td> <td>-</td>	8/25/2017	-	dry	dry	dry	dry	5.8	dry	dry	6.0	-	-	-	5.5	5.3	-	5.6	-
12/11/2017 - dry - - - - - - 6.6 6.9 - - - 3/19/2018 - 0rdy 6.5 - 6.8 6.7 6.6 7.0 dry - 7.2 7.1 - - 7.5 7.5 9/10/2018 - 7.0 - - - - - - - - - 7.0 - 7.5 7.5 7.5 9/10/2018 dry IR dry dry dry 6.6 dry dry 6.8 8.0 dry 8.2 6.9 8.1 IR - <td>9/28/2017</td> <td>dry</td> <td>dry</td> <td>dry</td> <td>dry</td> <td>dry</td> <td>6.6</td> <td>dry</td> <td>dry</td> <td>6.3</td> <td>6.7</td> <td>-</td> <td>-</td> <td>5.1</td> <td>5.4</td> <td>dry</td> <td>-</td> <td>-</td>	9/28/2017	dry	dry	dry	dry	dry	6.6	dry	dry	6.3	6.7	-	-	5.1	5.4	dry	-	-
3/19/2018 - dry 6.5 - 6.8 6.7 6.6 7.0 6.8 7.1 dry - 7.2 7.1 - 7.5 7.5 6/19/2018 - 7.0 - - - - - - - - - - 7.6 7.1 - - - - 9/10/2018 dry Idry dry dry 6.6 dry dry 6.8 8.0 dry 8.2 6.9 8.1 IR -	12/11/2017	-	dry	-	-	-	-	-	-	-	-	-	-	6.6	6.9	-	-	-
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3/19/2018	-	dry	6.5	-	6.8	6.7	6.6	7.0	6.8	7.1	dry	-	7.2	7.1	-	7.5	7.5
9/10/2018dryIRdrydrydry6.6drydry6.88.0dry8.26.98.1IRdry $12/14/2018$ -5.9 <td>6/19/2018</td> <td>-</td> <td>7.0</td> <td>-</td> <td>7.6</td> <td>7.1</td> <td>-</td> <td>-</td> <td>-</td>	6/19/2018	-	7.0	-	-	-	-	-	-	-	-	-	-	7.6	7.1	-	-	-
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	9/10/2018	dry	IR	dry	dry	dry	6.6	dry	dry	6.8	8.0	dry	8.2	6.9	8.1	IR	-	dry
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	12/14/2018	-	5.9	-	-	-	-	-	-	-	-	-	-	6.9	7.7	-	-	-
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3/18/2019	-	IR	5.9	-	7.0	6.8	6.8	-	6.6	7.6	dry	-	7.0	7.1	-	6.8	7.5
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	4/26/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
$9/12/2019$ dryIRdrydrydry 6.3 drydry 5.9 7.2 dry 7.5 6.1 6.7 dryIRdry $12/13/2019$ \cdot 7.1 \cdot <td< td=""><td>6/21/2019</td><td>-</td><td>5.7</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>6.4</td><td>6.5</td><td></td><td></td><td></td></td<>	6/21/2019	-	5.7	-	-	-	-	-	-	-	-	-	-	6.4	6.5			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	9/12/2019	dry	IR	dry	dry	dry	6.3	dry	dry	5.9	7.2	dry	7.5	6.1	6.7	dry	IR	dry
3/11/2020 - 6.2 6.1 - 6.6 6.6 6.4 6.6 6.5 7.3 7.3 - 7.0 7.3 - 6.8 7.6 6/10/2020 - IR - <t< td=""><td>12/13/2019</td><td>-</td><td>7.1</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>8.0</td><td>8.9</td><td>-</td><td>-</td><td>-</td></t<>	12/13/2019	-	7.1	-	-	-	-	-	-	-	-	-	-	8.0	8.9	-	-	-
	3/11/2020	-	6.2	6.1	-	6.6	6.6	6.4	6.6	6.5	7.3	7.3	-	7.0	7.3	-	6.8	7.6
9/14/2020 dry d	6/10/2020	-	IR	-	-	-	-	-	-	-	-	-	-	6.5	7.1	-	-	-
12/14/2020 - 6.9 - - - - - - IR 8.6 - - - 3/15/2021 - IR dry - dry 6.9 6.3 IR 5.9 7.7 7.8 - 7.0 7.3 - 7.9 7.7 6/15/2021 - IR dry - - - - - 7.0 7.3 - 7.9 7.7 6/15/2021 - IR dry -	9/14/2020	dry	dry	dry	dry	dry	7.8	dry	dry	6.7	IR	IR	dry	IR	6.8	dry	dry	dry
3/15/2021 - IR dry - dry 6.9 6.3 IR 5.9 7.7 7.8 - 7.0 7.3 - 7.9 7.7 6/15/2021 - IR - - - - - - 7.0 7.3 - 7.9 7.7 9/21/2021 dry IR dry dry dry 6.5 6.2 dry 6.7 7.8 - 7.0 7.3 - 7.9 7.7 9/21/2021 dry IR dry dry dry 6.5 6.2 dry 6.7 7.8 dry 7.4 7.2 6.8 dry 7.3 7.6 12/15/2021 - 6.5 -	12/14/2020	-	6.9	-	-	-	-	-	-	-	-	-	-	IR	8.6	-	-	-
6/15/2021 - IR - <th<< td=""><td>3/15/2021</td><td>-</td><td>IR</td><td>dry</td><td>-</td><td>dry</td><td>6.9</td><td>6.3</td><td>IR</td><td>5.9</td><td>7.7</td><td>7.8</td><td>-</td><td>7.0</td><td>7.3</td><td>-</td><td>7.9</td><td>7.7</td></th<<>	3/15/2021	-	IR	dry	-	dry	6.9	6.3	IR	5.9	7.7	7.8	-	7.0	7.3	-	7.9	7.7
9/21/2021 dry IR dry dry dry 6.5 6.2 dry 6.7 7.8 dry 7.4 7.2 6.8 dry 7.3 7.6 12/15/2021 - 6.5 - - - - - - 7.5 7.3 - - -	6/15/2021	-	IR	-	-	-	-	-	-	-	-	-	-	7.0	7.0	-	-	-
12/15/2021 - 6.5 7.5 7.3	9/21/2021	dry	IR	dry	dry	dry	6.5	6.2	dry	6.7	7.8	dry	7.4	7.2	6.8	dry	7.3	7.6
	12/15/2021	-	6.5	-	-	-	-	-	-	-	-	-	-	7.5	7.3	-	-	-

Notes:

1. "-" indicates no data available in respective sampling round.

2. "dry" indicates no water was in the well.

"IR" Indicates insufficient recharge, recharge rate was insufficient to provide sample volume needed for field screening.
 "Frozen" Indicates the well was frozen and no measurements or samples could be taken.

TABLE 5A FIELD SCREENING DAT

Dartmouth College, Rennie Farm Site Hanover, New Hampshire

	GZ-11L	GZ-12L	GZ-13L	GZ-14U	GZ-14L	GZ-15L	GZ-17L	GZ-18U	GZ-18L	GZ-19U	GZ-19L	GZ-20U	GZ-20L	GZ-21L	GZ-22U	GZ-23U	GZ-24U	GZ-24L	GZ-24D	GZ-25U
	Parameter: pH	Standard Units	5)	•												•	•			
7/22/15	8.0		,																	
9/15/15	-																			
11/10/15	-									Well not instal	led at time of sa	moling rounds								
12/9/15	-																			
1/6/16	_																			
2/0/10	_	6.0	6.0		67			ſ												
2/11/16	-	6.8	6.8	6.6	6.7	-	-													
2/19/16	-	-	-	-	-	-	7.4													
3/8/16	-	6.5	7.0	6.6	6.5	-	7.6													
4/11/16	7.5	6.2	6.2	6.4	6.5	-	7.3													
5/12/16	-	-	-	6.6	6.8	-	7.2			-						r				
6/23/2016	-	-	-	dry	6.2	-	6.9	6.7	6.4	6.3	6.5	dry	6.4	-	IR	dry	-	-	-	-
7/19/2016	-	-	-	dry	dry	-	7.3	dry	6.3	dry	6.2	dry	6.2	-	dry	dry	-	-	-	-
8/5/2016	-	dry	dry	dry	dry	-	-	dry	IR	dry	dry	dry	6.4	-	dry	dry	-	-	-	-
8/18/2016	-	dry	dry	dry	dry	-	7.0	dry	dry	dry	dry	dry	6.5	-	dry	dry	-	-	-	-
9/15/2016	-	dry	dry	dry	dry	-	6.9	dry	dry	dry	IR	dry	6.3	-	IR	dry	-	-	-	-
9/19/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1
10/4/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/28/2016	-	dry	dry	dry	dry	-	7.7	dry	dry	dry	IR	dry	6.2	-	IR	dry	dry	7.8	7.6	-
11/29/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/2/2016	-	-		-	-	-	-			-	-	-	-	-		-	-	-	-	-
12/28/2016	-	dry	6.6	6.2	6.2	-	7.7	dry	6.6	dry	6.4	dry	6.3	-	dry	6.9	-	-	-	-
1/10/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	dry	dry	-	-	-	-
1/11/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/13/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/16/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/17/2017	-	-	-	-	-	7.8	-	6.8	-	dry	-	dry	-	-	-	dry	8.7	-	-	-
1/23/2017	-	-	-	dry	7.3	-	7.0	-	-	-	-	dry	5.8	-	-	-	-	-	-	-
1/25/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/21/2017	-	-	-	-	-	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/23/2017	-	-	-	-	-	7.6	7.5	-	-	-	-	-	-	-	-	-	Frozen	-	Frozen	-
3/24/2017	-	-	-	dry	6.4	-	7.3	-	-	-	-	6.6	6.5	-	-	-	-	-	7.3	-
4/24/2017	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
5/17/2017	-	-	-	-	6.6	-	7.1	-	-	dry	-	-	-	-	-	-	-	-	-	-
6/19/2017	-	dry	-	dry	6.3	-	6.8	dry	6.5	dry	6.2	dry	-	-	-	-	-	-	7.0	-
7/27/2017	-	dry	-	dry	dry	-		dry		dry	dry	dry			-	dry	-	-	-	-
8/25/2017	-	dry	dry	-	-	-	6.6	dry	dry	dry	dry	dry	8.1	-	-	dry	-	-	6.6	-
9/28/2017	6.4	dry	dry	dry	dry	5.4	7.4	dry	dry	dry	dry	dry	-	-	dry	dry	8.0	7.3	7.5	8.0
12/11/2017	-	-	-	dry	dry	-	-	-	-	-	-	-	-	-	-	-	-	8.0	Frozen	-
3/19/2018	7.5	-	-	dry	6.7	7.6	7.5	dry	6.6	dry	dry	dry	7.8	-	-	dry	8.5	8.3	8.5	8.7
6/19/2018	-	-	-	dry	dry	-	-	-	-	-	-	-	-	-	-	-	-	9.9	9.5	-
9/10/2018	-	dry	dry	dry	dry	8.0	7.7	dry	dry	dry	dry	dry	6.0	-	-	dry	8.0	8.4	8.6	-
12/14/2018	- 1	-	-	dry	6.1	-	-	-	-	-	-	-	-	-	-	-	-	9.5	Frozen	-
3/18/2019	7.5	-	-	dry	6.3	6.5	7.6	dry	6.1	dry	dry	6.8	6.0	-	-	dry	8.1	8.0	8.2	8.2
4/26/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/21/2019	1			dry	5.6	-	-	-	-	-	-	-	-	-	-	-	-	8.2	8.2	-
9/12/2019	7.8	dry	dry	dry	dry	6.9	6.9	dry	dry	dry	dry	dry	6.0	-	-	dry	7.7	8.0	8.2	8.4
12/13/2019	-	-	-	dry	11.5	-	-	-	-	-	-	-	-	-	-	-	-	7.9	Frozen	-
3/11/2020	8.1	-	-	6.2	5.8	7.7	7.2	6.5	6.2	6.0	6.2	7.0	6.2	-	6.5	6.9	7.5	8.2	8.4	Frozen
6/10/2020	-	-	-	dry	dry	-	-	-	-	-	-	-	-	-	-	-	-	7.9	8.2	-
9/14/2020	7.2	dry	dry	dry	dry	6.8	6.8	dry	dry	dry	dry	dry	dry	-	dry	dry	dry	7.4	7.5	6.9
12/14/2020	-	-	-	dry	IR I	-	-	-	-	-	-	-	-	-	-	-	-	7.6	Frozen	-
3/15/2021	8.1	-	-	dry	dry	7.7	7.4	IR	IR	dry	dry	dry	6.7	-	6.8	dry	7.5	8.3	8.7	8.9
6/15/2021	-	-	-	dry	dry	-	-	-	-	-	-	-	-	-	-	-	-	8.0	8.2	-
9/21/2021	7.8	dry	IR	dry	dry	7.1	7.2	dry	6.1	dry	dry	dry	6.1	-	6.2	dry	8.1	8.3	8.2	8.8
12/15/2021	- 1	-	-	dry	6.4	-	-	-	-	-	-	-	-	-	-	-	-	8.3	8.3	-

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Dartmouth College, Rennie Farm Site Hanover, New Hampshire

	GZ-25L	GZ-25D	GZ-26U	GZ-26L	GZ-27U	GZ-27L	GZ-27D	GZ-28U	GZ-28L	GZ-28D	GZ-29L	GZ-30U	GZ-30L	GZ-31L	GZ-32U	GZ-32L	GZ-32D	GZ-33U	GZ-33L	GZ-34U
	Parameter: pH	(Standard Units	s)				-									•	•		-	
7/22/15																				
9/15/15																				
11/10/15																				
12/9/15																				
1/6/16									Mall a			d								
2/11/16									weiin	ot installed at t	ime of sampling	rouna								
2/19/16																				
3/8/16																				
4/11/16																				
5/12/16																				
6/23/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/19/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/5/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
8/18/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
9/15/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/19/2016	8.1	8.1	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/4/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/28/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3	-	-	-	-	IR	
11/29/2016			-	-	-	-	-	-	-		-	-	-		-	-	-	-		
12/2/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
12/28/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/10/2017	-	-	-	-	-	-	-	-	-	-	9.1	IR	IR	-	-	-	-	-		
1/11/2017	-	-	-	-	-	7.9	8.3	-	-	-	-	-	-	-	-	8.0	8.3	-		Frozen
1/12/2017	-	-	-	-	-	-	-	-	-	-	-	7.4	7.9	-	-	-	-	-	- /	-
1/13/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	/	8.5
1/16/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	/	-
1/17/2017	-	-	-	-	-	-	-	8.5	8.5	8.2	-	-	-	-	-	-	-	-	!	-
1/23/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- !	-
1/25/2017	-	-	-	-	-	-	-	-	-	-	7.6	7.0	7.4	-	-	-	-	-	- !	
2/21/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- !	
2/23/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.3	-	-	- !	IR
3/24/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- !	7.9
4/24/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
5/1//2017	-	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		8.1
6/19/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- /	
//2//2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/25/2017	8.2	7.7	7.2	-	- 7 5	- 7.4	-	-	-	- 0 ว	-	-	-	-	9.8	7.7 9.6	8.8 9.0	- 70	- 70	-
5/20/201/ 12/11/2017	1.9	1.1	/.5	-	7.5 Q 2	7.4	0.0	0.0	0.4 Erozon	0.2 7.0	0.5	0.1	0.1	5.5	10.1	0.0	0.0	/.0	/.0	0.0 Q /
3/10/2017	- & 7	- 7 &	- 	-	0.2 Q /	7.5 & 2	7.0 & 2	- & 2	Q /	7.0 	- 77	7.6	73	- 76	- Frozen	<u> </u>	- Frozen	- & 5	- 70	0.4
6/19/2010	0.7	7.0	<u> </u>	-	0.4 Q 1	0.5 8 5	8.5 8.7	0.0	8 1	8.4 8.2		7.0	7.5	7.0	85	85	8 1	ر.ن -		81
9/10/2018	_	_		-		-		7 8	8.1	7 3	-	7.4	9.9	9.7	8.0	9.5	8.2	6.8	6.8	7.2
12/14/2018	_	_	_	_	8.0	<u>8</u> 1	8.2	-	<u> </u>	8.4	_	-	-	-	Frozen	7.5	7.2	-		83
3/18/2010	Frozen	8.0	Frozen	-	7.9	7.8	8.0	8.2	8.5	8. 4	8.8	7 5	73	65	Frozen		9.2 8.1	<u>8</u> 1	<u> </u>	<u> </u>
4/26/2019	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
6/21/2019	-	_	- 1	-	8.0	7.9	8.2	-	8.0	8.3	- 1	-	-	-	8.2	8.1	8.0	-		9.0
9/12/2019	8.3	7.6	7.2	-	8.0	7.7	8.1	8.0	7.8	8.2	8.0	6.8	7.5	6.5	8.2	8.1	7.8	8.0	8.2	7.8
12/13/2019	-	-	-	-	8.2	8.0	8.2	-	Frozen	Frozen	-	-	-	-	Frozen	8.1	8.1	-		Frozen
3/11/2020	Frozen	8.0	Frozen	-	-	8.0	8.8	8.5	Frozen	Frozen	8.3	7.3	7.7	6.7	Frozen	8.3	7.8	8.3	8.3	8.1
6/10/2020	-	-	-	-	Packer	7.8	8.2	-	8.4	8.3	-	-	-	-	8.3	8.3	8.9	-	-	8.3
9/14/2020	6.9	7.9	7.8	-	7.6	7.2	8.0	7.7	6.8	7.9	7.7	6.8	7.2	6.9	7.0	7.0	7.1	7.0	6.9	6.9
12/14/2020	-	-	-	-	8.2	8.4	Frozen	-	Frozen	8.6	-	-	-	-	Frozen	8.8	7.9	-	-	7.8
3/15/2021	8.7	7.9	7.8	-	8.6	Frozen	8.6	8.6	8.7	8.7	8.8	7.4	7.7	6.7	8.8	8.2	8.6	8.4	8.2	8.1
6/15/2021					7.8	7.8	8.2	_	8.4	8.4	-				8.3	8.0	7.8		, 	7.8
9/21/2021	8.4	7.9	7.9	-	8.1	7.8	8.4	8.2	8.3	8.4	8.6	6.9	7.6	6.5	8.4	8.0	8.0	8.1	8.3	8.1
12/15/2021	-	-	-	-	9.2	8.5	8.9	-	8.5	8.4	-	-	-	-	7.2	7.0	8.0	-		8.2

Dartmouth College, Rennie Farm Site Hanover, New Hampshire

	GZ-34L	GZ-34D	GZ-35U	GZ-35L	GZ-35D	GZ-36U	GZ-37U	GZ-37L	GZ-37D	GZ-38U	GZ-39U	GZ-39L	GZ-39D	GZ-40U	GZ-40L	GZ-40M
	Parameter: pH	(Standard Units	s)			•										
7/22/15																
9/15/15																
11/10/15																
12/9/15	1															
1/6/16	1															
2/11/16	1									Well not insta	lled at time of s	ampling round				
2/19/16	1															
3/8/16	1															
//11/16	-															
5/12/16	1															
6/22/2016															1	
7/10/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/19/2010 9/5/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/5/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/18/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/15/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/19/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/4/2016	-	-	-	-	-	-	-	-	-	7.9	8.2	10.7	-	IK		
10/28/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11/29/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
12/2/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
12/28/2016	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-		
1/10/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1/11/2017	8.1	7.7	-	-	-	-	-	-	-	-	-	-	-	-		
1/12/2017	-	-	-	-	-	-	8.2	8.2	Frozen	-	-	-	-	-		
1/13/2017	-	-	-	-	-	8.7	8.4	-	8.8	-	-	-	-	-		
1/16/2017	-	-	IR	-	-	-	-	-	-	8.3	IR	IR	-	-		
1/17/2017	-	-	8.4	8.4	8.4	-	-	-	-	8.3	8.0	8.4	-	8.2		
1/23/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1/25/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2/21/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2/23/2017	7.7	7.3	Frozen	Frozen	-	8.0	-	-	8.0	-	-	-	-	-		
3/24/2017	-	-	-	-	-	-	-	-	7.7	-	-	-	-	Frozen		
4/24/2017	-	-	-	-	-	-	-	-	-	-	-	-	-		1	
5/17/2017	-	-	-	-	-	-	-	-	7.4	-	-	-	-	7.4	1	
6/19/2017	-	-	-	-	-	-	7.8	7.2	7.6	-	-	-	7.9	8.2		
7/27/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/25/2017	7.4	-	7.7	7.4	7.3	-	-	-	8.3	-	-	-	-	8.0		
9/28/2017	7.7	8.9	8.0	8.1	7.3	7.8	8.2	7.8	7.9	7.2	7.0	8.2	6.4	7.7	1	
12/11/2017	Frozen	Frozen		_	_	_	Frozen	8.0	Frozen	-	-	-	7.7	7.9	1	
3/19/2018	8.3	8.1	8.0	8.0	7.9	8.4	8.2	8.2	8.4	7.7	8.3	8.3	8.1	8.5	1	
6/19/2018	8.5	8.4	8.3	8.4	8.1	8.4	8.2	8.6	8.7	-	-	-	8.3	8.7	1	
9/10/2018	8.0	7,9	8.1	8.0	8.3	7.8	7.6	7,7	7.4	-	-	-	-	8.9		
12/14/2018	8.1	Frozen	7.7	-	7.6	Frozen	8.3	8.2	8.6	-	-	-	7.8	7.9		
3/18/2019	83	Frozen	81	81	8.1	Frozen	8.1	8.1	83	7.8	7 2	_	79	8.0		
4/26/2019	-	-	-	-	-	-			-	-	-		-	-	7 8	79
6/21/2019	77	<u><u> </u></u>	<u> </u>	<u> </u>	77	<u> </u>	<u>8</u> 0	70	8 3	_	_	_	77	6.8		-
0/12/2019	7.7	7.0	0.1 Q 7	0.1 Q 1	7.7	9.2 Q 1	0.0 Q ()	7.5 Q ()	0.5 Q 2	77	63	75	7.7	0.0 Q 1	_	
12/12/2019	7.0	7.0 Erozon	0.2	0.1 Erozon	0	0.1 Erozon	0.0	o.u	0.5 Erozon	1.1	0.5	1.5	/./	0.1	-	
2/11/2020	0.1 7 0	0 0	<i>1.3</i>	70	O Erozon	0 0	0.1	0 D	0 2	-	-	Erozon	Frozen	0.0	-	
5/11/2020	1.8	8.U	0.2	1.9	riozen	0.U	0.U	0.2 0.2	0.D	ð.U	0.7	0 1	0 1	<u> </u>	-	
0/10/2020	9.0	8.0 7.1	<u> </u>	ŏ.3	ð./	8.5 7.0	ð.2	8.2	8.5	-	-	<u>8.1</u>	<u>8.1</u>	7.9	-	
9/14/2020	7.0	/.1	7.0	/.0	6.9	7.0	1.1	7.9	6.9	٥./	ხ.ბ	6.9	υ.δ	7.0	-	
12/14/2020	8.4	7.9	/.8	Frozen	Frozen	/.9	9.1	9.3	9.6	-	-	-	8.9	8.3	-	
3/15/2021	8.1	8.2	8.2	Frozen	8.1	8.6	8.6	8.5	8.9	8.3	6.5	8.3	8.2	8.6	-	
6/15/2021	7.0	7.8	8.3	8.3	7.9	8.0	8.5	8.4	8.6	-	-	-	8.0	8.2	-	
9/21/2021	8.0	8.0	8.2	8.3	7.8	8.3	8.2	8.2	8.4	7.9	6.7	8.1	8.0	8.3	-	
12/15/2021	8.1	8.2	8.1	Frozen	8.0	8.3	8.4	8.4	8.6	-	-	-	8.1	8.6	-	ı -

TABLE 5A FIELD SCREENING DATA - pH

Dartmouth College, Rennie Farm Site Hanover, New Hampshire

GZ-40D GZ-41U GZ-42U GZ-42L GZ-43U GZ-44 GZ-45 7/22/15 9/15/15 11/10/15 12/9/15 1/6/16 2/11/16 2/19/16 3/8/16 4/11/16 5/12/16 6/23/2016 --7/19/2016 ---8/5/2016 ---8/18/2016 ---9/15/2016 ---9/19/2016 ---10/4/2016 ---10/28/2016 ---11/29/2016 ---12/2/2016 ---12/28/2016 ---1/10/2017 ---1/11/2017 ---1/12/2017 ---1/13/2017 ---1/16/2017 ---8.3 1/17/2017 8.0 --1/23/2017 ----1/25/2017 ----2/21/2017 7.2 ---7.2 2/23/2017 7.1 8.4 -3/24/2017 7.9 ----4/24/2017 ---5/17/2017 7.0 7.7 --6/19/2017 8.0 8.2 --7/27/2017 ----7.8 8/25/2017 --9/28/2017 6.7 7.8 7.2 dry 12/11/2017 Frozen Frozen Frozen -3/19/2018 8.1 8.2 --6/19/2018 8.3 8.1 8.8 -9/10/2018 dry --12/14/2018 7.5 8.1 8.0 -3/18/2019 Frozen 7.8 7.8 -4/26/2019 8.1 7.8 8.1 ----6/21/2019 6.6 7.9 8.1 ----9/12/2019 6.8 8.0 8.3 dry --12/13/2019 Frozen 8.5 8.2 ----____ 3/11/2020 Frozen 8.5 8.4 ---6/10/2020 8.4 8.2 8.7 ----9/14/2020 7.1 7.1 7.1 dry --8.4 12/14/2020 Frozen 8.1 8.4 Frozen 8.2 -3/15/2021 7.0 8.6 8.7 ----6/15/2021 6.9 8.3 8.4 ---9/21/2021 7.1 8.2 8.3 ---12/15/2021 7.7 9.1 8.2 ---

GZ-46

GZ-47

GZ-48

GZ-49

GZ-50

GZ-51

GZ-52

	Well not instal	led at time of s	ampling round			
	7.0	7.0	7.0	70		
 8.0	7.9	7.8	7.9	7.9	8.1	8.0
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	
 -	-	-	-	-	-	-
- 84	- Frozen	- 95	- 9.2	- 8.6	- 8.2	- 9.6
 -	-	-	-	-	-	-
 -	-					
-	-	-	-	-	-	-
-	-	-	-	-	-	-

TABLE 5A FIELD SCREENING DATA - pH

Dartmouth College, Rennie Farm Site Hanover, New Hampshire

	GZ-53	GZ-54U	GZ-54D	GZ-55	Dug Well	Stream - 1	Stream-1A	Stream-2	Stream-3	Stream-4	Stream-5	Stream-6	Stream-7	Stream-8	Stream-10	Stream-11
		Parameter: pH (Standard Units)										1	-	1	1	
7/22/15					-	7.3	-	Location not included in		-	-	-	-	-	-	-
9/15/15					-	-	-	network at t	ime of round	-	-	-	-	-	-	-
11/10/15					-	7.6	-			-	-	-	-	-	-	-
12/9/15					-	7.7	-	7.7	7.9	-	-	-	-	-	-	-
1/6/16					6.7	7.1	-	8.1	8.1	-	-	-	-	-	-	-
2/11/16					-	-	-	-	-	-	-	-	-	-	-	-
2/19/16					-	-	-	-	-	-	-	-	-	-	-	-
3/8/16					7.0	8.3	-	8.2	8.5	-	-	-	-	-	-	-
4/11/16					7.2	7.3	-	-	-	-	-	-	-	-	-	-
5/12/16					7.2	7.3	-	8.0	7.9	-	-	-	-	-	-	-
6/23/2016					7.5	8.0	-	-	-	-	-	-	-	-	-	-
7/19/2016					6.9	7.0	-	8.1	8.1	-	-	-	-	-	-	-
8/5/2016					dry	-	-	-	-	-	-	-	-	-		-
8/18/2016					6.7	-	dry	7.7	7.8	-	-	-	-	-		-
9/15/2016					7.3	dry	-	-	7.6	-	-	-	-	-		-
9/19/2016					-	-	-	-	-	-	-	-	-	-		-
10/4/2016					-	-	-	-	-	-	-	-	-	-		-
10/28/2016					-	-	-	-	-	-	-	-	-	-	7.4	-
11/29/2016					-	-	-	-	-	-	-	-	-	-	-	-
12/2/2016					-	-	-	-	-	-	-	-	-	-	-	-
12/28/2016					7.1	7.7	-	8.3	8.2	8.1	8.5	8.4	8.3	-	-	7.6
1/10/2017					-	-	-	-	-	-	-	-	-	-	-	-
1/11/2017	Well n	ot installed at ti	me of sampling	g round	-	-	-	-	-	-	-	-	-	-	-	-
1/12/2017					-	-	-	-	-	-	-	-	-	-	-	-
1/13/2017					-	-	-	-	-	-	-	-	-	-	-	-
1/16/2017					-	-	-	-	-	-	-	-	-	-	-	-
1/17/2017					-	-	-	-	-	-	-	-	-	-	-	-
1/23/2017					6.7	7.1	-	7.6	7.3	7.6	7.7	7.4	7.6	-	-	7.4
1/25/2017					-	-	-	-	-	-	-	-	-	-	-	-
2/21/2017					-	-	-	-	-	-	-	-	-	-	-	-
2/23/2017					6.8	6.8	-	7.6	7.6	7.6	7.6	7.6	-	-	-	8.0
3/24/2017					6.9	7.5	-	7.5	7.6	7.8	7.8	7.8	-	-	-	7.9
4/24/2017					-	-	-	-	-	-	-	-	-	-	-	-
5/17/2017					7.8	7.7	-	8.1	8.0	8.2	8.2	-	-	-	-	-
6/19/2017					8.7	8.3	-	8.2	8.0	7.8	7.9	8.0	-	-	-	8.4
7/27/2017					-	-	-	-	-	-	-	-	-	-	-	-
8/25/2017					-	5.8	-	7.5	7.8	7.5	7.2	7.3	-	-	-	7.0
9/28/2017					-	5.8	-	7.1	7.2	7.2	7.2	6.9	-	-	-	7.5
12/11/2017					-	8.2	-	7.9	7.4	7.3	8.2	8.0	-	-	-	-
3/19/2018					-	7.5	-	8.4	8.1	8.3	8.6	8.2	-	-	-	7.5
6/19/2018					-	8.5	-	7.7	8.0	8.4	8.2	8.4	-	-	-	-
9/10/2018					-	7.2	-	7.8	7.9	8.0	7.9	7.9	-	-	-	7.0
12/14/2018					-	8.6	-	8.2	8.4	8.9	8.2	7.7	-	-	-	-
3/18/2019					-	7.2	-	8.1	8.2	8.0	8.7	8.2	-	-	-	6.6
4/26/2019					-	-	-	-	-	-	-	-	-	-	-	-
6/21/2019	-	-	-	-	-	7.6	-	7.7	7.8	7.8	7.4	7.3	-	-	-	-
9/12/2019	-	-	-	-	-	7.7	-	8.1	7.7	8.0	7.5	7.4	-	-	-	7.4
12/13/2019	-	-	-	-	-	8.1	-	8.2	8.6	8.3	8.6	8.3	-	-	-	-
3/11/2020	-	-	-	-		8.2	-	8.7	8.4	7.9	7.9	7.8	-	-	-	7.4
6/10/2020	-	-	-	-	-	7.7	-	7.9	7.6	7.6	7.6	7.6	-	-	-	-
9/14/2020	-	-	-	-	-	dry	-	dry	7.0	7.0	dry	7.2	-	-	-	dry
12/14/2020	9.3	Frozen	8.7	Frozen	-	dry	-	8.4	8.2	7.7	9.0	8.3	-	-	-	-
3/15/2021	-	-	-	-	-	8.0	-	7.8	7.7	7.4	8.0	7.5	-	-	-	7.8
6/15/2021	-	-	-	-	-	7.8	-	7.8	7.6	8.1	8.0	7.7	-	-	-	-
9/21/2021	-	-	-	-	-	-	-	8.2	7.8	8.2	7.9	7.6	-	-	-	7.7
12/15/2021	-	-	-	-	-	7.3	-	8.8	7.3	8.4	8.8	8.6	-	-	-	-
TABLE 5B FIELD SCREENING DATA - pH

Dartmouth College, Rennie Farm Site Hanover, New Hampshire

GZ-1/R GZ-2 GZ-3 GZ-4 GZ-5U GZ-5L GZ-6 GZ-7U Date Parameter: Specific Conductivity (µS/cm) 7/22/15 ------9/15/15 ----11/10/15 133 -----12/9/15 376 136 -----1/6/16 293 130 -----2/11/16 323 130 -----2/19/16 ----3/8/16 347 134 -----4/11/16 243 127 ----5/12/16 219 125 137 -----6/23/16 282 139 -----7/19/16 ----8/5/16 100 dry dry dry dry dry dry -8/18/16 dry 99 dry dry dry dry -9/15/16 IR 110 dry dry dry dry --9/19/16 ------10/4/16 ----10/28/2016 dry dry IR dry dry dry dry dry 11/29/2016 ------12/2/2016 ----12/28/2016 281 148 dry 110 dry dry dry -1/10/2017 -------1/11/2017 --------1/12/2017 -------1/13/2017 -------1/16/2017 --------1/17/2017 --1/23/2017 243 153 IR 107 535 dry dry -1/25/2017 ------2/21/2017 ------2/23/2017 IR 172 dry 111 dry ---3/24/2017 252 190 149 112 ----4/24/2017 -5/17/2017 Not enough water to sample 141 33 ---6/19/2017 296 183 131 104 163 143 dry dry 7/27/2017 dry dry dry dry 8/25/2017 105 dry dry dry dry dry dry -9/28/2017 dry dry dry 126 dry dry dry dry 12/11/2017 dry ---3/19/2018 237 128 121 198 109 dry --6/19/2018 355 -9/10/2018 99 dry IR dry dry dry dry dry 12/14/2018 300 ---3/18/2019 IR 238 98 94 181 dry --4/26/2019 ------6/21/2019 321 -----9/12/2019 IR 97 dry dry dry dry dy dry 12/13/2019 298 ---3/11/2020 237 178 97 91 154 88 --6/10/2020 IR ----9/14/2020 dry dry dry 102 dry dry dry dry 12/14/2020 229 ---3/15/2021 IR 110 154 IR dry dry --6/15/2021 IR ---9/21/2021 118 176 dry IR dry dry dry dry 12/15/2021 239 ----

Notes:

1. "-" indicates no data available in respective sampling round.

2. "dry" indicates no water was in the well.

3. "IR" Indicates insufficient recharge, recharge rate was insufficient to provide sample volume needed for field screening.

NHDES Site No. 201111109, DES Project No. 277737

GZ-7L	GZ-8U	GZ-8L	GZ-9U	GZ-9L	GZ-9D	GZ-10U	GZ-10L	GZ-11U
-	115	117	401	291	Well not	-	170	166
-	-	-	-	212	installed at	-	177	-
-	-	-	-	249	installed at	-	152	-
-	-	-	-	240	time of	-	155	-
-	-	-	-	231	sampling	-	147	-
-	-	-	-		rounds	_	-	-
-	-	-	-	-	259	-	-	-
-	_	-		273	165	_	148	_
-	120	106	231	191	127	125	127	174
-	-			283	-	-	127	-
	-	-		203	166	-	124	-
-	-	-	-	205	190	_	120	_
-	-	-	-	200	109	-	151	-
101	-	-	-	-	- 202	-	- 140	-
481	-	-	-	275	202	-	149	-
-	-	-	-	254	211	-	146	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
IR	-	-	dry	268	241	-	dry	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
1397	dry	IR	328	274	222	-	198	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
1043	-	-	-	255	216	-	171	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
1143	-	-	-	328	227	-	136	-
-	-	-	-	226	181	-	142	-
	-	-	-			-		-
-	-	-	-	234	209	-	141	-
96	-	drv	-	204	201	drv	164	-
-	-	-	-			drv	-	-
430	-	-	-	199	219	-	146	-
398	126	-	-	214	218	drv	-	-
-	-	-	-	252	171	-	-	-
108	131	drv	-	235	221	-	162	127
-	-	-	<u> </u>	235	203	_		-
373	116	dry	224	264	205	IR	_	dry
-		ury -		204	198	-	_	ury
00	108	dny	_	200	190	_	122	102
33	108	ury	-	200	105	-	155	105
-	-	-	-	206	- 164	-	-	-
-	100	-	160	200	104	-	-	-
203	100	ury	109	242	190	ury		ury
-	-	-		240	104	-	- 110	- 112
89	89	93	-	198	10/	-	119	112
-	-	-	-	247	1/9	-	-	-
239	IR	IR	dry	IR	212	dry	dry	dry
-	-	-	-	IR	181	-	-	-
495	120	92	-	314	185	-	118	104
-	-	-	-	250	185	-	-	-
322	163	dry	192	254	219	dry	168	172
-	-	-		272	206	-	-	-

Dartmouth College, Rennie Farm Site Hanover, New Hampshire

NHDES Site No. 201111109, DES Project No. 277737

Date	GZ-11L	GZ-12L	GZ-13L	GZ-14U	GZ-14L	GZ-15L	GZ-17L	GZ-18U	GZ-18L	GZ-19U	GZ-19L	GZ-20U	GZ-20L	GZ-21L	GZ-22U	GZ-23U	GZ-24U	GZ-24L	GZ-24D	GZ-25U	GZ-25L
	Parameter: Spo	ecific Conductivi	ity (μS/cm)	•	-										-	•		•	•	•	•
7/22/15	236		•																		
9/15/15	-																				
11/10/15	-									Well	not installed at ti	me of sampling	rounds								
12/9/15	-																				
1/6/16	_																				
2/11/16		153	123	/72	123	_		1													
2/11/10	-	155	125	472	125	-	140	-													
2/19/10	-	- 140	- 120	- F10	- 120	-	140	-													
5/6/10	- 170	140	120	510	139	-	140	-													
4/11/16	1/8	138	120	484	146	-	130	-													
5/12/16	-	-	-	422	125	-	131	44.4	142	242	4.45			1	1	T	1	1		1	1
6/23/16	-	-	-	-	166	-	124	414	143	213	145	-	141	-	-	-	-	-	-	-	-
//19/16	-	-	-	-	-	-	127	-	155	-	161	-	154	-	-	-	-	-	-	-	-
8/5/16	-	dry	dry	dry	dry	-	-	dry	IR	dry	dry	dry	165	-	dry	dry	-	-	-	-	-
8/18/16	-	dry	dry	dry	dry	-	119	dry	dry	dry	dry	dry	183	-	dry	dry	-	-	-	-	-
9/15/16	-	dry	dry	dry	dry	-	126	dry	dry	dry	Insuff. Recovery	dry	163	-	IR	dry	-	-	-	-	-
9/19/16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	540	256
10/4/16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/28/2016	-	dry	dry	dry	dry	-	136	dry	dry	dry	Insuff. Recovery	dry	202	-	IR	dry	dry	270	191	-	-
11/29/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/2/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/28/2016	-	dry	173	225	256	-	131	dry	190	dry	209	dry	176	-	dry	403	-	-	-	-	-
1/10/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	dry	dry	-	-	-	-	-
1/11/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/13/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/16/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/17/2017	-	-	-	-	-	140	-	900	-	dry	-	dry	-	-	-	dry	120	-	-	-	-
1/23/2017	-	-	-	drv	235	-	134	-	-	-	-	drv	171	-	-	-	-	-	-	-	-
1/25/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/21/2017	-	-	-	-	-	171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/23/2017	_	-	-	-	-	171	134	-	-	-	_	-	_	-	-	-	Frozen	-	Frozen	_	-
3/24/2017	_	-	-	drv	179	-	134	-	-	-	_	351	144	-	-	-	-	-	194	_	-
4/24/2017		_		ury	1/5		134		-		_		-		_			<u> </u>	-	_	
5/17/2017		-	-	_	185	-	136	-	-	dry	-	-		_	-	-	-	-	-	_	_
6/10/2017		day		day	280		122	dny	140	dry	257	day	_	_					179	_	
7/27/2017	-	dry	-	dny	203	_	155	dry	140	dry	257 day	dry	-	-	-	day	-	-	178	-	-
9/25/2017	-	dry	- day	ury	ury	-	122	dry dry	day	dry	dry	dry	160		-	dry	-	-	176	-	- 10/
0/29/2017	-	dry	dry	-	-	- 140	133	ury dry	ury	dry	dry	dry	100	-	-	dry	-	240	1/0	-	104
3/20/201/	230	ury	ury	ury	dry	149	133	ury	ury	ury	ury	ury	-	-		ury	200	248	193	324	102
2/11/201/	-	-	-	ary		-		-	-	-	-	-	- 170	-	-	-	-	242	riozen	-	-
3/19/2018	209	-	-	dry	213	190	147	ary	1/5	ary	ary	ary	1/0	-	-	ary	60	284	202	345	204
6/19/2018	-	-	-	dry	ary	-	-	-	-	-		-	-	-	-	-	-	206	182	-	-
9/10/2018	-	dry	dry	dry	dry	139	132	dry	dry	dry	dry	dry	1/2	-	-	-	228	234	1/2	-	-
12/14/2018	-	-	-	dry	220	-	-	-	-	-		-	-	-	-	-	-	216	Frozen	-	-
3/18/2019	176	-	-	dry	309	136	119	dry	151	dry	dry	125	121	-	-	dry	49	239	169	252	Frozen
4/26/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/21/2019	-	-	-	dry	164	-	-	-	-	-	-	-	-	-	-	-	-	199	155	-	-
9/12/2019	191	dry	dry	dry	dry	116	117	dry	dry	dry	dry	dry	199	-	-	dry	228	225	163	237	170
12/13/2019	-	-	-	dry	211	-	-	-	-	-	-	-	-	-	-	-	-	228	Frozen	-	-
3/11/2020	152	-	-	176	198	126	108	202	131	185	139	102	117	-	412	104	50	223	154	Frozen	Frozen
6/10/2020	-	-	-	dry	dry	-	-	-	-	-	-	-	-	-	-	-	-	226	149	-	-
9/14/2020	184	dry	dry	dry	dry	136	119	dry	dry	dry	dry	dry	dry	-	dry	dry	dry	194	141	204	154
12/14/2020	-	-	-	dry	IR	-	-	-	-	-	-	-	-	-	-	-	134	113	Frozen	-	-
3/15/2021	187	-	-	dry	dry	140	144	IR	IR	dry	dry	dry	143	-	111	dry	94	223	175	218	166
6/15/2021	-	-	-	dry	dry	-	-	-	-	-	-	-	-	-	-	-	-	260	198	-	-
9/21/2021	212	dry	IR	dry	dry	142	135	dry	192	dry	dry	dry	168	-	290	dry	258	244	206	237	172
12/15/2021	-	-	-	dry	177	-	-	-	-	-	-	-	-	-	-	-	-	244	205	-	-

Date	GZ-25D	GZ-26U	GZ-26L	GZ-27U	GZ-27L	GZ-27D	GZ-28U	GZ-28L	GZ-28D	GZ-29L	GZ-30U	GZ-30L	GZ-31L	GZ-32U	GZ-32L	GZ-32D	GZ-33U	GZ-33L	GZ-34U	GZ-34L	GZ-34D
	Parameter: Sp	ecific Conductiv	ity (μS/cm)																		
7/22/15																					
9/15/15																					
11/10/15																					
12/9/15	1																				
1/6/16	1									Well not insta	lled at time of s	ampling rounds									
2/11/16	_																				
2/19/16	-																				
3/8/16	-																				
4/11/16	-																				
5/12/16		T	I	T	[T	T	T	I	T	1	T T	T	T	1	T	r		T	T	1
7/19/16	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-			-	-
8/5/16	-									-	-		-			-	-				
8/18/16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	_	-	-	-	-	-	-
9/15/16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/19/16	164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/4/16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/28/2016	-	-					-	-		-	-	-	223	-	-	-		IR		-	-
11/29/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/2/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/28/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	217	-
1/10/2017	-	-	-	-	-	-	-	-	-	250	IR	IR	-	-	-	-	-	-	-		-
1/11/2017	-	-	-	-	190	200	-	-	-	-	-	-	-	-	Frozen	150	-	-	Frozen	200	170
1/12/2017	-	-	-	-	-	-	-	-	-	-	370	490	-	-	-	-	-	-	-		-
1/13/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300		-
1/16/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
1/1//201/	-	-	-	-	-	-	405	180	248	-	-	-	-	-	-	-	-	-	-		-
1/25/2017	-	-	-	-	-	-	-	-	-	2/1	3//	- 466	-	-	-	-	-	-	-	-	-
2/21/2017	-										-	400	-			-	-				
2/23/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	233	-	-	-	IR	217	199
3/24/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	240	-	-
4/24/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/17/2017	-	151	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	238	-	-
6/19/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	227	192	-	-	-	-	-	-
7/27/2017	-	-	-		-		-	-	-	-	-	-	-		-		-	-			
8/25/2017	175	-	-	-	-	-	-	-	-	-	-	-	-	352	198	183	-	-	-	215	-
9/28/2017	173	156	-	215	198	218	247	198	251	241	324	1,052	65	322	194	173	256	206	233	223	308
12/11/2017	-	-	-	219	199	218	-	Frozen	249	-	-	-	-	-		-	-	-	255	Frozen	Frozen
3/19/2018	162	247	-	224	228	239	380	214	272	265	238	772	61	Frozen	185	Frozen	274	213	255	236	225
6/19/2018	-	-	-	204	202	224	-	191	251	-	-	-	-	206	190	1/1	-	-	2/2	242	194
9/10/2018	-	-	-	- 10 <i>C</i>	- 175	-	276	100	252	-	195	6/5	66	202	196	1/3	281	232	164	232	203
2/19/2010	- 16/	- Erozon	-	100	196	202		170	100				-	Frozen	1/0	150	- 252	- 102	232	202	Frozen
<u> </u>	- 104		-	- 100	- 100				- 190			- 441	40					- 193		- 203	-
6/21/2019	-	-	-	168	165	179	-	156	216	-	-	-	-	165	157	143	-	-	182	174	211
9/12/2019	156	133	-	190	180	201	216	177	233	212	207	428	52	184	175	153	210	190	206	196	202
12/13/2019	-	-	-	186	186	201	-	Frozen	Frozen	-	-	-	-	Frozen	178	159	-	-	Frozen	200	Frozen
3/11/2020	143	Frozen	-	-	172	204	343	Frozen	Frozen	205	165	432	41	Frozen	169	147	230	161	192	183	171
6/10/2020	-	-	-	Packer	173	185	-	173	230	-	-	-	-	158	179	158	-	-	204	202	176
9/14/2020	144	137	-	211	184	182	212	154	222	218	156	400	66	159	155	142	188	173	195	170	166
12/14/2020	-	-	-	134	113	Frozen	-	Frozen	120	-	-	-	-	Frozen	108	150	-	-	197	183	169
3/15/2021	187	133		208	Frozen	181	212	176	217	218	173	412	48	184	500	155	335	300	209	188	176
6/15/2021	-	-	-	230	190	209	-	179	236	-	-	-	-	214	180	161	-	-	224	207	188
9/21/2021	162	155	-	251	190	207	224	175	231	290	210	414	61	162	178	194	328	236	224	211	198
12/15/2021	-	-	-	359	198	277	-	176	235	-	-	-	-	187	183	172	-	-	221	207	196

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

Date GZ-35U GZ-35L GZ-35D GZ-36U GZ-37U GZ-37L GZ-37D GZ-38U GZ-39U GZ-39L GZ-39D GZ-40U GZ-40L GZ-40M GZ-40D GZ-41U GZ-42U GZ-42L GZ-43U Parameter: Specific Conductivity (µS/cm) 7/22/15 9/15/15 11/10/15 12/9/15 1/6/16 Well not installed at 2/11/16 2/19/16 3/8/16 4/11/16 5/12/16 6/23/16 ---7/19/16 --------8/5/16 --------8/18/16 ---------9/15/16 ---------9/19/16 ---------10/4/16 551 368 -------10/28/2016 ---------11/29/2016 ---------12/2/2016 --------12/28/2016 ---------1/10/2017 ---------1/11/2017 -------1/12/2017 dry 260 Frozen ------1/13/2017 210 380 220 -----1/16/2017 550 IR IR ----1/17/2017 386 215 164 490 410 ----1/23/2017 ---------1/25/2017 ---------2/21/2017 -------2/23/2017 Frozen Frozen 243 -----3/24/2017 240 --------4/24/2017 ------5/17/2017 234 --------6/19/2017 325 268 237 ------7/27/2017 -----8/25/2017 283 1,255 1,235 239 -9/28/2017 282 197 169 197 319 264 235 548 356 12/11/2017 Frozen 274 Frozen ---3/19/2018 279 179 186 208 371 295 262 640 334 6/19/2018 264 186 167 187 313 275 234 --9/10/2018 250 183 167 192 333 290 236 --12/14/2018 232 154 Frozen 313 260 235 --3/18/2019 242 193 156 Frozen 301 360 230 619 314 4/26/2019 ------6/21/2019 194 152 136 288 254 233 160 --9/12/2019 217 165 153 282 229 214 663 354 175 12/13/2019 226 Frozen 155 Frozen 286 Frozen Frozen 3/11/2020 208 143 Frozen 179 273 236 207 633 257 6/10/2020 220 174.5 154 338 173 256 195 -9/14/2020 188 165 134 312 213 268 329 155 556 12/14/2020 209 Frozen Frozen 167 174 100 93 -3/15/2021 227 137 176 265 235 213 723 370 Frozen 6/15/2021 237 191 156 187 292 256 220 --9/21/2021 239 183 159 188 285 235 223 326 585 12/15/2021 220 Frozen 163 187 306 303 236

								_	
time of co	maling rounds								
time of sa	impling rounds								
-	-	-	-		-	-	-		-
-	-	-	-		-	-	-		-
-	-	-	-		-	-	-		-
-	-	-	-		-	-	-		-
-	-	-	-		-	-	-		-
-	-	-	-	1	-	-	-	1	-
187	-	IR	-		-	-	-	1	<u> </u>
-		-				_		1	
-	-	-	-		-	-	-	1	
-	-	-	-		-	-	-	1	<u> </u>
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-	-	-	-		-	-	-		-
-	-	-	-		-	-	-		-
-	-	-	-		-	-	-		-
-	-	-	-		-	-	-		-
IR	-	-	-		-	-	-		-
110	-	170	160		-	180	-		-
-	-	-	-		-	-	-		-
_		_				_			
		_	_			_	_		152
-	-	-	-		- 140	-	-		155
-	-	-	-		149	-	196		153
-	-	Frozen	-		-	-	219		-
-	-		-		-	-	-		-
-	-	174	-		146	-	178		-
-	-	175	-		-	-	-		-
-	-		-			-			-
-	-	167	-		-	-	193		
160	184	156	-		145	240	178		dry
-	184	160	-		Frozen	Frozen	Frozen	1	-
174	202	176	-	1	Frozen	238	270	1	-
	186	161	-		146	259	196	1	
-		15/			-			1	dry
-	170	154	-		122		- 160	1	ury
-	170	154	-		132	222	102	4	
301	1/0	150	-	450.5	Frozen	207	1//	225	-
-	-	-	-	150.3	-	-	-	225	-
-	155	133	-	-	120	205	150	-	-
147	165	144	-	-	126	233	169	-	dry
-	Frozen	154	-	-	Frozen	237	-	-	-
ozen	Frozen	142	-	-	Frozen	217	284	-	-
129	166	143	-	-	132	210	172	-	-
127	151	130	-	-	120.0	197	156	-	-
	97	111		-	Frozen	148	120	Frozen	
1/1	160	164	-	-	120	270	161	1102011	
141	170	104	-	-	140	220	101	-	
-	1/5	208	-	-	140	258	1/5	-	
148	1/4	181	-	-	142	250	1/0	-	
-	181	223	-	-	143	254	258	-	-

TABLE 5B FIELD SCREENING DATA - pH

Dartmouth College, Rennie Farm Site

Hanover, New Hampshire

Date GZ-44 GZ-45 GZ-46 GZ-47 GZ-48 GZ-49 7/22/15 9/15/15 11/10/15 12/9/15 1/6/16 2/11/16 2/19/16 3/8/16 4/11/16 5/12/16 6/23/16 7/19/16 8/5/16 8/18/16 9/15/16 9/19/16 10/4/16 10/28/2016 11/29/2016 12/2/2016 12/28/2016 1/10/2017 Well not installed at time of sampling rounds 1/11/2017 1/12/2017 1/13/2017 1/16/2017 1/17/2017 1/23/2017 1/25/2017 2/21/2017 2/23/2017 3/24/2017 4/24/2017 5/17/2017 6/19/2017 7/27/2017 8/25/2017 9/28/2017 12/11/2017 3/19/2018 6/19/2018 9/10/2018 12/14/2018 3/18/2019 4/26/2019 221 89.6 259 160.9 237 175.3 6/21/2019 ------9/12/2019 ------12/13/2019 ------3/11/2020 ------6/10/2020 ------9/14/2020 -----12/14/2020 117 112 126 Frozen 136 110 3/15/2021 ------6/15/2021 ------9/21/2021 ------12/15/2021 ------

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NHDES Site No. 201111109, DES Project No. 277737

GZ-50	GZ-51	GZ-52	GZ-53	GZ-54U	GZ-54D	GZ-55
512	181 0	150	Well n	ot installed at ti	me of sampling	rounds
-	-	-	-	-	-	-
-						
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
325	115	201	114	Frozen	122	Frozen
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

TABLE 5B FIELD SCREENING DATA - pH

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

Date Dug Well Stream - 1 Stream - 1A Stream-2 Stream-3 Strea Parameter: Specific Conductivity (µS/cm) 7/22/15 -Location not included in 9/15/15 -network at time of round 11/10/15 ---12/9/15 149 107 ---1/6/16 184 182 ---2/11/16 -----2/19/16 ---87 3/8/16 82 87 133 -4/11/16 76 75 -5/12/16 76 78 154 90 -6/23/16 83 80 ---7/19/16 85 79 195 131 -8/5/16 dry ---8/18/16 86 dry 240 140 -9/15/16 92 160 dry --9/19/16 -----10/4/16 -----10/28/2016 -----11/29/2016 -----12/2/2016 ----12/28/2016 90 77 206 129 -1/10/2017 -----1/11/2017 -----1/12/2017 -----1/13/2017 -----1/16/2017 -----1/17/2017 ---1/23/2017 92 85 206 131 -1/25/2017 -----2/21/2017 -----2/23/2017 95 99 191 109 -3/24/2017 102 117 119 120 -4/24/2017 5/17/2017 95 135 81 --6/19/2017 80 150 169 104 -7/27/2017 -8/25/2017 160 167 170 --9/28/2017 169 200 202 --12/11/2017 161 122 89 --3/19/2018 176 185 120 --6/19/2018 145 278 136 --9/10/2018 142 188 189 --12/14/2018 150 185 107 --3/18/2019 153 179 134 --4/26/2019 -----6/21/2019 142 155 135 --9/12/2019 159 301 173 --12/13/2019 161 129 70 --3/11/2020 136 118 90 73 -6/10/2020 139 220 107 --9/14/2020 dry 148 dry --12/14/2020 94 15 dry --3/15/2021 104 157 174 --6/15/2021 150 223 120 --9/21/2021 247 148 ---12/15/2021 165 169 98 --

eam-4	Stream-5	Stream-6	Stream-7	Stream-8	Stream-10	Stream-11
	1		1	1		
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	149	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
121	134	131	135	-	-	97
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	_	-	-	-
-						
171	131	128	136	-	-	96
-	-	-	-	-	-	-
-	-	-	-	-	-	-
17	98	99	-	-	-	86
14	122	136	-	-	-	118
90	86	-	-	-	-	-
L04	111	118	-	-	-	102
L69	179	186	-	-	-	133
210	201	210	-	-	-	148
81	35	33	-	-	-	-
L19	120	133	-	-	-	96
L48	140	143	-	-	-	-
L86	195	183	-	-	-	142
L09	115	111	-	-	-	-
152	142	117	-	-	-	72
-	-	-	-	-	-	-
90	93	85	-	-	-	-
l71	174	146	-	-	-	125
85	61	80	-	-	-	-
78	74	74				59
L07	117	117	-	-	-	-
157	dry	180	-	-	-	dry
113	34	25	-	-	-	-
109	98	89	-	-	-	52
130	135	138	-	-	-	-
1/8	164	159	-	-	-	151
LUX	140	109	- 1	-	-	-

TABLE 6A DEPTH-TO-GROUNDWATER AND REFERENCE POINT DATA

Web D Subset PK deferment defended				12/13/2019	3/9/2020	6/8/2020	9/14/2020	12/14/2020	3/11/2021	6/14/2021	9/21/2021	12/14/2021
viell viell <th< td=""><td></td><td></td><td></td><td>, _,</td><td></td><td></td><td></td><td></td><td>-, , -</td><td></td><td>- / / -</td><td></td></th<>				, _,					-, , -		- / / -	
WHOW		Ground	DVC Deference Deint									
Proof <th< td=""><td>Well ID</td><td>Surface</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	Well ID	Surface										
SAL Disp. J. Disp. J. <thdisp. j.<="" th=""> Disp. J. D</thdisp.>		Elevation	Elevation									
GAC 1.68/3 1.68/3 1.88/3 1.82/3 1.83/2 <th1.83 2<="" th=""> <th1.83 2<="" th=""></th1.83></th1.83>												
623 12079 12018 1203 1203 1203 1203 1204 1203 1204 1205 1204 1205 <t< td=""><td>GZ-1</td><td>1,083.6</td><td>1,086.73</td><td>11.92</td><td>11.56</td><td>dry</td><td>dry</td><td>dry</td><td>dry</td><td>dry</td><td>dry</td><td>11.83</td></t<>	GZ-1	1,083.6	1,086.73	11.92	11.56	dry	dry	dry	dry	dry	dry	11.83
GA1 10/8 10/93 11 11/90 Arr Arr 128 Arr 128 Arr 128 Arr 1203 1203 1203 600 1203	GZ-2	1,077.9	1,081.91	14.03	13.83	14.85	dry	14.35	15.06	14.8	14.94	15.85
G2/L 168/2 168/2 168/2 168/2 169/2	GZ-3	1,076.8	1,079.93	13	12.03	dry	dry	16.38	dry	16.58	dry	12.89
0.49. 1.00.2 1.54.57 9.07 6.82 6.37 0.97 1.51 97 1.64.1 47 1.65 0.54 1.00.5.1 1.56.4.4 4.12 8.04 2.95 1.77 1.73 1.74 4.64 4.73 4.74 0.70 1.06.5.4 1.56.4.4 4.12 8.04 2.95 7.71 7.73 7.73 7.74 7.75 <td>GZ-4</td> <td>1,081.2</td> <td>1,084.47</td> <td>dry</td> <td>dry</td> <td>15.00</td> <td>dry</td> <td>dry</td> <td>14.97</td> <td>14.9</td> <td>dry</td> <td>14.9</td>	GZ-4	1,081.2	1,084.47	dry	dry	15.00	dry	dry	14.97	14.9	dry	14.9
Cab. 1.06.5 1.06.6 8.37 6.32 6.25 6.31 1.257 1.239 3.34 1.127 0.70-1 1.06.5 1.06.4 0.02 2.03 0.03	GZ-5U	1,043.2	1,045.57	9.07	6.82	6.43	dry	15.1	dry	10.41	dry	10.25
Gab 1,0614 1,0614 1,213 1,0614 1,012 1,013 1,014 1,017 1,013 0.70 1,0113 1,0644 2,123 1,013 1,014 1,012 1,013 1,014 1,017 1,013 0.70 1,013 1,0441 2,127 3,80 3,70 1,23 8,70 1,71 8,70 1,71 8,73 8,87 4,70 0.70 1,0641 1,0113 7,17 3,86 3,71 9,70 1,114 1,013 3,86 4,72 0.70 1,021 1,021 1,023 3,87 7,71 9,74 1,034 3,13 9,86 3,13 0.70 1,023 1,023 3,57 8,24 2,64 7,14 1,034 3,13 9,86 3,13 9,86 3,13 9,86 3,13 9,86 3,13 9,86 3,13 9,86 3,13 9,86 3,13 9,86 3,13 9,86 3,13 9,86 3,13	GZ-5L	1,042.6	1,045.37	10.66	8.35	9.32	26.95	23	22.57	14.29	19.34	12.27
0270 1.0613 1.06141 2.237 0.004 21.60 err dry 25.23 0.74 25.44 0.74 25.44 0.74 25.45 0.74 25.35 07.40 1.0614 1.073 7.18	GZ-6	1,062.4	1,065.04	10.29	9	11.99	dry	dry	13.32	12.01	13.7	10.6
G27. 1.084.8 1.064.71 21.2 1.93.2 21.71 33.23 34.25 32.89 23.89 33.8 25.11 0.08 1.064.1 1.003.1 21.71 31.80 1.01.21 0.72 0.24.4 0.01.4 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01 0.01.31 0.01	GZ-7U	1,061.5	1,064.44	24.27	20.04	21.90	dry	dry	27.4	26.43	dry	26.22
(c) 40. (b) 41.0 (b) 41.0 (b) 41.0 (b) 41.0 (b) 42.0 (c) 42.0	GZ-7L	1,061.8	1,064.71	24.22	19.52	21.71	33.23	34.26	32.89	29.59	33	26.11
(c) 8. (1) 004 (1) 0018 (3) 1 (3) 00 (4,2) (3) 07 (3) 17 (3) 44 (3) 45 (3) 44 (3) 45 (3) 44 (3) 45 (3) 45 0262 10031 10033 10042 10043 1004 10075 10033 10075 100933 10042 10043 10075 10033 10075 100933 10075 10075 100933 10075 10075 10075 10075 10075 10075 10075 10075 10075 10075 10075 10075 10075 10075 10075 10075 10075 10075 10075 10077 1107	GZ-8U	1,061.8	1,064.71	9.17	3.38	5.96	19.36	dry	12.71	6.73	8.62	6.92
Q-91 1,084 1,014 1,113 7.32 1,24 7.24 1,24 1,94 1,84 1,034 4.3 4.68 5.13 Q-00 1,003 1,003 2,57 1,32 2,56 4,54 1,51 2,67 4,57 4,57 4,57 4,57 4,57 5,54 2,54 3,54 2,55 3,57 2,54 3,55 2,54 <	GZ-8L	1,046.4	1,049.38	34.21	31.65	34.42	35.09	35.12	34.54	34.58	34.64	34.92
0.94 1,005.1 1,005.3 12,07 22,80 25,54 22,85 24,13 38,77 34,41 36.3 44.07 0200 1,007.3 1,003.3 0.20 22,81 2,868 55,66 7,13 65,17 25,477 25,41 25,477 25,41 25,477 25,41 25,477 25,41 25,477 25,41 25,477 25,41 25,477 25,41 25,477 25,41 25,477 25,41 25,477 25,41 25,477 25,41 25,497 27,27 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,737 2,738 2,737 2,548 2,741 2,748	GZ-9U	1,009.1	1,011.31	7.32	5.45	7.51	dry	18.48	10.58	8.3	9.68	5.13
C240 1,007.5 1,007.9 1	GZ-9L	1,008.1	1,010.33	25.57	23.82	25.54	42.85	43.13	39.77	34.41	36.3	34.47
02.10. 999.5 1.02.99 4.37 6.4 0.47 4.8 5.71 0.47 0.47 6.8 5.71 0.47 0.47 0.48 5.71 0.47 <th0.47< th=""> 0.47 0.47 <</th0.47<>	GZ-9D	1,007.5	1,009.93	30.42	28.14	28.68	55.46	71.6	68.53	56.55	61.79	54.09
G240. 998.8 1,02.50 17.51 15.44 dy dy 25.47 25.43 26.51 25.47 25.43 02410. 983.3 1921 1524 153 152 153 152 152 153 151 153 152 153 151 153 152 153 151 153 152 153 151 153 152 153 151 153 152 153 151 153 152 153 152 153	GZ-10U	999.6	1,002.09	8.57	8.2	dry	dry	8.8	9.71	dry	dry	8.72
dcl.10 983.1 987.97 3.52 3.62 7.35 6.97 4.52 7.14 8.83 7.95 3.72 2211.1 986.3 1.083.9 1.0241 1.057 0.18 0.44 7.76 7.72 2.27 2.24 6713.1 1.086.9 1.083.9 0.72 0.73 0.77 0.74 0.75 0.77 0.75 0.77 0.75 0.77 0.75 0.77 0.75 0.77 0.75 0.77 0.77<	GZ-10L	999.8	1,002.50	17.53	15.44	dry	dry	25.47	25.43	26.51	25.47	25.46
(2111) 9856 988.40 1028 2165 2165 3161 4.4 7.06 7.12	GZ-11U	985.3	987.97	3.52	3.62	7.37	dry	4.52	7.24	8.34	7.95	3.72
Call.1 1,000.5 1,001.7 16.17 ofy	GZ-11L	985.6	988.34	Frozen	2.65	37.05	9.81	4.4	7.06	7.72	7.27	2.81
Call 1080.9 1080.9.2 128.8 dry 121.1 11.14 11.13 11.79 C2140 10.73.5 1.081.57 dry 8.2.5 dry dry <t< td=""><td>GZ-12L</td><td>1,080.6</td><td>1,083.29</td><td>dry</td><td>16.17</td><td>dry</td><td>dry</td><td>dry</td><td>dry</td><td>dry</td><td>dry</td><td>dry</td></t<>	GZ-12L	1,080.6	1,083.29	dry	16.17	dry	dry	dry	dry	dry	dry	dry
Carl-Lai J. MPA S. J. MPA S. <thj. mpa="" s.<="" th=""> <thj. mpa="" s.<="" th=""> <thj.< td=""><td>GZ-13L</td><td>1,080.9</td><td>1,083.52</td><td>12.53</td><td>10.92</td><td>16.38</td><td>dry</td><td>-</td><td>17.17</td><td>11.14</td><td>17.13</td><td>12.79</td></thj.<></thj.></thj.>	GZ-13L	1,080.9	1,083.52	12.53	10.92	16.38	dry	-	17.17	11.14	17.13	12.79
G2141 1,079.7 1,080.06 13.31 12.01 0ry dry 18.09 dry 13.00 62151 1.08852 1.08852 1.08853 1.09833 24.4 23.32 27.60 34.43 26.56 26.56 27.96 25.48 25.68 27.77 25.48 25.68 27.77 25.48 25.68 27.77 25.48 25.68 27.77 25.48 25.68 27.77 25.48 25.68 27.77 25.48 26.70 25.88 26.47 21.68 21.49 62.101 1.077 1.080.66 dry 11.20 dry dry <td>GZ-14U</td> <td>1,079.5</td> <td>1,081.87</td> <td>dry</td> <td>9.25</td> <td>dry</td> <td>dry</td> <td>dry</td> <td>dry</td> <td>dry</td> <td>dry</td> <td>dry</td>	GZ-14U	1,079.5	1,081.87	dry	9.25	dry	dry	dry	dry	dry	dry	dry
Gz/15. 1,085.2 1,085.2 19.73 15.17 15.88 15.62 15.62 15.63 13.11 GZ/160 1,085.5 1,000.33 24.4 23.22 27.60 34.43 26.56 27.79 25.48 25.08 GZ/17. 968.9 971.40 9.54 7.88 9.01 27.57 50.77 50.45 40.64 44.54 45.67 GZ/18.0 1,077.7 1,080.67 12.69 12.48 dry dry 17.47 23.38 20.47 21.88 12.49 GZ/19.0 1,077.1 1,080.66 dry 12.30 dry	GZ-14L	1,079.7	1,082.06	13.21	12.01	dry	dry	18.09	dry	dry	dry	13.20
bcl 100 1085.5 1090.83 24.4 24.82 27.40 34.43 26.50 26.90 27.97 25.48 20.08 C117. 968.9 971.40 95.4 7.86 30.1 27.57 50.77 50.45 40.64 44.54 36.71 C2180. 1077.7 1.080.66 dr 11.55 dr dr dr 12.20 dr dr 41.54 36.71 C2180. 1.077.7 1.080.46 dr 11.55 dr	GZ-15L	1,085.2	1,087.65	12.18	11.21	15.52	19.73	15.17	15.58	15.62	15.63	13.11
$cc1.1t_{1}$ 365.3 $371.4t_{1}$ 5.34 7.48 $30.1t_{1}$ $27.5t_{1}$ $50.7t_{1}$ $50.4t_{3}$ $40.2t_{3}$	GZ-16D	1,089.5	1,090.83	24.4	23.32	27.60	34.43	26.56	26.96	27.79	25.48	25.08
bit 1,077.0 1,080.06 0/V 11.35 0/V 0/V 0/V 12.20 0.07 1.080,7 1.195 62:180 1,077.7 1,080,46 dry 12.30 dry	GZ-17L	968.9	971.40	9.54	/.88	9.01	27.57	50.77	50.45	40.64	44.54	36./1
02.181 10.017 10.0027 12.609 12.609 12.609 12.609 11.677 10.0027 1	GZ-18U	1,077.5	1,080.06	dry	11.55	dry	dry	dry	12.20			11.95
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	GZ-18L	1,0/7.7	1,080.67	12.69	12.48	dry	dry	17.47	23.38	20.47	21.68	12.49
$a_{2}-19.$ $1,00.03$ 22.10 14.90 $01y$ <th< td=""><td>GZ-190</td><td>1,077.3</td><td>1,080.46</td><td>0ry</td><td>12.30</td><td>dry</td><td>dry</td><td>dry</td><td>dry</td><td>dry</td><td>dry</td><td></td></th<>	GZ-190	1,077.3	1,080.46	0ry	12.30	dry	dry	dry	dry	dry	dry	
$ \begin{array}{c cccccc} 0 & 1,080,4 & 1,083,16 & 10.32 & 6.42 & 0.47 & 0.48 & 0.42 & 0.4$	GZ-19L	1,077.1	1,080.03	22.10	<u> </u>	dry	dry	dry	dry	dry	dry	22.16
(3,25,0) $(1,003,4)$ $(1,023,2)$ $(1,12)$ $(3,33)$ $(1,33)$ $(1,03)$ $(1,024)$ $(1,024)$ $(1,024)$ $(1,034)$ <td>GZ-200</td> <td>1,080.4</td> <td>1,083.10</td> <td>10.32</td> <td>0.42</td> <td>15.22</td> <td>dry</td> <td></td> <td>16 21</td> <td>16 20</td> <td></td> <td>10.40</td>	GZ-200	1,080.4	1,083.10	10.32	0.42	15.22	dry		16 21	16 20		10.40
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	GZ-20L	1,080.4	1,065.52	11.12	9.51	15.55	dry	15.00 day	7.61	7 59	5 75	4.69
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	GZ-220	1,079.2	1,078.00	10.00	4.75	7.03	dry	10.42	7.01 dp/	7.58 dpy	5.75	4.09
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	GZ-230	1,000.2	084.02	7 12	5.02	12.59	dry	10.45			10.04	7.27
Operation Data	GZ-240	963.2	984.92	14.65	1/ 22	12.30	24.26	22.60	15.82	9.00 15.10	15.34	13.96
G2+2b $B0L3$ $B0$	GZ-24L	982.5	98/ 99	Frozen	-	16.15	3.83	1 75	5 76	10.38	11 50	18.00
Carbon Constraint Constraint<	GZ-24D	859.0	861 47	7.42	3 50	-	7 31	-	6.09	7 55	4 50	-
GZ-25D650.0660.12110.2112.250.000.0010.8010.8010.8010.80GZ-25D858.6861.1718.6-10.3811.5416.1513.8413.8413.8423.07GZ-26U881.9884.12SeepingSeeping0.251.650.00Seeping0.16SeepingGZ-27U897.0898.8311.925.33-9.027.577.237.837.506.55GZ-27U897.1899.131.427.674.161.008.076.921.3.30.501.50GZ-27D896.4898.236.92-5.775.33frozenfrozen-3.503.46GZ-28U906.0907.915.255.017.1310.667.615.858.795.103.94GZ-28L906.0908.24Frozen-11.541.672.1615.003.503.061.50GZ-29L1,011.61,014.018.878.4711.3513.439.489.4811.5411.148.03GZ-30U1,081.31,083.656.796.038.5810.828.617.798.809.089.48GZ-30L1,084.11,083.4721.3321.7021.2924.0223.3124.0522.2720.2820.88GZ-30L1,084.11,084.719.8221.8833.2325.3724.2226.2926.04 </td <td>GZ-250</td> <td>858.0</td> <td>860.25</td> <td>Frozen</td> <td>2.29</td> <td>0.56</td> <td>0.00</td> <td></td> <td>0.05</td> <td>0.00</td> <td>1.50</td> <td>3.46</td>	GZ-250	858.0	860.25	Frozen	2.29	0.56	0.00		0.05	0.00	1.50	3.46
Car Job Obstant Obstant <t< td=""><td>GZ-25E</td><td>858.6</td><td>861 17</td><td>18.46</td><td>-</td><td>10.38</td><td>11 54</td><td>16.15</td><td>13.84</td><td>13.84</td><td>13.84</td><td>23.07</td></t<>	GZ-25E	858.6	861 17	18.46	-	10.38	11 54	16.15	13.84	13.84	13.84	23.07
Control State <	GZ-26U	881.9	884.12	Seening	Seening	Seening	0.25	1 65	0.00	Seening	0.16	Seening
G2-270897.1898.236.92-5.775.33frozenfrozen-3.305.005.00G2-270896.4898.236.92-5.775.33frozenfrozen-3.503.46G2-280906.0907.915.255.017.1310.667.615.858.795.103.94G2-281906.0908.15Frozen4.584.331.171.009.233.003.001.50G2-282905.9908.24Frozen-11.541.672.1615.003.583.164.61G2-2911,011.61,014.018.878.4711.3513.439.489.4811.5411.148.03G2-3011,081.31,083.656.796.038.5810.828.617.798.809.087.43G2-3011,080.91,083.4721.3321.7021.2924.0223.3124.0522.2720.2820.88G2-3111,084.11,086.7221.9419.8225.8833.2325.3724.2226.2926.0422.46	GZ-200	897.0	898.83	11 92	5 33	-	9.02	7 57	7 23	7 38	7 50	6 55
G2-27D 896.4 898.23 6.92 6.92 5.77 5.33 $frozen$ 6.92 6.92 3.60 3.46 $G2-27D$ 906.0 907.91 5.25 5.01 7.13 10.66 7.61 5.85 8.79 5.10 3.94 $G2-28L$ 906.0 908.15 $Frozen$ 4.58 4.33 1.17 1.00 9.23 3.00 3.00 3.00 3.94 $G2-28L$ 905.9 908.24 $Frozen$ $ 11.54$ 1.67 2.16 15.00 3.58 3.16 4.61 $G2-29L$ $1,011.6$ $1,014.01$ 8.87 8.47 11.35 13.43 9.48 9.48 11.54 11.14 8.03 $G2-30L$ $1,083.65$ 6.79 6.03 8.58 10.82 8.61 7.79 8.80 9.08 7.43 $G2-30L$ $1,080.9$ $1,083.47$ 21.33 21.70 21.29 24.02 23.31 24.05 22.27 20.28 20.88 $G2-31L$ $1,084.1$ $1,086.72$ 21.94 19.82 25.88 33.23 25.37 24.22 26.29 26.04 22.46	G7-27I	897.1	899.13	1 47	7 67	4 16	1 00	8.07	6.92	1 33	0.50	1 50
G2-28U 906.0 907.91 5.25 5.01 7.13 10.66 7.61 5.85 8.79 5.10 3.94 G2-28U 906.0 907.91 5.25 5.01 7.13 10.66 7.61 5.85 8.79 5.10 3.94 G2-28L 906.0 908.15 Frozen 4.58 4.33 1.17 1.00 9.23 3.00 3.00 3.00 1.50 G2-28D 905.9 908.24 Frozen - 11.54 1.67 2.16 15.00 3.85 3.10 4.61 G2-29L 1,011.6 1,014.01 8.87 8.47 11.35 13.43 9.48 9.48 11.54 11.14 8.03 G2-30U 1,081.3 1,083.65 6.79 6.03 8.58 10.82 8.61 7.79 8.80 9.08 9.08 9.08 9.08 9.08 9.08 9.08 9.08 9.08 9.08 9.08 9.08 9.08 9.08 9.08	GZ-27D	896.4	898.23	6.92	-	5 77	5 33	frozen	frozen	-	3 50	3.46
GZ-28L906.0908.15Frozen4.584.331.171.009.233.003.003.001.50 $GZ-28L$ 905.9908.24Frozen-11.541.672.1615.003.583.164.61 $GZ-28L$ 1,011.61,014.018.878.4711.3513.439.489.4811.5411.148.03 $GZ-30U$ 1,081.31,083.656.796.038.5810.828.617.798.809.087.43 $GZ-30L$ 1,080.91,083.4721.3321.7021.2924.0223.3124.0522.2720.2820.88 $GZ-31L$ 1,084.11,086.7221.9419.8225.8833.2325.3724.2226.2926.0422.46	G7-28U	906.0	907 91	5.25	5.01	7 13	10.66	7 61	5 85	8,79	5.00	3.94
GZ-28D905.9908.24Frozen-11.541.672.165.605.605.605.604.61 $GZ-29L$ 1,011.61,014.018.878.4711.3513.439.489.4811.5411.148.03 $GZ-30U$ 1,081.31,083.656.796.038.5810.828.617.798.809.087.43 $GZ-30L$ 1,080.91,083.4721.3321.7021.2924.0223.3124.0522.2720.2820.88 $GZ-31L$ 1,084.11,086.7221.9419.8225.8833.2325.3724.2226.2926.0422.46	G7-28I	906.0	908.15	Frozen	4 58	4 33	1 17	1 00	9.23	3.00	3.00	1 50
GZ-29L 1,011.6 1,014.01 8.87 8.47 11.35 13.43 9.48 9.48 11.54 11.14 8.03 GZ-30U 1,081.3 1,083.65 6.79 6.03 8.58 10.82 8.61 7.79 8.80 9.08 7.43 GZ-30L 1,080.9 1,083.47 21.33 21.70 21.29 24.02 23.31 24.05 22.27 20.28 20.88 GZ-31L 1,084.1 1,086.72 21.94 19.82 25.88 33.23 25.37 24.22 26.29 26.04 22.46	GZ-28D	905.9	908.24	Frozen	-	11.54	1.67	2.16	15.00	3,58	3.16	4,61
GZ-30U 1,081.3 1,083.65 6.79 6.03 8.58 10.82 8.61 7.79 8.80 9.08 7.43 GZ-30L 1,080.9 1,083.47 21.33 21.70 21.29 24.02 23.31 24.05 22.27 20.28 20.88 GZ-31L 1,084.1 1,086.72 21.94 19.82 25.88 33.23 25.37 24.22 26.29 26.04 22.46	GZ-29L	1.011.6	1.014.01	8.87	8.47	11.35	13.43	9.48	9.48	11.54	11.14	8.03
GZ-30L 1,080.9 1,083.47 21.33 21.70 21.29 24.02 23.31 24.05 22.27 20.28 20.88 GZ-31L 1,084.1 1,086.72 21.94 19.82 25.88 33.23 25.37 24.22 26.29 26.04 22.46	GZ-30U	1.081.3	1.083.65	6.79	6.03	8.58	10.82	8.61	7.79	8.80	9.08	7.43
GZ-31L 1,086.72 21.94 19.82 25.88 33.23 25.37 24.22 26.29 26.04 22.46	GZ-30L	1.080.9	1.083.47	21.33	21.70	21.29	24.02	23.31	24.05	22.27	20.28	20.88
	GZ-31L	1,084.1	1,086.72	21.94	19.82	25.88	33.23	25.37	24.22	26.29	26.04	22.46

TABLE 6A DEPTH-TO-GROUNDWATER AND REFERENCE POINT DATA

			12/13/2019	3/9/2020	6/8/2020	9/14/2020	12/14/2020	3/11/2021	6/14/2021	9/21/2021	12/14/2021
Well ID	Ground Surface Elevation	PVC Reference Point Elevation		5/5/2020	0,0,2020	5,11,2025		0,11,2021	0,1,2022	5,21,2021	11, 1, 2021
GZ-32U	834.4	836.09	Frozen	Frozen	FA	0.00	frozen	frozen	FA	FA	0.00
GZ-32L	834.3	836.78	Seeping	-	Seeping	0.76	0.00	0.00	Seeping	Seeping	0.92
GZ-32D	836.3	838.03	29.99	-	25.38	19.60	27.68	26.53	27.68	-	31.14
GZ-33U	847.6	849.32	5.26	5.01	6.95	13.85	9.82	7.28	7.59	8.24	5.42
GZ-33L	848.4	850.22	6.8	6.72	6.33	11.08	7.19	2.57	8.24	8.57	10.15
GZ-34U	891.8	894.44	-	-	-	8.63	3.87	3.72	5.34	3.56	2.68
GZ-34L	892.2	894.46	Frozen	-	4.61	3.46	12.00	13.84	27.68	15.00	16.15
GZ-34D	892.4	894.40	Frozen	-	8.00	2.50	5.76	6.92	6.92	8.07	2.33
GZ-35U	868.3	870.96	4.43	4.20	6.38	10.93	5.22	6.52	6.78	6.86	4.65
GZ-35L	867.5	869.56	Frozen	FA	0.66	5.03	-	7.55	FA	2.48	frozen
GZ-35D	867.8	868.75	Frozen	-	13.84	6.92	16.15	16.15	16.15	-	19.61
GZ-36U	823.0	825.06	Frozen	2.90	5.06	6.59	3.92	3.43	5.05	5.20	3.60
GZ-37U	896.2	898.02	6.91	7.27	6.65	11.79	2.93	2.67	4.37	3.60	2.87
GZ-37L	896.4	898.26	Frozen	-	3.50	1.70	1.75	0.08	1.66	0.66	2.16
GZ-37D	896.7	898.27	Frozen	-	0.17	7.63	0.00	0.00	FA	0.29	0.00
GZ-38U	891.0	892.94	2.52	2.29	5.00	15.49	6.01	3.94	5.20	6.07	2.87
GZ-39U	888.7	890.62	5.28	5.22	7.31	11.49	5.46	6.69	7.38	6.72	5.45
GZ-39L	889.4	891.31	Frozen	FA	0.92	3.33	1.22	2.45	2.74	2.76	0.00
GZ-39D	888.7	890.65	Frozen	5.00	4.17	0.50	1.08	2.75	3.83	3.50	4.00
GZ-40U	876.7	878.62	2.95	2.78	3.49	6.48	3.03	5.01	5.74	5.24	4.03
GZ-40M	876.5	878.79	1.16	FA	FA	0.63	-	6.87	6.89	7.06	3.76
GZ-40L	877.3	879.63	0.03	0.40	0.51	1.14	0.93	frozen	6.03	6.50	4.94
GZ-40D	875.9	877.87	Frozen	-	35.76	36.90	31.14	frozen	34.60	32.30	39.22
GZ-41U	876.8	878.82	5.52	6.70	5.92	8.00	5.41	6.01	7.00	6.20	5.96
GZ-42U	858.6	860.53	7.54	9.98	7.18	8.46	5.44	5.54	5.20	5.07	7.15
GZ-42L	859.4	861.7	Frozen	0.35	0.03	0.25	0.21	1.77	FA	0.28	frozen
GZ-43U	1,075.4	1,077.80	15.2	12.36	dry	dry	dry	dry	dry	dry	dry
GZ-44	852.6	854.9	3.25	5.28	2.22	2.24	4.84	4.78	5.46	2.20	5.24
GZ-45	856.5	858.8	Frozen	0.95	2.76	2.01	2.63	4.45	2.33	1.49	3.45
GZ-46	863.8	866.2	Frozen	Frozen	1.47	2.12	1.55	3.50	2.24	1.59	3.37
GZ-47	871.5	873.8	FA	FA	FA	0.00	frozen	frozen	FA	3.00	3.21
GZ-48	888.0	890.3	3.02	2.63	3.45	6.40	4.30	6.07	6.21	6.19	5.22
GZ-49	902.8	905.2	3.10	3.08	3.56	4.73	3.59	4.11	4.31	3.73	3.53
GZ-50	938.7	924.9	4.41	4.58	5.68	8.63	6.11	9.51	7.15	7.72	4.70
GZ-51	938.7	941.2	Frozen	2.83	1.75	-	24.82	24.90	15.04	18.86	12.42
GZ-52	942.2	945.2	15.00	-	6.92	2.72	23.17	23.48	15.42	18.45	12.89
GZ-53	871.8	874.1	Frozen	1.23	1.85	3.11	2.92	frozen	6.32	6.28	5.71
GZ-54U	872.8	875.1	Frozen	FA	0.04	0.50	0.40	frozen	3.20	2.39	2.33
GZ-54D	872.8	875.2	16.15	FA	FA	10.38	11.53	9.23	9.23	9.23	13.84
GZ-55	871.9	874.2	Frozen	FA	FA	8.07	12.22	9.23	6.92	6.92	13.84

TABLE 6A DEPTH-TO-GROUNDWATER AND REFERENCE POINT DATA

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

			12/13/2019	3/9/2020	6/8/2020	9/14/2020	12/14/2020	3/11/2021	6/14/2021	9/21/2021	12/14/2021
Well ID	Ground Surface Elevation	PVC Reference Point Elevation									
Time from start											
GZ-PM-1U	1,075.43	1,077.43	31.2	27.53	31.45	dry	dry	dry	37.43	dry	31.88
GZ-PM-1L	1,075.41	1,077.24	50.18	47.2	dry	57.04	54.4	55.05	50.95	53.43	44.84
GZ-PM-2U	1,072.14	1,073.93	38.34	30.62	34.28	43.96	38.86	38.21	43.66	43.5	32.76
GZ-PM-2L	1,072.24	1,074.05	50.8	24.82	42.03	47.42	51.51	50.61	50.76	51.48	38.06
GZ-PM-3U	1,079.66	1,081.97	12.8	10.82	dry	dry	dry	17.22	17.18	17.79	11.53
GZ-PM-3L	1,079.44	1,081.61	21.39	21.1	dry	48.48	22.73	21.35	20.81	22.09	17.25
GZ-PM-4U	1,077.28	1,080.28	8.04	6.62	10.65	dry	dry	11.83	11.06	12.81	7.98
GZ-PM-4L	1,077.96	1,080.36	7.36	6.05	10.1	23.09	17.23	11.22	10.31	12.32	7.2
GZ-PM-5U	1,072.39	1,074.38	dry	17.38	dry	dry	dry	dry	dry	dry	21.85
GZ-PM-5L	1,072.17	1,074.41	26.02	13.62	27.03	17.46	30.76	33.73	28.55	29.83	24.71
GZ-PM-6U	1,075.31	1,077.36	12.39	12.28	13.69	dry	dry	13.6	13.56	14.48	12.49
GZ-PM-7U	1,077.82	1,080.18	dry	dry	dry	dry	dry	23.03	dry	dry	dry
GZ-PM-8U	1,079.17	1,081.29	dry	dry	dry	dry	dry	dry	dry	dry	dry
GZ-PM-8L	1,079.31	1,081.48	29.49	26.04	32.15	dry	48.38	52.39	42.15	49.22	31.7
GZ-PM-9L	1,080.24	1,082.38	25.54	17.29	25.66	33.93	25.58	28.66	26.22	25.65	25.54
GZ-OPM-6A	869.35	869.07		-	-	-	-	-	-	-	1.19
GZ-OPM-6B	869.36	869.02		-	-	-	-	-	-	-	0.99
GZ-OPM-6C	869.18	868.92		-	-	-	-	-	-	-	1.45
GZ-OPM-6D	869.25	869.02		-	-	-	-	-	-	-	0.49
GZ-OPM-11A	869.37	869.17		-	-	-	-	-	-	-	1.73
GZ-OPM-11B	869.31	868.97		-	-	-	-	-	-	-	4.3
GZ-OPM-11C	869.00	868.71		-	-	-	-	-	-	-	1.74
GZ-OPM-11D	869.05	868.77		-	-	-	-	-	-	-	2.71
GZ-OPM-14A	867.51	867.21		-	-	-	-	-	-	-	1.75
GZ-OPM-14B	867.73	867.30		-	-	-	-	-	-	-	2.55
GZ-OPM-14C	867.48	867.21		-	-	-	-	-	-	-	2.58
GZ-OPM-14D	867.40	867.15		-	-	-	-	-	-	-	2.27

Notes:

1. Data are in feet.

2. "-" indicates no measurement taken.

3. "dry" indicates the well is dry, elevation shown is based on bottom of well.

4. "NI" indicates not installed.

5. 1 psi = 2.307 ft of water

6. "Frozen" Indicates the well was frozen and no measurement could be made.

7. "FA" indicates flowing artesian condition observed, measurement could not be made due to packer or instrument malfunction.

8. Shading indicates flowing artesian condition. Measurment represents calcualted high of water column above refrence point.

TABLE 6B GROUNDWATER ELEVATION AND REFERENCE POINT DATA

				5/	/1/2017			5/2/201	.7	5/3/	2017	5/8/2017	5/10/2017	5/17/2017	5/30/2017	6/19/2017
Well ID	Ground Surface Elevation	PVC Reference Point Elevation	10:00 (Pre-Startup)	11:00	11:40	13:00	15:00	9:00	14:00	8:30	12:00					
GZ-1	1,083.60	1,086.73	1,077.3	1,077.2	1,077.2	1,077.1	1,076.9	1,075.7	1,075.6	1,075.1	1,074.9	-	-	1,075.4	1,074.5	dry
GZ-2	1,077.90	1,081.91	1,073.5	1,073.5	1,073.5	1,073.6	1,073.5	1,073.7	1,073.7	1,073.2	1,073.1	-	-	1,068.5	1,068.0	1,067.3
GZ-3	1,076.80	1,079.93	1,073.9	1,073.7	1,073.4	1,072.9	1,072.6	1,072.3	1,072.3	1,071.6	1,071.5	-	-	1,067.8	1,066.3	1,064.9
GZ-4	1,081.20	1,084.47	1,075.7	1,075.6	1,075.4	1,074.5	1,073.8	1,071.9	1,071.5	1,070.7	1,069.5	-	-	dry	dry	dry
GZ-5U	1,043.20	1,045.57	1,043.6	-	-	-	1,043.6	1,043.7	1,043.7	1,043.5	1,043.5	-	-	1,043.3	1,043.0	1,041.1
GZ-5L	1,042.60	1,045.37	1,044.8	-	-	-	1,044.5	1,043.9	1,043.9	1,043.3	1,043.3	-	-	1,042.4	1,040.6	1,038.9
GZ-6	1,062.40	1,065.04	1,058.5	1,058.5	1,058.5	1,058.5	1,058.5	1,058.5	1,059.4	1,059.1	1,058.9	-	-	1,058.2	1,056.3	1,054.5
GZ-7U	1,061.50	1,064.44	1,054.8	1,054.8	1,054.8	1,054.7	1,054.3	1,053.1	1,053.0	1,052.6	1,052.6	-	-	1,050.3	1,048.1	1,046.1
GZ-7L	1,061.80	1,064.71	1,055.1	1,055.0	1,055.0	1,054.9	1,054.6	1,053.4	1,053.3	1,052.9	1,052.9	-	-	1,050.7	1,048.5	1,046.3
GZ-8U	1,061.80	1,064.71	1,060.9	-	-	-	1,060.8	1,061.2	-	1,061.0	1,061.2	-	-	1,061.2	1,060.7	1,060.0
GZ-8L	1,046.40	1,049.38	1,016.7	-	-	-	1,014.7	1,017.0	-	1,016.7	1,016.6	-	-	1,016.2	1,015.4	dry
GZ-9U	1,009.10	1,011.31	1,003.6	-	-	-	1,003.5	1,004.1	1,004.3	1,004.2	1,004.1	-	1,003.8	1,004.0	1,003.5	1,002.6
GZ-9L	1,008.10	1,010.33	990.3	-	-	-	990.3	987.2	984.8	985.3	985.1	-	982.1	981.6	980.7	979.4
GZ-9D	1,007.50	1,009.93	990.7	-	-	-	982.7	980.1	979.7	978.2	978.1	-	975.8	975.1	973.6	971.7
GZ-10U	999.60	1,002.09	994.6	-	-	-	994.6	994.6	994.7	994.4	994.4	-	-	998.7	993.6	dry
GZ-10L	999.80	1,002.50	991.1	-	-	-	990.9	988.4	988.1	986.4	986.2	-	-	982.7	981.1	979.1
GZ-11U	985.30	987.97	984.1	-	-	-	984.1	984.4	-	984.5	984.5	-	-	984.5	984.2	983.1
GZ-11L	985.60	988.34	985.3	-	-	-	985.2	985.7	-	986.0	986.0	-	-	986.2	985.6	983.9
GZ-12L	1,080.60	1,083.29	1,076.1	1,076.0	1,075.5	1,074.6	1,074.0	1,072.1	1,071.7	1,069.5	1,069.1	-	-	dry	dry	dry
GZ-13L	1,080.90	1,083.52	1,077.0	1,076.9	1,076.7	1,076.4	1,076.0	1,074.7	1,074.6	1,073.7	1,073.6	-	-	1,072.2	1,070.4	1,068.9
GZ-14U	1,079.50	1,081.87	1,076.0	1,076.0	1,076.0	1,076.0	1,075.9	1,076.0	1,076.0	1,074.9	1,074.7	-	-	1,073.0	dry	dry
GZ-14L	1,079.70	1,082.06	1,076.5	1,075.7	1,075.2	1,074.4	1,074.0	1,072.9	1,072.8	1,072.0	1,071.7	-	-	1,069.4	1,067.9	1,066.0
GZ-15L	1,085.20	1,087.65	1,080.3	-	-	-	1,080.3	1,080.8	-	1,081.0	1,080.9	-	-	1,081.2	1,078.5	1,075.4
GZ-16D	1,089.50	1,090.83	-	-	-	-	-	-	-	-	-	-	-	1,067.4	1,066.6	1,065.2
GZ-17L	968.90	971.40	966.7	-	-	-	966.6	965.7	-	963.6	963.6	-	963.2	962.8	961.8	960.3
GZ-18U	1,077.60	1,080.06	1,074.3	1,074.2	1,074.1	1,073.8	1,073.6	1,073.4	1,073.4	1,072.8	1,072.8	-	-	1,068.5	dry	dry
GZ-18L	1,077.70	1,080.67	1,075.8	1,074.1	1,073.1	1,072.1	1,071.7	1,070.9	1,070.8	1,070.2	1,070.0	-	-	1,067.8	1,066.5	1,064.6
GZ-19U	1,077.30	1,080.46	1,074.0	1,074.0	1,074.0	1,073.7	1,073.8	1,073.6	1,073.6	1,072.6	1,072.7	-	-	1,067.6	dry	dry
GZ-19L	1,077.10	1,080.03	1,075.7	1,075.6	1,075.1	1,074.0	1,072.9	1,071.0	1,070.6	1,068.7	1,068.3	-	-	1,058.1	1,058.0	1,057.7
GZ-20U	1,080.40	1,083.16	1,076.9	1,076.9	1,076.9	1,076.9	1,076.8	1,077.5	1,077.5	1,075.8	1,075.5	-	-	1,074.0	1,071.7	dry
GZ-20L	1,080.40	1,083.52	1,077.8	1,077.7	1,077.7	1,077.4	1,077.1	1,076.0	1,075.9	1,075.1	1,075.2	-	-	1,074.1	1,072.5	1,070.8
GZ-22U	1,079.20	1,078.66	1,075.8	1,075.8	1,075.8	1,075.8	1,075.8	1,076.0	1,075.9	1,075.2	1,075.0	-	-	1,071.5	1,067.2	-
GZ-23U	1,080.20	1,083.13	1,076.3	1,076.4	1,076.3	1,076.2	1,075.9	1,076.9	1,076.4	1,074.2	1,074.1	-	-	1,073.1	dry	dry
GZ-24U	983.20	984.92	-	-	-	-	-	-	-	-	-	-	-	980.8	-	974.6
GZ-24L	982.90	984.75	-	-	-	-	-	-	-	-	-	-	-	970.0	-	968.7
GZ-24D	982.50	984.99	-	-	-	-	-	-	-	-	-	-	-	998.9	-	987.7
GZ-25U	859.00	861.47	-	-	-	-	-	-	-	-	-	-	-	859.1	-	859.1
GZ-25L	858.00	860.25	-	-	-	-	-	-	-	-	-	-	-	858.2	-	859.5
GZ-25D	858.60	861.17	-	-	-	-	-	-	-	-	-	-	-	872.7	-	875.0
GZ-26U	881.90	884.12	-	-	-	-	-	-	-	-	-	-	-	884.2	-	883.6
GZ-27U	897.00	898.83	-	-	-	-	-	-	-	-	-	-	-	895.7	-	894.9

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

Well ID Ground Surface Elevation PVC Reference Point Elevation							
G7-1 1083.60 1086.73 drv - drv drv drv drv drv 1074.9 drv drv 1074.9	10/48 10/52	drv dr	v drv	dry	dry	dry	dry
GZ-2 1.077.90 1.081.91 dry dry dry dry - 1.067.3 1.067.0 1.067.1 1.069.4 1.066.8 1.068.4 1.067.0 1	1.067.9 1.068.1	1.067.1 dr	v 1.067.6	1.066.9	1.067.1	1.067.0	1.066.1
GZ-3 1,076.80 1,079.93 dry dry dry 1,065.7 dry dry 1,068.1 1,063.9 1,067.5 dry 1	1,066.9 1,067.9	dry dr	y 1,063.6	dry	1,063.4	dry	1,067.0
GZ-4 1,081.20 1,084.47 dry	dry dry	dry dr	y dry	1,069.5	dry	dry	1,069.6
GZ-5U 1,043.20 1,045.57 1,035.8 dry dry 1,041.4 1,031.3 dry 1,041.7 1,035.6 1,043.6 dry 1	1,036.5 1,038.8	1,039.1 dr	y 1,030.5	dry	1,035.2	dry	1,035.3
GZ-5L 1,042.60 1,045.37 1,031.5 1,023.9 1,020.5 1,039.2 1,027.1 1,025.6 1,040.3 1,031.2 1,042.0 1,022.4 1	1,034.7 1,037.0	1,036.1 1,01	8.4 1,022.4	1,022.8	1,031.1	1,026.0	1,033.1
GZ-6 1,062.40 1,065.04 1,052.6 dry dry 1,055.5 dry dry 1,055.6 1,054.1 1,057.1 dry 1	1,054.8 1,056.0	1,053.1 dr	y dry	1,051.7	1,053.0	1,051.3	1,054.4
GZ-7U 1,061.50 1,064.44 dry dry dry 1,046.2 dry dry 1,048.7 dry 1,050.9 dry 1	1,040.2 1,044.4	1,042.5 dr	y dry	1,037.0	1,038.0	dry	1,038.2
GZ-7L 1,061.80 1,064.71 1,035.4 1,031.7 1,031.6 1,046.7 1,031.7 1,031.7 1,049.3 1,036.0 1,051.3 1,031.7 1	1,040.5 1,045.2	1,043.0 1,03	1.5 1,030.5	1,031.8	1,035.1	1,031.7	1,038.6
GZ-8U 1,061.80 1,064.71 1,058.1 - 1,052.1 1,061.0 1,056.3 1,050.8 1,059.6 1,060.1 1,060.2 1,052.8 1,	1,055.5 1,061.3	1,058.8 1,04	5.4 dry	1,052.0	1,058.0	1,056.1	1,057.8
GZ-8L 1,046.40 1,049.38 1,015.0 - 1,014.5 1,015.3 1,015.0 1,014.7 1,015.7 dry 1,014.0 dry 1,	1,015.2 1,017.7	1,015.0 1,014	4.3 1,014.3	1,014.8	1,014.8	1,014.7	1,014.5
GZ-9U 1,009.10 1,011.31 1,001.6 - 992.4 dry 998.6 1,003.9 1,005.9 1,005.2 999.1 1	1,004.0 1,005.9	1,003.8 dr	y 992.8	1,000.7	1,003.0	1,001.6	1,006.2
<u>GZ-9L 1,008.10 1,010.33 976.8 976.9 970.8 976.8 - 981.2 978.4 979.3 985.5 987.9 984.6 979.7 9</u>	984.8 986.5	984.8 967	7.5 967.2	970.6	975.9	974.0	975.9
<u>GZ-9D 1,007.50 1,009.93 968.3 968.1 960.5 968.2 - 972.4 970.2 971.4 978.3 980.2 980.3 973.1 9</u>	979.5 981.8	981.3 954	1.5 938.3	941.4	953.4	948.1	955.8
GZ-10U 999.60 1,002.09 dry - dry dry 992.5 992.7 994.3 993.7 dry 9	993.5 993.9	dry dr	y 993.3	992.4	dry	dry	993.4
GZ-10L 999.80 1,002.50 976.8 976.8 975.7 980.6 977.0 978.7 985.0 987.5 987.1 977.7 9	985.0 987.1	dry dry	y 977.0	977.1	976.0	977.0	977.0
<u>GZ-11U</u> 985.30 987.97 980.3 - 977.7 983.6 978.1 978.3 983.9 984.2 984.6 978.3 9	984.5 984.4	980.6 dr	y 983.5	980.7	979.6	980.0	984.3
GZ-11L 985.60 988.34 980.9 - 979.8 984.8 980.1 980.1 985.1 984.8 986.0 980.3 Fr	Frozen 985.7	951.3 978	3.5 983.9	981.3	980.6	981.1	985.5
GZ-12L 1,080.60 1,083.29 dry dry dry dry dry 1,067.0 dry dry dry dry	dry 1,067.1	dry dry	y dry	dry	dry	dry	dry
GZ-13L 1,080.90 1,083.52 1,067.1 dry dry dry dry 1,070.9 1,070.1 1,070.1 dry 1,	1,0/1.0 1,0/2.6	1,067.1 dr	y -	1,066.4	1,072.4	1,066.4	1,070.7
<u>GZ-14U 1,079.50 1,081.87 dry - dry dry dry dry dry dry dry dry dry dry</u>	dry 1,072.6	dry dr	y ary	dry	dry	ary	
GZ-14L 1,079.70 1,082.06 dry - dry dry - 1,067.8 dry dry 1,069.5 1,069.4 1,068.2 dry 1,	1,068.9 1,070.1	0ry 0r 1 072 1 1 06	y 1,064.0	0ry	ary	ary	1,068.9
	1,075.5 1,076.4	1,072.1 1,00	7.9 1,072.5 6.4 1.064.2	1,072.1	1,072.0	1,072.0	1,074.5
	061.0			021.0	1,005.0	026.0	1,005.8
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	dpy 1.069.5	902.4 945	0.0 920.0	1 067 0	930.8 dp/	920.9	1 069 1
GZ-180 1,077.00 1,080.00 01y 01y 01y 01y 01y 1,008.5 01y 1,008.2 01y	1 068 0 1 068 2	dry dry	y ury	1,007.3	1 060 2	1 050 0	1,008.1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	dry 1.068.2	dry dry	y 1,003.2	1,057.5	1,000.2	1,059.0	1,008.2 drv
G2-190 1,077.10 1.080.03 dry dry dry - 1.057.8 dry 1.066.8 dry 1.062.3	1 057 9 1 065 1	dry dr	y dry	dry	dry	dry	1 057 9
GZ-20U 1,007.10 1,000.05 dry dry dry 1,007.0 dry 1,000.05 dry 1,002.05 dry 1,002	1 072 8 1 076 7	dry dr	y dry	dry	dry	dry	1,037.5
GZ-201 1 080.40 1 083.52 1 068.0 1 064.7 1 063.7 - - 1 071.9 1 065.4 1 066.9 1 072.4 1 071.1 1 071.3 1 066.2 1	1 072 4 1 074 2	1 068 2 dr	v 1.068.4	1 067 3	1 067 3	1 067 1	1 072 0
G7-22U 1.079.20 1.078.66 dry	- 10739	1 071 0 dr	v drv	1 071 1	1 071 1	1 072 9	1 074 0
G7-23U 1.080.20 1.083.13 dry dry dry dry dry dry dry 1.073.2 dry	1.072.1 1.073.5	drv dr	v 1.072.7	drv	drv	drv	1.072.2
G7-24U 983.20 984.92 971.4 - 969.7 - - 971.1 971.6 976.7 980.1 975.3 971.5 0	977.8 979.6	972.3 dr	v drv	973.8	975.0	974.9	977.7
GZ-24L 982.90 984.75 967.7 - 966.3 967.2 968.5 968.2 969.4 969.6 969.7 968.1 (970.1 970.5	968.8 960).5 962.2	968.9	969.6	969.4	970.8
GZ-24D 982.50 984.99 993.1 994.2 1,002.3 Frozen 996.5 997.7 Frozen 1.019.6 1.001.1 997.7 F	Frozen -	1,001.1 988	3.8 986.7	990.8	995.4	996.5	1,003.5
GZ-25U 859.00 861.47 859.2 - 859.1 854.6 - 854.9 854.3 856.3 8	854.1 858.0	- 854	1.2 -	867.6	869.0	866.0	-
GZ-25L 858.00 860.25 858.3 860.3 860.2 857.9 858.3 859.1 858.0 856.8 858.6 859.6 F	Frozen 862.5	859.7 860).3 -	860.3	860.3	858.8	863.7
GZ-25D 858.60 861.17 872.7 882.0 886.6 870.4 873.9 877.3 872.7 872.7 871.6 8	879.6 -	871.6 872	2.7 877.3	875.0	875.0	875.0	884.2
GZ-26U 881.90 884.12 884.3 - 884.3 884.3 886.1 885.8 Frozen Frozen Seeping Seeping Se	Seeping Seeping	Seeping 884	.4 882.5	884.1	Seeping	884.0	Seeping
GZ-27U 897.00 898.83 889.6 - 893.6 895.1 891.9 892.5 885.7 888.6 887.0 886.5 8	886.9 904.2	- 889	9.8 891.3	891.6	891.5	891.3	892.3

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TABLE 6B GROUNDWATER ELEVATION AND REFERENCE POINT DATA

				5,	/1/2017			5/2/201	17	5/3/	2017	5/8/2017	5/10/2017	5/17/2017	5/30/2017	6/19/2017
Well ID	Ground Surface Elevation	PVC Reference Point Elevation	10:00 (Pre-Startup)	11:00	11:40	13:00	15:00	9:00	14:00	8:30	12:00					
	907.10	800.12												000.0	'	800.4
GZ-27L	897.10	0099.13	-	-	-	-	-	-	-	-	-	-	-	900.0	'	899.4
GZ-27D G7-28U	906.00	970.23	-	-	-	-	-	-	-	-	-	-	-	905.2		655.5
GZ 200	906.00	908.15	-	-		-	-		_	_	_	-	_	908.0	<u> </u>	<u> </u>
G7-28D	905.90	908.24	-	-	-	-	-	-	-	-	-	-	-	911.7	-	-
GZ-29L	1.011.60	1.014.01	-	-	-	-	-	-	-	-	-	-	-	1.004.7	<u> </u>	1.003.8
GZ-30U	1,081.30	1,083.65	1,076.6	-	-	-	1,076.7	1,076.9	-	1,077.0	1,077.0	-	-	1,077.5	-	1,075.9
GZ-30L	1,080.90	1,083.47	1,062.5	-	-	-	1,062.5	1,062.8	-	1,061.8	1,062.7	-	-	1,063.2	-	1,063.2
GZ-31L	1,084.10	1,086.72	-	-	-	-	-	-	-	-	-	-	-	1,066.9	1,065.1	1,062.8
GZ-32U	834.40	836.09	-	-	-	-	-	-	-	-	-	-	-	835.5	-	836.2
GZ-32L	834.30	836.78	-	-	-	-	-	-	-	-	-	-	-	837.4	-	837.0
GZ-32D	836.30	838.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GZ-33U	847.60	849.32	-	-	-	-	-	-	-	-	-	-	-	845.2	-	841.7
GZ-33L	848.40	850.22	-	-	-	-	-	-	-	-	-	-	-	846.8	-	844.9
GZ-34U	891.80	894.44	-	-	-	-	-	-	-	-	-	-	-	891.4	-	891.4
GZ-34L	892.20	894.46	-	-	-	-	-	-	-	-	-	-	-	911.8		910.6
GZ-34D	892.40	894.40	-	-	-	-	-	-	-	-	-	-	-	924.4	[']	905.9
GZ-35U	868.30	870.96	-	-	-	-	-	-	-	-	-	-	-	-		865.8
GZ-35L	867.50	869.56	-	-	-	-	-	-	-	-	-	-	-	869.8		869.6
GZ-35D	867.80	868.75	-	-	-	-	-	-	-	-	-	-	-	896.5		896.5
GZ-30U	823.00	825.00	-	-	-	-	-	-	-	-	-	-	-	821.0		818.0
GZ-370 G7_371	896.40	808.02	-	-	-	-	-	-	-	-	-	-	-	095.2 909 5		094.4
GZ-37L	896.70	898.20	-	-	-	-	-	-	-	-	-	-	-	903.9	903.4	902.8
G7-38U	891.00	892.94	-		-	-	-		_	_	_	_	-	889.2		889.6
GZ-39U	888.70	890.62	-	-	-	-	-	-	-	-	-	-	-	886.1	-	887.6
GZ-39L	889.40	891.31	-	-	-	-	-	-	-	-	-	-	-	890.1	-	888.6
GZ-39D	888.70	890.65	-	-	-	-	-	-	-	-	-	-	-	911.4	911.4	890.8
GZ-40U	876.70	878.62	-	-	-	-	-	-	-	-	-	-	-	875.7	-	875.3
GZ-40M	876.46	878.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GZ-40L	877.30	879.63	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GZ-40D	875.90	877.87	-	-	-	-	-	-	-	-	-	-	-	921.8	924.0	919.4
GZ-41U	876.80	878.82	-	-	-	-	-	-	-	-	-	-	-	874.4	-	874.3
GZ-42U	858.60	860.53	-	-	-	-	-	-	-	-	-	-	-	855.2	-	853.9
GZ-42L	859.39	861.7	-	-	-	-	-	-	-	-	-	-	-	-	-	<u> </u>
GZ-43U	1,075.40	1,077.80	1,068.4	1,068.4	1,068.4	1,068.3	1,068.1	1,070.6	1,070.5	1,069.8	1,069.7	-	-	1,065.7	1,063.7	dry
GZ-44	852.57	854.9	-	-	-	-	-	-	-	-	-	-	-	-		<u>-</u>
GZ-45 G7 46	82 92	0.0 066.0	-	-		-	-	-	-	-	-	-	-	-		
GZ-40 G7-47	871 50	873.8	-	-	-	-	-	-		-	-	-	-	-		<u> </u>
G7-48	887.96	890.3	-	-	-	-	-	-	-	-	-	-	-	-		-
G7-49	902.82	905.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GZ-50	938.70	924.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GZ-51	938.66	941.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GZ-52	942.22	945.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GZ-53	871.76	874.1	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
GZ-54U	872.76	875.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GZ-54D	872.82	875.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GZ-55	871.88	874.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GZ-PM-1U	1,075.43	1,077.43	1,064.0	1,064.0	1,064.0	1,063.6	1,062.7	1,060.1	1,059.9	1,059.4	1,059.3	1,058.3	1,058.6	1,056.9	1,054.3	1,051.6
GZ-PM-1L	1,075.41	1,077.24	1,062.7	1,062.8	1,061.0	1,050.2	1,037.5	1,029.1	1,029.2	1,029.3	1,029.3	1,029.3	1,029.6	1,029.5	1,028.5	1,027.8
GZ-PM-2U	1,072.14	1,073.93	1,069.9	1,064.8	1,054.2	1,045.1	1,037.9	1,033.6	1,034.9	1,034.0	1,033.7	1,033.8	1,031.2	1,029.3	1,026.7	1,027.8
GZ-PM-2L	1,072.24	1,074.05	1,070.0	1,064.3	1,054.2	1,044.6	1,036.5	1,035.7	1,033.6	1,032.7	1,032.4	1,032.6	1,029.7	1,027.1	1,020.5	1,019.9
GZ-PM-3U	1,079.66	1,081.97	1,075.7	1,075.6	1,074.6	1,072.6	1,071.9	1,070.8	1,071.0	1,070.5	1,070.3	1,069.4	1,069.1	1,068.7	1,067.2	1,066.2
GZ-PM-3L	1,079.44	1,081.61	1,074.7	1,073.7	1,071.5	1,064.4	1,061.1	1,058.4	1,058.2	1,057.2	1,056.8	1,052.9	1,052.4	1,050.1	1,046.2	1,040.6

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

			7/31/2017	8/25/2017	10/3/2017	12/11/2017	1/25/2018	3/19/2018	6/19/2018	9/10/2018	3 12/13/2018	3/18/2019	6/20/2019	9/11/2019	12/13/2019	3/9/2020	6/8/2020	9/14/2020	12/14/2020	3/11/2021	6/14/2021	9/21/2021	12/14/2021
			,,01,201,	0,20,201,	10/0/201/	12/11/201/	1/20/2010	0/10/2010	0/10/2010	5/10/2010	12/10/2010	0,10,2010	0/20/2015	5/11/2015	12/10/2015	3/3/2020	0/0/2020	5/11/2020	12/11/2020	0,11,2021	0/11/2021	3,21,2021	
WellID	Ground Surface Elevation	PVC Reference Point																					
Weirib	Ground Surface Elevation	Elevation																					
	807.10	800.13	001.0		001 5	000.4			005.1	004.0	010.7	002.0	002.0	000 F	000.0	000 0	002.2	000.1	007.2	000.1	000 F	800 C	000.0
GZ-27L	897.10	899.13	901.8	-	901.5	908.4	-	-	905.1	904.0	910.7	903.8	902.9	900.5	900.6	906.8	903.3	900.1	907.2	906.1	900.5	899.6	900.6
GZ-27D	896.40	898.23	910.9	-	910.9	909.8	-	-	906.6	dry	921.3	907.5	908.6	904.0	905.2	-	904.0	903.6	frozen	frozen	-	901.7	901.7
GZ-28U	906.00	907.91	-	-	898.2	-	-	-	-	902.5	902.4	902.6	901.2	900.1	902.7	902.9	900.8	897.3	900.3	902.1	899.1	902.8	904.0
GZ-28L	906.00	908.15	-	-	907.5	907.5	-	-	909.0	910.3	920.8	912.3	912.8	911.7	Frozen	912.7	912.5	909.3	909.2	917.4	911.2	911.2	909.7
GZ-28D	905.90	908.24	-	-	910.7	918.6	-	-	912.1	912.7	914.0	914.1	913.6	913.1	Frozen	-	919.8	909.9	910.4	923.2	911.8	911.4	912.9
GZ-29L	1,011.60	1,014.01	1,001.4	-	1,000.1	-	-	1,003.8	1,000.4	1,000.9	1,004.4	1,004.7	1,004.5	1,002.4	1,005.1	1,005.5	1,002.7	1,000.6	1,004.5	1,004.5	1,002.5	1,002.9	1,006.0
GZ-30U	1,081.30	1,083.65	1,074.9	-	1,073.2	-	-	1,075.6	1,074.1	1,074.0	1,076.3	1,076.9	1,075.8	1,073.9	1,076.9	1,077.6	1,075.1	1,072.8	1,075.0	1,075.9	1,074.9	1,074.6	1,076.2
GZ-30L	1,080.90	1,083.47	1,062.9	-	1,061.1	-	-	1,061.9	1,060.7	1,060.8	1,063.5	1,060.7	1,062.2	1,060.5	1,062.1	1,061.8	1,062.2	1,059.5	1,060.2	1,059.4	1,061.2	1,063.2	1,062.6
GZ-31L	1,084.10	1,086.72	1,060.9	-	1,058.0	-	-	1,063.2	1,059.0	1,059.9	1,063.6	1,064.3	1,064.1	1,059.2	1,064.8	1,066.9	1,060.8	1,053.5	1,061.4	1,062.5	1,060.4	1,060.7	1,064.3
GZ-32U	834.40	836.09	836.3	836.2	836.2	Frozen	-	-	836.2	836.1	Frozen	Frozen	836.0	836.1	Frozen	Frozen	FA	836.1	frozen	frozen	FA	FA	836.1
GZ-32L	834.30	836.78	dry	838.0	836.9	Frozen	-	-	-	836.4	836.8	Seeping	Seeping	837.0	Seeping	Seeping	Seeping	836.0	836.8	836.8	Seeping	Seeping	835.9
GZ-32D	836.30	838.03	-	-	-	-	-	-	860.0	861.1	877.3	866.9	863.4	861.1	868.0	-	863.4	857.6	865.7	864.6	865.7	-	869.2
GZ-33U	847.60	849.32	842.0	-	839.8	-	-	843.2	-	842.2	843.8	843.8	843.0	841.3	844.1	844.3	842.4	835.5	839.5	842.0	841.7	841.1	843.9
GZ-33L	848.40	850.22	843.6	-	843.6	-	-	-	-	843.4	841.8	842.5	843.2	843.4	843.4	843.5	856.6	839.1	843.0	847.7	842.0	841.7	840.1
GZ-34U	891.80	894.44	890.6	-	891.4	891.8	-	-	-	-	-	-	-	-	-	-	-	885.8	890.6	890.7	889.1	890.9	891.8
G7-34I	892.20	894 46	903.7	910.6	910.6	Frozen	-	-	897 9	900.2	922.1	904 9	904.8	901 4	Frozen	-	899.1	897.9	906 5	908 3	922.1	909 5	910.6
G7-34D	892.20	<u>894.40</u>	903.6	-	903.6	Frozen	-	-	899.0	800.2	Frozen	Frozen	899.0	901.4	Frozen	-	902.4	896.9	900.2	901 2	901 2	902.5	896.7
G7-35U	868 30	870 QA	870.2	863.0	862 5	Frozen	_	866.1	862.0	861.6	265 G	866.9	86/ /	861.9	866 5	866.8	261 G	860.0	865 7	86/ /	261 C	86/L1	866.2
C7 251	867.50	870.50	870.2	803.5 960.6	803.J	Frozon	-	800.1	071 1	071 /	805.0	0717	004.4 072.6	071 7	500.5	Elowing	804.0 970.0	800.0	805.7	862.0	504.2 EA	067.1	500.5
GZ-53L	807.30	869.30	809.0	009.0	870.2	FIOZEII	-	-	0/1.1	071.4	-	0/1./	075.0 000 F	0/1./	FIOZEII	FIOWINg	870.2	004.5	-	002.0	FA	807.1	000.4
GZ-35D	867.80	868.75	897.6	896.5	894.2	Frozen	-	-	884.9	882.0	898.7	893.0	889.5	884.9	Frozen	-	882.6	8/5./	884.9	884.9	884.9	-	888.4
GZ-36U	823.00	825.06	818.4	-	818.1	Frozen	-	822.1	820.0	820.0	Frozen	823.0	821.5	821.1	Frozen	822.2	820.0	818.5	821.1	821.6	820.0	819.9	821.5
GZ-37U	896.20	898.02	892.9	-	892.2	894.8	-	-	-	890.9	889.1	890.7	890.9	891.3	891.1	890.8	891.4	886.2	895.1	895.4	893.7	894.4	895.2
GZ-37L	896.40	898.26	902.4	-	900.6	900.9	-	-	901.6	902.5	909.8	903.1	902.6	899.9	Frozen	-	901.8	896.6	900.0	898.3	899.9	898.9	900.4
GZ-37D	896.70	898.27	902.3	901.9	901.3	Frozen	-	-	900.9	898.8	-	899.3	898.8	-	Frozen	-	898.4	890.6	898.3	898.3	FA	898.6	898.3
GZ-38U	891.00	892.94	887.2	-	884.1	-	-	890.0	886.3	886.8	889.6	890.6	889.2	886.3	890.4	890.7	887.9	877.5	886.9	889.0	887.7	886.9	890.1
GZ-39U	888.70	890.62	884.1	-	881.3	-	-	884.9	881.8	882.5	884.4	885.6	884.5	883.1	885.3	885.4	883.3	879.1	885.2	883.9	883.2	883.9	885.2
GZ-39L	889.40	891.31	888.8	-	889.0	-	-	890.1	887.9	888.3	Frozen	890.2	891.3	889.7	Frozen	FA	890.4	888.0	890.1	888.9	888.6	888.6	891.3
GZ-39D	888.70	890.65	892.2	-	892.8	894.9	-	-	894.0	894.8	904.5	894.7	895.8	894.2	Frozen	895.7	894.8	891.2	891.7	893.4	894.5	894.2	894.7
GZ-40U	876.70	878.62	874.4	874.8	874.8	875.0	-	875.4	874.3	874.5	875.2	875.8	875.2	874.8	875.7	875.8	875.1	872.1	875.6	873.6	872.9	873.4	874.6
GZ-40M	876.46	878.79	-	-	-	-	-	-	-	-	-	-	FA	880.0	880.0	FA	FA	878.2	-	871.9	871.9	871.7	875.0
GZ-40L	877.30	879.63	-	-	-	-	-	-	-	-	-	-	FA	879.1	879.6	879.2	879.1	878.5	878.7	frozen	873.6	873.1	874.7
GZ-40D	875.90	877.87	920.6	-	919.5	Frozen	-	-	907.9	913.6	929.8	Frozen	913.6	912.5	Frozen	-	913.6	914.8	909.0	frozen	912.5	910.2	917.1
GZ-41U	876.80	878.82	873.6	-	873.8	874.3	-	-	872.5	873.7	873.8	872.5	872.1	873.0	873.3	872.1	872.9	870.8	873.4	872.8	871.8	872.6	872.9
GZ-42U	858.60	860.53	855.4	855.3	854.1	855.5	-	-	850.7	850.9	851.1	853.8	853.7	853.4	853.0	850.6	853.4	852.1	855.1	855.0	855.3	855.5	853.4
GZ-42L	859.39	861.7	-	-	-	-	-	-	-	-	-	-	FA	862.4	Frozen	861.4	861.7	861.5	861.5	862.5	863.5	864.5	865.5
GZ-43U	1,075.40	1,077.80	dry	-	dry	-	-	-	dry	-	1,067.1	1,062.9	1,064.5	dry	1,062.6	1,065.4	dry	dry	dry	dry	dry	drv	drv
GZ-44	852.57	854.9	-	-	<u> </u>	-	-	-	-	-	- -	-	853.1	854.6	851.7	, 849.6	852.7	852.7	850.1	850.1	849.4	, 852.7	, 849.7
GZ-45	856.48	858.8	-	-	-	-	-	-	-	-	-	-	858.7	858.2	Frozen	857.9	856.1	856.8	856.2	854.4	856.5	857.3	855.4
GZ-46	863.83	866.2	-	-	-	-	-	-	-	-	-	-	FA	866.8	Frozen	Frozen	864 7	864.0	864.6	862.7	863.9	864.6	862.8
G7-47	871 50	873.8	-	-	-	-	-	-	-	-	-	-	FA	FA	FA	FA	FA	873.8	frozen	frozen	FA	870 8	870.6
G7-48	887.96	890.3	-	-	-	-	-	-	-	-	-	-	887.4	887.2	887 3	887 7	886.8	883.9	886.0	884.2	884 1	884 1	885.1
G7-49	902.82	905.3	-	-	-	-	-	-	-	-	-	-	907. 4	901.2	907.3	907.1	901.6	900.4	901.6	901.0	900 8	901 /	901.6
G7-50	038 70	07/ Q	-	<u> </u>	<u> </u>	-	_	-		-	-	-	010.0	010 6	0205	0202	010.0	016.7	018.9	015 <i>/</i>	017 7	Q17 0	920.2
62-50	028.66	924.9	-	-	-	-	-	-	-	-	-	-	042 5	919.0	520.5	920.3	042.0	910.2	016.0	016.2	026.1	022.2	020.2
67.52	950.00	941.Z	+ -	-	-	-	-	-	-		+ -		943.3 040 0	-	-	944.0	942.9		022.0	J10.3	920.1	JZZ.3	920./ 022.2
02-52	942.22	945.2	-	-	-	-	-	-	-	-		-	948.3	- 074 0	900.2	-	952.1	942.5	922.0	921./	929.8	920.7	932.3
02-53	8/1./b	8/4.1	-	-	-	-	-	-	-	-	-	-	8/2.6	8/1.9	Frozen	872.9	8/2.2	8/1.0	8/1.2	frozen	867.8	807.8	868.4
62-540	8/2./6	8/5.1	-	-	-	-	-	-	-	-	-	-	FA	8/5.1	Frozen	-	8/5.1	8/4.6	8/4.7	trozen	8/1.9	8/2.7	8/2.8
GZ-54D	872.82	875.2	-	-	-	-	-	-	-	-	-	-	FA	885.5	891.3	FA	FA	885.5	886.7	884.4	884.4	884.4	889.0
GZ-55	871.88	874.2	-	-	-	-	-	-	-	-	-	-	FA	875.0	Frozen	FA	FA	882.3	886.4	883.4	881.1	881.1	888.1
GZ-PM-1U	1,075.43	1,077.43	1,040.3	dry	dry	-	1,050.1	1,077.4	dry	dry	1,052.2	1,042.8	1,056.9	dry	1,046.2	1,049.9	1,046.0	dry	dry	dry	1,040.0	dry	1,045.6
GZ-PM-1L	1,075.41	1,077.24	1,023.5	1,020.2	1,018.9	-	1,031.7	-	1,021.9	1,021.3	1,029.1	1,025.0	1,031.8	1,020.5	1,027.1	1,030.0	dry	1,020.2	1,022.8	1,022.2	1,026.3	1,023.8	1,032.4
GZ-PM-2U	1,072.14	1,073.93	1,029.5	1,029.4	1,029.5	-	1,030.0	-	1,029.7	1,029.7	1,029.7	1,026.1	1,037.7	1,029.5	1,035.6	1,043.3	1,039.7	1,030.0	1,035.1	1,035.7	1,030.3	1,030.4	1,041.2
GZ-PM-2L	1,072.24	1,074.05	1,018.3	1,016.8	1,015.1	-	1,023.8	-	1,018.5	1,020.9	1,027.0	1,021.6	1,035.2	1,020.4	1,023.3	1,049.2	1,032.0	1,026.6	1,022.5	1,023.4	1,023.3	1,022.6	1,036.0
GZ-PM-3U	1,079.66	1,081.97	1,064.8	-	dry	-	1,068.9	-	dry	dry	1,067.5	1,067.3	1,068.2	dry	1,069.2	1,071.2	dry	dry	dry	1,064.8	1,064.8	1,064.2	1,070.4
GZ-PM-3L	1,079.44	1,081.61	1,039.5	-	1,031.5	-	1,051.5	-	1,039.7	1,044.8	1,054.0	1,051.8	1,053.2	1,046.4	1,060.2	1,060.5	dry	1,033.1	1,058.9	1,060.3	1,060.8	1,059.5	1,064.4

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TABLE 6B GROUNDWATER ELEVATION AND REFERENCE POINT DATA

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

				5/	/1/2017			5/2/201	17	5/3/	2017	5/8/2017	5/10/2017	5/17/2017	5/30/2017	6/19/2017
Well ID	Ground Surface Elevation	PVC Reference Point Elevation	10:00 (Pre-Startup)	11:00	11:40	13:00	15:00	9:00	14:00	8:30	12:00					
GZ-PM-4U	1,077.28	1,080.28	1,075.0	1,074.9	1,074.9	1,074.8	1,074.6	1,074.7	1,074.8	1,074.4	1,074.3	1,074.1	1,073.7	1,073.5	1,072.2	1,071.1
GZ-PM-4L	1,077.96	1,080.36	1,075.7	1,075.7	1,075.7	1,075.5	1,075.3	1,075.5	1,075.6	1,075.2	1,075.2	1,075.1	1,074.6	1,074.5	1,073.4	1,072.2
GZ-PM-5U	1,072.39	1,074.38	1,066.0	1,066.0	1,066.0	1,066.0	1,066.0	1,065.9	1,066.0	1,066.0	1,065.9	1,065.0	1,064.8	1,064.0	1,055.0	dry
GZ-PM-5L	1,072.17	1,074.41	1,072.0	1,071.8	1,071.4	1,070.2	1,068.5	1,066.6	1,066.4	1,065.0	1,064.8	1,058.8	1,059.4	1,053.6	1,050.0	1,047.1
GZ-PM-6U	1,075.31	1,077.36	1,065.6	1,065.6	1,065.6	1,065.6	1,065.5	1,065.6	1,065.7	1,065.8	1,065.8	1,065.4	1,065.4	1,065.1	1,064.8	1,064.4
GZ-PM-7U	1,077.82	1,080.18	1,067.0	1,067.0	1,067.0	1,066.9	1,066.7	1,065.7	1,065.6	1,065.1	1,065.0	1,063.9	1,063.9	1,062.2	1,058.6	1,057.5
GZ-PM-8U	1,079.17	1,081.29	1,068.6	1,068.6	1,068.6	1,068.6	1,067.4	1,067.3	1,067.1	1,066.6	1,066.5	1,065.3	1,065.6	1,064.8	dry	dry
GZ-PM-8L	1,079.31	1,081.48	1,066.5	1,066.6	1,066.6	1,066.3	1,065.7	1,064.0	1,063.9	1,063.4	1,063.4	1,062.7	1,063.2	1,062.1	1,059.7	1,057.0
GZ-PM-9L	1,080.24	1,082.38	1,075.8	1,075.6	1,075.3	1,074.1	1,073.2	1,071.2	1,070.9	1,068.8	1,068.4	1,060.7	1,061.6	1,057.5	1,056.6	1,057.0
GZ-OPM-6A	869.35	869.07	-							-	-	-	-	-	-	-
GZ-OPM-6B	869.36	869.02	-							-	-	-	-	-	-	-
GZ-OPM-6C	869.18	868.92	-							-	-	-	-	-	-	-
GZ-OPM-6D	869.25	869.02	-							-	-	-	-	-	-	-
GZ-OPM-11A	869.37	869.17	-							-	-	-	-	-	-	-
GZ-OPM-11B	869.31	868.97	-							-	-	-	-	-	-	-
GZ-OPM-11C	869.00	868.71	-							-	-	-	-	-	-	-
GZ-OPM-11D	869.05	868.77	-							-	-	-	-	-	-	-
GZ-OPM-14A	867.51	867.21	-							-	-	-	-	-	-	-
GZ-OPM-14B	867.73	867.30	-							-	-	-	-	-	-	-
GZ-OPM-14C	867.48	867.21	-							-	-	-	-	-	-	-
GZ-OPM-14D	867.40	867.15	-							-	-	-	-	-	-	-

Notes:

1. Data are in feet.

2. "-" indicates no measurement taken.

3. "dry" indicates the well is dry, elevation shown is based on bottom of well.

4. "NI" indicates not installed.

5. 1 psi = 2.307 ft of water

6. "Frozen" Indicates the well was frozen and no measurement could be made.

7. "FA" indicates flowing artesian condition observed, measurement could not be made due to packer or instrument malfunction.

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

			7/31/2017	8/25/2017	10/3/2017	12/11/2017	1/25/2018	3/19/2018	6/19/2018	9/10/2018	12/13/2018	3/18/2019	6/20/2019	9/11/2019	12/13/2019	3/9/2020	6/8/2020	9/14/2020	12/14/2020	3/11/2021	6/14/2021	9/21/2021	12/14/2021
Well ID	Ground Surface Elevation	PVC Reference Point Elevation																					
GZ-PM-4U	1,077.28	1,080.28	1,069.2	-	dry	-	1,072.7	-	1,067.2	1,066.4	1,071.7	1,070.7	1,072.4	1,063.8	1,072.2	1,073.7	1,069.6	dry	dry	1,068.5	1,069.2	1,067.5	1,072.3
GZ-PM-4L	1,077.96	1,080.36	1,070.1	-	1,062.5	-	1,073.8	-	1,067.5	1,066.5	1,072.5	1,072.0	1,073.0	1,063.8	1,073.0	1,074.3	1,070.3	1,057.3	1,063.1	1,069.1	1,070.1	1,068.0	1,073.2
GZ-PM-5U	1,072.39	1,074.38	dry	-	dry	-	1,061.4	-	dry	dry	1,060.5	dry	1,063.2	dry	dry	dry	dry	dry	dry	dry	dry	dry	1,052.5
GZ-PM-5L	1,072.17	1,074.41	1,042.8	-	1,039.5	-	1,052.0	-	1,041.3	1,043.1	1,048.5	1,046.6	1,061.6	1,043.9	1,048.4	1,060.8	1,047.4	1,057.0	1,043.7	1,040.7	1,045.9	1,044.6	1,049.7
GZ-PM-6U	1,075.31	1,077.36	1,063.7	-	1,061.3	-	1,065.1	-	1,062.9	1,060.5	1,064.8	1,064.7	1,064.4	1,061.6	1,065.0	1,065.1	1,063.7	dry	dry	1,063.8	1,063.8	1,062.9	1,064.9
GZ-PM-7U	1,077.82	1,080.18	dry	-	dry	-	dry	-	dry	dry	1,058.0	dry	1,060.9	dry	dry	dry	dry	dry	dry	1,057.2	dry	dry	dry
GZ-PM-8U	1,079.17	1,081.29	dry	-	dry	-	dry	-	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
GZ-PM-8L	1,079.31	1,081.48	1,040.4	-	1,029.3	-	1,058.4	-	1,033.1	1,032.4	1,057.7	1,045.6	1,061.5	1,029.3	1,052.0	1,055.4	1,049.3	dry	1,033.1	1,029.1	1,039.3	1,032.3	1,049.8
GZ-PM-9L	1,080.24	1,082.38	1,056.1	-	1,055.1	-	1,056.9	-	1,053.9	1,056.1	1,056.8	1,056.8	1,062.3	1,056.8	1,056.8	1,065.1	1,056.7	1,048.5	1,056.8	1,053.7	1,056.2	1,056.7	1,056.8
GZ-OPM-6A	869.35	869.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	867.9
GZ-OPM-6B	869.36	869.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	868.0
GZ-OPM-6C	869.18	868.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	867.5
GZ-OPM-6D	869.25	869.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	868.5
GZ-OPM-11A	869.37	869.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	867.4
GZ-OPM-11B	869.31	868.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	864.7
GZ-OPM-11C	869.00	868.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	867.0
GZ-OPM-11D	869.05	868.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	866.1
GZ-OPM-14A	867.51	867.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	865.5
GZ-OPM-14B	867.73	867.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	864.8
GZ-OPM-14C	867.48	867.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	864.6
GZ-OPM-14D	867.40	867.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	864.9

Notes:

1. Data are in feet.

2. "-" indicates no measurement taken.

3. "dry" indicates the well is dry, elevation shown is based on bottom of

4. "NI" indicates not installed.

5. 1 psi = 2.307 ft of water

6. "Frozen" Indicates the well was frozen and no measurement could be

7. "FA" indicates flowing artesian condition observed, measurement cou malfunction.

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TABLE 7 GROUNDWATER EXTRACTION WELL CONSTRUCTION SUMMARY

Dartmouth College, Rennie Farm Site Hanover, New Hampshire

						a 1/a			10 (• • •
						Screened/Open			ID of		Approximate
		Screened	Ground Surface	Reference Point	Screened Interval	Borehole Interval		Bottom of Well	PVC/Borehole		Pump Intake
	Groundwater	Hydrogeologic	Elevation	Elevation (TOC)	Depth	Elevation	Well Depth	Elevation	Diameter	Pump Intake Depth	Elevation
Well Location	Extraction Well	Unit	(feet)	(feet)	(feet)	(feet)	(feet)	(feet)	(Inches)	(feet)	(feet)
	RW-1	Overburden	1,078.2	1,079.9	6.4-16.4	1,071.8-1,061.8	16.4	1,061.8	6	10.4	1,070
	RW-2	Bedrock	1,078.9	1,078.6		1,058 - 1,010	69.5	1,010	6	64.0	1,015
	RW-3	Overburden	1,077.5	1,077.2	9.8-19.8	1,067.7 - 1,057.7	19.8	1,057.7	6	14.0	1,063
	RW-4	Overburden	1,076.2	1,075.6	10.6-20.6	1,065.6 - 1,055.6	20.6	1,055.6	6	15.0	1,061
	RW-5	Bedrock	1,075.7	1,077.1		1,050 - 986	90.2	985.5	6	65.0	1,012
ONSITE	RW-6	Overburden	1,077.0	1,076.8	8.4-18.4	1,068.6 - 1,058.6	18.4	1,058.6	6	14.7	1,062
ONSITE	RW-7	Bedrock	1,028.1	1,029.1		1,000 - 944	75	944	6	80.0	949
	RW-8	Bedrock	1,077.2	1,078.1		1,055 - 984	93	984	6	65.0	1,013
	RW-9	Overburden	1,077.2	1,076.5	7.5-17.5	1,069.7 - 1,059.7	17.5	1,059.7	6	11.5	1,065
	RW-10	Overburden	1,078.2	1,078.3	6.8-16.8	1,071.4 - 1,061.4	16.8	1,061.4	6	11.3	1,067
	RW-11	Overburden	1,079.4	1,080.8	8.5-18.5	1,070.9 - 1,060.9	18.5	1,060.9	6	13.0	1,068
	RW-12	Bedrock	1,079.1	1,078.4		1,055 - 1,009	70	1,009	6	65.0	1,013
	RW-13	Bedrock	967.1	967.7		928 - 847	120	847	6	48.7	919
IVIOD-2	RW-14	Bedrock	966.1	968.2		927 - 856	110	856	6	49.4	919
	ORW-01	Overburden	877.4	879.1	7-27	872.1 - 852.1	30	847.4	11	24.5	853
	ORW-02	Overburden	879.3	880.7	8-38	872.7 - 842.7	38	841.3	11	32.5	847
	ORW-03	Overburden	879.0	880.4	8-38	872.4 - 842.4	38	841.0	12	32.5	847
	ORW-04	Overburden	876.0	877.9	5-30	872.9 - 847.9	30	846.0	12	24.5	851
	ORW-05	Overburden	874.5	876.4	6-31	870.4 - 845.4	31	843.5	12	25.5	849
	ORW-06	Overburden	873.9	875.3	5.3-30.3	870.0 - 845.0	30.3	843.6	12	24.8	849
	ORW-07	Overburden	873.8	875.2	9-29	866.2 - 846.2	29.5	844.3	12	24.0	850
MOD-1	ORW-08	Overburden	874.0	875.4	4.5-29.5	870.9 - 845.9	29.5	844.5	12	24.0	850
	ORW-09	Overburden	873.9	876.3	30-40	846.3 - 836.3	41	832.9	6	35.7	838
	ORW-10	Overburden	873.0	874.6	5.5-30.5	869.1 - 844.1	30.5	842.5	12	25.0	848
	ORW-11	Overburden	872.9	874.2	6-33	868.2 - 841.2	33	839.9	12	27.5	845
	ORW-12	Overburden	873.1	874.3	4.5-34.5	869.8 - 839.8	34.5	838.6	12	29.0	844
	ORW-13	Overburden	872.7	873.9	8-33	865.9 - 840.9	33	839.7	12	27.5	845
	ORW-14	Overburden	871.5	873.1	8.5-38.5	864.6 - 834.6	30	841.5	12	24.5	847
	ORW-15	Overburden	870.6	871.7	8-34	863.7 - 837.7	34	836.6	12	28.5	842

Notes:

1. Units are feet or inches as shown.

2. TOC indicates top of casing.

3. Bedrock wells are open hole.

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TABLE 8A TREATMENT SYSTEM INFLUENT DATA

												Parame	eters (µ	µg/L)								
Date	Diethyl Ether	Acetone	2-Butanone	Tetrahydrofuran	1,4-Dioxane	Arsenic	Chromium	Copper	Barium	Iron	Lead	Nickel	Zinc	Manganese	Dissolved Manganese	Mercury	Selenium	Bromide	Chloride	Total Cyanide	Ammonia-N	Suspended Solids
2/1/2017	20	100	130	370	45	<1	<1	-	7	5,300	<1	-	-	380	-	<0.1	<1	-	-	-	-	-
2/3/2017	-	-	-	-	-	<1	<1	-	9	4,400	<1	-	-	240	-	<0.1	<1	-	-	-	-	-
2/6/2017	42	10	<10	30	50/75	<1	<1	-	8	5,300	<1	-	-	300	-	<0.1	<1	-	-	-	-	-
2/8/2017	-	-	-	-	-	-	<1	-	-	-	<1	-	-	-	-	-	-	200	3,000	-	-	-
2/9/2017	-	-	-	-	-	<1	<1	-	10	4,000	<1	-	-	360	-	<0.1	<1	-	-	-	-	-
2/14/2017	42	<10	10	40	60/53	<1	<1	-	8	4,300	<1	-	-	380	-	<0.1		-	-	-	-	-
2/21/2017	79	<10	<10	30	100/91	<1	<1	-	9	4,000	<1	-	-	390	-	<0.1	<1	-	-	-	-	-
2/27/2017	33	<10	<10	20	48	<1	<1	-	8	2,800	<1	-	-	370	-	<0.1	<1	-	-	-	-	-
3/6/2017	62	<10	<10	30	38	<1	<1	-	7	2,600	<1	-	-	1,500	-	<0.1	<1	-	-	-	-	-
3/13/2017	36	<10	<10	<10	22	<1	<1	-	6	1,200	<1	-	-	330	-	<0.1	<1	-	-	-	-	-
3/20/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	270	270	-	-	-	-	-	-	-
3/31/2017	-	<10	<10	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	3,000	<10/6	-	-
4/3/2017	31	<10	<10	<10	24	<1	<1	-	5	970	<1	-	-	330	-	<0.1	<1	-	-	-	-	-
5/1/2017	-	78.4	50	-	18	<1	1	4.6	-	4,400	0.7	4.5	8	-	-	<0.1	<1	-	5,000	<5	110	46,000
5/3/2017	-	<10	<10	-	57	<1	<1	0.5	-	1,800	<0.1	2.8	<1	-	-	<0.1	<1	-	4,000	<5	60	<5,000
5/8/2017	-	<10	<10	-	60	<1	<1	0.4	-	1,500	0.1	2.5	<1	-	-	<0.1	<1	-	4,000	<5	<50	<5,000
5/15/2017	-	<10	<10	-	80	<1	<1	0.3	-	1,800	<0.1	1.8	<1	-	-	<0.1	<1	-	4,000	<5	<50	<5,000
5/22/2017	-	<10	<10	-	42	<1	<1	0.4	-	1,600	<0.1	2.1	<1	-	-	<0.1	<1	-	4,000	6	<50	<5,000
5/30/2017	-	<10	<10	-	37	<1	<1	0.4	-	1,500	<0.1	2.5	2	-	-	<0.1	<1	-	4,000	<5	<50	6,000
6/7/2017	-	-	-	-	40																	
6/12/2017	-	<10	<10	-	34	<1	<1	0.5	-	1,400	<0.1	2.2	3	-	-	<0.1	<1	-	4,000	<5	<50	<5,000
6/14/2017	-	-	-	-	31	-	-	-	-													
6/29/2017	-	-	-	-	29	-	-	-	-													
7/6/2017	-	<10	<10	-	37	<1	<1	0.4	-	1,900	<0.1	2.0	<1	-	-	<0.1	<1	-	4,000	<5	<50	<5,000
7/13/2017	-	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/26/2017	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
8/8/2017	-	<10	<10	-	35	<1	<1	0.5	-	1,500	<0.1	1.1	<2	-	-	<0.1	<1	-	4,000	7	<50	<5,000
8/15/2017	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/22/2017	-	<10	<10	-	17	<1	<1	1.0	-	1,600	<0.1	2.8	<2	-	-	<0.1	<1	-	4,000	<5	<50	<5,000
9/8/2017	-	<10	<10	-	27	<1	<1	0.4	-	1,400	<0.1	1.7	<2	-	-	<0.1	<1	-	2,000	<5	<50	<5,000
9/12/2017	-	-	-	-	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/13/2017	-	<10	<10	-	26	<1	<1	0.8	-	1,700	<0.1	0.5	<2	-	-	<0.1	<1	-	2,000	<5	<50	5,000
11/0/2017	-	-	10	-	29 10	~1	-	- ^ 0	-		-	- 12	-	-	-		1	-	6,000	- ~ [-	-
11/12/2017	-	<10	×10	-	72	~1	<u></u>	0.0	-	940	\U.1	1.2	0.2	-	-	<u>\0.1</u>		-	0,000	ND	<u>\</u>	< <u>5,000</u>
11/27/2017	-	-	-	_	35	-	-	-	_		-	-	-	-	-	-	-	-	-	-	-	-
1/8/2012		۔ 10	- <10	-	72	- ~1	- ~1	-	-	1 300	- <0 1	15	~5	-	-	- <01		-	3 000		- <50	- <5.000
2/5/2018	_				23	-	-	-	-				-		-	-	-	-	-	-		-
2/9/2018	-	<10	<10		27	<10	<1	07		1 300	<01	21	2	_	-	<0.1	<1	_	4 000	8	<50	<5000
3/15/2018	_	<10	<10		20	<10	<1	1.0	-	1.200	<0.1	1.8	3	_	-	<0.1	<1	-	5,400	7.1	<50	<5000
3/19/2018	-			-	19	-	-	-	-			-	_	_	-	-	-	-	-	-	-	-
4/2/2018	_	-	_	-	23	-	_	-	-	- 1	-	-	-	_	_	-	-	-	-	-	-	-
4/12/2018	_	-	_	-	23	-	_	-	-	- 1	-	-	-	_	-	-	-	-	-	_	-	-
4/17/2018	_	<10	<10	-	17	<1	<1	0.9	-	1.200	<0.1	3.4	2	_	-	<0.1	<1	-	5,800	<5	<50	<5.000
4/25/2018	_	-	-	-	18	-		-	-		-	-	-	_	-	-	-	-	-	-	-	-
5/7/2018	-	-	-	-	17	-	-	-	-	- 1	-	-	-	-	-	-	-	-	-	-	-	-
5/18/2018	-	<10	<10	-	16	<1	<1	1.1	-	1,100	<0.1	1.9	2	-	-	<0.1	<1	-	6,800	<5	<50	<5,000
5/22/2018	-	-	-	-	17	-	-	-	-	<u> </u>	-	-	-	-	-	-	-	-	-	-	-	-
																•	•	•	-		•	

TABLE 8A TREATMENT SYSTEM INFLUENT DATA

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

												Param	eters (ug/L)								
Date	Diethyl Ether	Acetone	2-Butanone	Tetrahydrofuran	1,4-Dioxane	Arsenic	Chromium	Copper	Barium	Iron	Lead	Nickel	Zinc	Manganese	Dissolved Manganese	Mercury	Selenium	Bromide	Chloride	Total Cyanide	Ammonia-N	Suspended Solids
6/12/2018	-	-	-	-	23	-	-	-	-	-	-	-	-	-	_	-	-	-	-	-	-	-
6/21/2018	-	<10	<10	-	20	<1	<1	0.7	-	1.700	<0.1	1.1	2	-	_	< 0.1	<1	-	3.600	<5	<50	<5.000
7/16/2018	-	<10	<10	-	17	<1	<1	0.6	-	1.500	<0.1	0.7	1	-	-	<0.1	<1	-	4.000	<5	<50	<5.000
8/16/2018	_	<10	<10		14	<1	<1	0.0	_	1 300	<0.1	0.8	16		_	<0.1	<1	_	3 600	<5	<50	9,000
9/17/2018	_	<10	<10	-	19	< <u>1</u>	<1	0.5		2 400	<0. <u>1</u>	0.6	11		_	<0.1	<1	_	3,600	<5	<50	5,000
10/15/2018	_	<10	<10		21	<1	<1	0.7		1 000	0.1	1.0	1.1	_		<0.1	<1	_	4 800	<5	<50	<5 000
10/13/2018	-	<10	<10	-	17	<1	<1	0.0	-	1,000 E10	0.1	1.0	1.0	-	_	<0.1	<1	-	4,800		<50	<5,000
11/14/2018	-	<10	<10	-	1/	<1	<1	2.2	-	510	<0.1	5.4	5.0	-	-	<0.1	~1	-	5,000	< 5	<50	<5,000
12/17/2018	-	18 '	<10	-	11	<1	<1	2.1	-	390	0.3	2.9	2.6	-	-	<0.1	<1	-	8,500	<5	<50	<5,000
1/14/2019	-	<10	<10	-	18	<1	<1	1.1	-	1,900	<0.1	2.6	5.4	-	-	<0.1	<1	-	9,700	5.8	<50	<5,000
2/12/2019	-	<10	<10	-	15	<1	<1	1.2	-	1,300	<0.1	1.9	2.2	-	-	<0.1	<1	-	13,000	<5	<50	<5,000
3/14/2019	-	<10	<10	-	20	<1	<1	1.0	-	2,400	<0.1	1.4	2.0	-	-	<0.1	<1	-	12,000	<5	<50	<5,000
4/24/2019	-	<10	<10	-	11	<1	<1	1.4	-	1,400	<0.1	2.2	1.7	-	-	<0.1	<1	-	14,000	6.8	<50	<5,000
5/20/2019	-	<10	<10	-	10	<1	<1	0.7	-	1,100	<0.1	2.8	1.8	-	-	<0.1	<1	-	11,000	<5	<50	<5,000
6/17/2019	-	<10	<10	-	12	<1	<1	0.4	-	2,900	<0.1	2.1	1.5	-	-	<0.1	<1	-	12,000	<5	<50	<5,000
7/11/2019	-	<10	<10	-	15	<1	<1	0.2	-	3,100	<0.1	2.0	1.3	-	-	<0.1	<1	-	10,000	<5	<50	<5,000
8/15/2019	-	<10	<10	-	18	<1	<1	0.39	-	2,300	<0.1	1.1	1.1	-	-	<0.1	<1	-	9,300	6.9	<50	<5,000
8/23/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
9/3/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
9/9/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
9/16/2019	-	-	-	-	-	-	-	-	-	- 1	-	-	-	-	-	-	-	-	-	<5	-	-
9/19/2019	-	<10	<10	-	14	<1	<1	0.39	-	1,900	<0.1	1.0	1.3	-	-	<0.1	<1	-	7,000	11	<50	<5,000
9/23/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5	-	-
9/27/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
9/30/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
10/17/2019	-	<10	<10	-	14	<1	<1	0.6	-	2.000	<0.1	0.8	1.1	-	-	< 0.1	<1	-	6.200	<5	<50	<5.000
11/14/2019	_	<10	<10	-	16	<1	<1	1.1	-	2.000	<0.1	1.7	5.6	-	-	<0.1	<1	-	6.800	<5	<50	<5.000
12/19/2019	-	<10	<10	-	11	<1	<1	1.0	_	1.700	<0.1	2.0	<1	-	-	<0.1	<1	-	9,100	11	<50	<5,000
12/31/2019	-	-	-	-	-	-	-	-	_		-	-	-	-	-	-	-	-	-	5.5	-	-
1/13/2020	-	<10	<10	_	11	<1	<1	0.65	_	3 600	<0.1	2.5	1.1	-	-	<0.1	<1	_	6 800	<5	<50	5 500
2/10/2020	-	<10	<10	_	11	<1	<1	1.2	_	6 400	<0.1	2.8	1.0	-	-	<0.1	<1	_	7 700	<5	<50	8 500
3/9/2020	_	<10	<10		13	<1	<1	0.97	<u> </u>	2 500	<0.1	2.0	1			<0.1	<1		6,000	9.2	<50	<5.000
4/8/2020		<10	<10		13	<1	<1	1.0	<u> </u>	2,500	<0.1	2.5	76			<0.1	<1		6 700	9.5	81	<5,000
5/11/2020	_	<10	<10		12	<1	<1	0.72		2,500	<0.1	2.7	/.0	_		<0.1	<1	_	7 300	10	< <u>50</u>	<5,000
5/11/2020	_	<10	<10		<u> </u>		< <u>1</u>	0.72	_	2,500	\U.1	2.4	<u>\</u>	_		NO.1	~1		7,300	10	<50	<3,000
6/11/2020	_	- 10	<10		10			0 50	_	2 200	<01	17	16	_		<01		_	5 500		~50	- <5 000
6/10/2020	-	10	<10	_	10	<1	<1	17	-	1 000	<0.1	1.7	1.0	-	-	<0.1	<1	-	3,300	< <u>,</u>	< <u>50</u>	<3,000
7/12/2020	-	-10	<10	_	- 11	<1	<1	0.20	-	1,900	<0.1	1.5	1.0	-	-	<0.1	<1	-	2 100	22	<50	- <5 000
7/13/2020	-	<10	<10	-		< <u>1</u>	< <u>1</u>	0.39	-	120	<0.1	0.9	1.9	-	-	\U.1	~1	-	3,100	23 <5	<50	<3,000
9/11/2020	-	- 10	-	-	-	-	-	1.0	-	-		2 5	-	-	-		1	-	2 500		-	-
0/11/2020	-	<10	<10	-	0.5	<1	<1	1.0	-	<50	<0.1	2.5	4.7	-	-	<0.1	<1	-	3,500	<5	<50	<5,000
3/ 14/ 2020	-	<10	<10	-	0.7	~1	~1	1.3	-	< <u>50</u>	<0.1 20.1	2.5	7.9	-	-	<0.1	~1	-	3,300	`	< <u>5</u> 0	
10/19/2020	-	<10	<10	-	4.5	<1	<1	2.0	-	<50	<0.1	1.5	3.0	-	-	<0.1	<1	-	3,600	< <u>5</u>	<50	<5,000
11/12/2020	-	<10	<10	-	4.5	<1	<1	2.2	-	<50	<0.1	1.7	3.9	-	-	<0.1	<1	-	3,100	<5	170	<5,000
12/14/2020	-	<10	<10	-	9.8	<1 -0 F	< <u>1</u>	1.2	-	300	<0.1	1.2	2.7	-	-	<0.1	<1 -0 [-	3,100	< <u>5</u>	<50	<5,000
1/13/2021	-	<10	<10	-	8.3	<0.5	<0.5	1.1	-	//0	<0.1	1.0	2.1	-	-	<0.1	<0.5	-	3,100	<5	<50	<5,000
2/10/2021	-	<10	<10	-	12	<0.5	<0.5	1.0	-	610	<0.1	0.84	1.8	-	-	<0.1	<0.5	-	2,400	<5	<5	<5,000
3/11/2021	-	<10	<10	-	18	<0.5	<0.5	1.1	-	/30	<0.1	0.61	1.8	-	-	<0.1	<0.5	-	2,600	<5	<5	<5,000
4/13/2021	-	<10	<10	-	20	< 0.5	<0.5	1.2	-	1400	<0.1	1.1	2.2	-	-	<0.1	<0.5	-	3,500	/.6	<5	<5,000
5/10/2021	-	<10	<10	-	20	0.51	<0.5	0.78	-	860	<0.1	1.1	1.1	-	-	<0.1	<0.5	-	5,700	<5	<5	<5,000
6/10/2021	-	<10	<10	-	16	<0.5	<0.5	0.97	-	540	<0.1	0.74	7.1	-	-	<0.1	<0.5	-	2,900	<5	<5	<5,000
//12/2021	-	<10	<10	-	5.9	<0.5	<0.5	1.1	-	<0.1	< 0.1	0.74	1.5	-	-	<0.1	<0.5	-	2,400	<5	<50	<5,000
8/16/2021	-	<10	<10	-	5.5	<0.5	< 0.5	1.0	-	550	<0.1	0.77	1.6	-	-	<0.1	<0.5	-	3,100	<5	<5	<5,000
9/16/2021	-	<10	<10	-	21	<0.5	0.55	1.4	-	590	<0.1	0.77	3.4	-	-	<0.1	<0.5	-	2,000	<5	<5	<5,000
10/11/2021	-	<10	<10	-	27	<0.5	<0.5	1.4	-	460	<0.1	0.56	1.5	-	-	<0.1	<0.5	-	1,900	<5	<5	<5,000
11/18/2021	-	<10	<10	-	19	<0.5	<0.5	1.2	-	510	<0.1	0.74	1.6	-	-	<0.1	<0.5	-	2,500	<5	<5	<5,000
12/13/2021	-	<10	<10	-	22	<0.5	<0.5	1.2	-	570	<0.1	0.74	1.4	-	-	<0.1	<0.5	-	2,200	<5	<5	<5,000

Notes:

1. "µg/L" indicates micrograms per liter; "mg/L" indicates milligrams per liter.

2. "NT" indicates that the analyte was not tested for.

3. "NS" indicates that the sample was not sampled.

4. "<" indicates not detected above the analytical laboratory reporting limit shown.

5. "-" indicates not analyzed for referenced parameter.

6. "50/75" indicates two methods used.

7. Conflicting results. EAI reports 18 ug/L using Method 624.1, Pace shows <10.0 ug/L using EPA 1624B.

8. Methyl-t-butyl ether(MTBE) reported at 12ppm in System Influent sample, 1/14/19

9. Silver was detected at a concentration of 0.14 ug/L during the 6/19/2020 sampling event.

\\GZABedford\Jobs\04Jobs\0190000s\04.0190030.00\04.0190030.02\Report\2021 ASR\Tables\04.0190030.02 Table 8A, 8B Treatment System 020822.xlsx

\Influent 8A

TABLE 8B TREATMENT SYSTEM EFFLUENT DATA

Dartmouth College, Rennie Farm Site Hanover, New Hampshire

												Param	eters (μ	g/L)								
Date	Diethyl Ether	Acetone	2-Butanone	Tetrahydrofuran	1,4-Dioxane	Arsenic	Chromium	Copper	Barium	Iron	Lead	Nickel	Zinc	Manganese	Dissolved Manganese	Mercury	Selenium	Bromide	Chloride	Total Cyanide	Ammonia-N	Suspended Solids
Effluent Limitations	-	7,970	-	- í	0.32	10	323	9.8	-	5.000	3.43	1.450	54.8	-	-	0.739	235.8	-	-	5.2	-	30.000
2/1/2017	<5	<10	<10	<10	<0.25	14	<1	-	51	110	<1		-	<0.005	-	<0.1	30	-	-	-	-	-
2/1/2017			10			7	<1		510	~50	< <u>1</u>		-	11		0.1	<u> </u>	_	_	_	_	
2/5/2017	-	<10	<10	<10	<0.25	,	<1		42	<50	×1 <1		-	11		0.2	<1	-	-	-	-	-
2/0/2017	< 5	<10	<10	<10	<0.25	9	<1	-	42	<50	<1	-	-	15	-	0.2	<1	-	-	-	-	-
2/8/201/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	3,000	-	-	-
2/9/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2/14/2017	<5	<10	<10	<10	<0.25	4	<1	NA	450	<50	<1	-	-	99	-	<0.1	<1	-	-	-	-	-
2/21/2017	<5	<10	<10	<10	<0.25	2	<1	NT	320	<50	<1	-	-	400	-	<0.1	<1	-	-	-	-	-
2/27/2017	<5	<10	<10	<10	<0.25	1	<1	NT	400	<50	<1	-	-	490	-	< 0.1	<1	-	-	-	-	-
3/6/2017	<5	<10	<10	<10	<0.25	2	<1	NT	740	<50	<1	-	-	1,600	-	< 0.1	<1	-	-	-	-	-
3/13/2017	<5	<10	<10	<10	< 0.25	3	<1	NT	280	<50	<1	-	-	1.300	-	< 0.1	<1	-	-	-	-	-
3/20/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	1.000	970	-	-	-	-	-	-	-
3/31/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
/2/2017	/ _ 5	<10	<10	<10	<0.25	<1	<1		200	<50	~1		113	790	113	<0.1	<1	145	113	113	113	-
=	<u></u>	<10	<10	<10	<0.25	<1	<1	01	200	60	<0.1	2.2	6	/30		<0.1	<1	_	7 000		<50	10.000
5/1/2017	-	<10	<10	-	<0.25	<1	<1	0.1	-	00	<0.1	3.2	0	-	-	<0.1	<1	-	7,000	<5	<50	10,000
5/3/2017	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1	2.5	2	-	-	<0.1	<1	-	4,000	<5	<50	<5,000
5/8/201/	-	<10	<10	-	<0.25	<1	<1	0.4	-	<50	<1	3.1	<1	-	-	<0.1	<1	-	4,000	<5	<50	<5,000
5/15/2017	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1	2.4	1	-	-	<0.1	<1	-	4,000	<5	<50	<5,000
5/22/2017	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1	2.7	<1	-	-	<0.1	<1	-	4,000	<5	<50	<5,000
5/30/2017	-	<10	<10	-	<0.25	<1	<1	0.2	-	<50	<0.1	3.3	2	-	-	< 0.1	<1	-	4,000	5	<50	6,000
6/12/2017	-	<10	<10	-	<0.25	<1	<1	2.9	-	<50	< 0.1	2.7	3	-	-	< 0.1	<1	-	4,000	<5	<50	<5,000
7/6/2017	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1	2.2	2	-	-	<0.1	<1	-	3,000	<5	<50	<5,000
8/8/2017	-	<10	<10	-	<0.25	<1	<1	0.1	-	<50	< 0.1	1.1	<2	-	-	<0.1	<1	-	4,000	6	<50	<5,000
8/22/2017	-	<10	<10	-	<0.25	<1	<1	< 0.1	-	<50	< 0.1	0.7	<2	-	-	<0.1	<1	-	3,000	<5	<50	<5,000
9/8/2017	-	<10	<10	-	<0.25	<1	<1	< 0.1	-	250	< 0.1	0.7	<2	-	-	< 0.1	<1	-	2,000	<5	<50	<5,000
10/13/2017	_	<10	<10	-	<0.25	<1	<1	< 0.1	-	90	< 0.1	0.4	<2	-	-	< 0.1	<1	-	2.000	<5	<50	<5.000
11/9/2017	-	<10	<10	-	<0.25	<1	<1	1.5	-	<50	<0.1	0.9	0.1	-	-	<0.1	<1	-	6,000	<5	<50	<5,000
1/8/2018	_	<10	<10		<0.25	<1	<1	<0.1	-	<50	<0.1	0.9	<5	_	-	<0.1	<1	-	3,000	<5	<50	<5,000
2/0/2010		<10	<10		<0.25	<1	<1	0.1		<50	<0.1	0.5	<5	_		<0.1	<1	_	4,000	<5	<50	<5,000
2/3/2018		<10	<10	-	<0.25	<1	<1	<u> </u>	_	<50	<0.1	1	< <u>5</u>	-	_	<0.1	<1	_	5,000	< <u>5</u>	<50	<5000
//17/2010	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1		< <u>5</u>	-	-	<0.1	<1	-	5,900	< <u>5</u>	<50	<5000
4/1//2010 5/10/2010	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1	1.9	<5	-	-	<0.1	<1	-	3,900	<5	<50	<5,000
5/18/2018	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1	1.4	<5	-	-	<0.1	<1	-	7,100	<5	<50	<5,000
6/21/2018	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1	0.3	<5	-	-	<0.1	<1	-	3,200	<5	<50	<5,000
//16/2018	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1	0.2	2	-	-	<0.1	<1	-	4,400	<5	<50	<5,000
8/16/2018	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	< 0.1	0.4	4.7	-	-	<0.1	<1	-	3,700	<5	<50	<5,000
9/17/2018	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1	0.1	<1	-	-	<0.1	<1	-	3,100	<5	<50	<5,000
10/15/2018	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1	0.4	1.3	-	-	<0.1	<1	-	4,300	<5	<50	<5,000
11/14/2018	-	<10	<10	-	<0.25	<1	<1	<0.1	-	<50	<0.1	0.5	2.0	-	-	<0.1	<1	-	5,400	<5	<50	<5,000
12/17/2018	-	<10	<10	-	<0.25	<1	<1	0.2	-	<50	0.4	1.1	<1	-	-	<0.1	<1	-	8,200	<5	<50	<5,000
1/14/2019	-	<10	<10	-	<0.25	<1	<1	< 0.1	-	<50	<0.1	2.2	2.2	-	-	<0.1	<1	-	9,500	<5	<50	<5,000
2/12/2019	-	<10	<10	-	<0.2	<1	<1	< 0.1	-	<50	< 0.1	1.8	4.0	-	-	<0.1	<1	-	13,000	<5	<50	<5,000
3/14/2019	-	<10	<10	-	<0.2	<1	<1	< 0.1	-	<50	< 0.1	1.0	1.4	-	-	<0.1	<1	-	12,000	<5	<50	<5,000
4/24/2019	-	<10	<10	-	<0.2	<1	<1	< 0.1	-	<50	< 0.1	1.0	1.6	-	-	< 0.1	<1	-	14,000	<5	<50	<5,000
5/20/2019	-	<10	<10	-	<0.2	<1	<1	< 0.1	-	<50	< 0.1	0.9	1.2		-	<0.1	<1	-	12,000	<5	<50	<5,000
6/17/2019	-	<10	<10	-	<0.2	<1	<1	<0.1	-	<50	<0.1	0.9	1.5	-	-	<0.1	<1	-	12.000	<5	<50	<5.000
7/11/2019	-	<10	<10	-	<0.2	<1	<1	<0.1	-	<50	<0.1	1.0	2.0	-	-	<0.1	<1	-	10.000	<5	<50	<5.000
8/15/2019	-	<10	<10	-	<0.2	<1	<1	<0.1	-	<50	<0.1	0.29	<1	-	-	<0.1	<1	-	9.200	5.9	<50	<5.000
8/22/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
0/20/2010		<10	<10		<0.2	<1	<1	<01	-	<50	<01	0.26	2.0			<01	<1		7 000	64	<50	<5.000
0/27/2019	-	<10	<10	-	NU.2	~1	~1	NO.1	-	<50	\U.1	0.20	2.0	-	_	\U.1	~1	_	7,000	0.4	<50	<3,000
9/27/2019	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
9/30/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
10/1//2019	-	<10	<10	-	<0.2	<1	<1	<0.1	-	<50	<0.1	0.2	<1	-	-	<0.1	<1	-	6,200	<5	<50	<5,000
11/14/2019	-	<10	<10	-	<0.2	<1	<1	<0.1	-	<50	<0.1	0.36	1.3	-	-	<0.1	<1	-	7,000	<5	<50	<5,000
12/19/2019	-	<10	<10	-	<0.2	<1	<1	<0.1	-	<50	<0.1	1.0	<1	-	-	<0.1	<1	-	9,200	8.5	<50	<5,000
12/31/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
1/13/2020	-	<10	<10	-	<0.2	<1	<1	0.19	-	<50	<0.1	0.57	<1	-	-	<0.1	<1	-	6,700	<5	<50	<5,000
2/10/2020	-	<10	<10	-	<0.2	<1	<1	<0.1	-	<50	<0.1	0.61	<1	-	-	<0.1	<1	-	8,000	<5	<50	<5,000
3/9/2020	-	<10	<10	-	<0.2	<1	<1	<0.1	-	<50	<0.1	0.63	<1	-	-	<0.1	<1	-	5,800	<5	<50	<5,000
4/8/2020	-	<10	<10	-	<0.2	<1	1.6	0.14	-	82		0.93	1.2	-	-	< 0.1	<1	-	6,900	<5	<50	<5,000
5/11/2020	-	<10	<10	-	-	<1	<1	<0.1	-	<50	< 0.1	0.76	<1	-	-	<0.1	<1	-	7,100	<5	78	<5,000
5/19/2020	-	-	-	-	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	•		-		-	-						-								

NHDES Site No. 201111109, DES Project No. 277737

TABLE 8B TREATMENT SYSTEM EFFLUENT DATA

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

												Parame	eters (µ	g/L)								
Date	Diethyl Ether	Acetone	2-Butanone	Tetrahydrofuran	1,4-Dioxane	Arsenic	Chromium	Copper	Barium	Iron	Lead I	Nickel	Zinc	Manganese	Dissolved Manganese	Mercury	Selenium	Bromide	Chloride	Total Cyanide	Ammonia-N	Suspended Solids
Effluent Limitations	-	7,970	-	-	0.32	10	323	9.8	-	5,000	3.43	1,450	54.8	-	-	0.739	235.8	-	-	5.2	-	30,000
6/11/2020	-	<10	<10	-	<0.2	17	1.1	<0.1	-	<50	<0.1	0.85	3.4	-	-	0.16	<1	-	5,600	<5	51	<5,000
6/19/2020	-	-	-	-	-	4.5	<1	0.13	-	<50	<0.1	0.31	<1	-	-	<0.1	<1	-	-	-	-	-
7/13/2020	-	<10	<10	-	0.57	1.1	<1	<0.1	-	<50	<0.1	0.53	2.0	-	-	<0.1	<1	-	3,100	5.9	<50	<5,000
7/27/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-
8/11/2020	-	<10	<10	-	<0.2	0.95	<1	<0.1	-	<50	<0.1	0.78	1.7	-	-	<0.1	<1	-	3,400	<5	<50	<5,000
9/14/2020	-	<10	<10	-	<0.2	<1	<1	3.6	-	<50	<0.1	0.71	1.1	-	-	<0.1	<1	-	3,500	<5	<50	<5,000
10/19/2020	-	<10	<10	-	<0.2	<1	<1	<0.1	-	<50	<0.1	0.61	3.2	-	-	<0.1	<1	-	2,600	<5	<50	<5,000
11/12/2020	-	<10	<10	-	<0.2	<1	<1	<0.1	-	<50	<0.1	0.85	1.8	-	-	<0.1	<1	-	2,600	<5	67	<5,000
12/14/2020	-	<10	<10	-	<0.2	<1	<1	<0.1	-	<50	<0.1	0.79	1.6	-	-	<0.1	<1	-	2,800	<5	120	<5,000
1/13/2021	-	<10	<10	-	<0.2	<0.5	<0.5	<0.1	-	<50	<0.1	0.98	2.8	-	-	<0.1	<0.5	-	2,900	<5	<5	<5,000
2/10/2021	-	<10	<10	-	<0.2	<0.5	<0.5	<0.1	-	<50	<0.1	0.79	1.2	-	-	<0.1	<0.5	-	2,300	<5	<5	<5,000
3/11/2021	-	<10	<10	-	<0.2	<0.5	<0.5	<0.1	-	<50	<0.1	0.46	1.4	-	-	<0.1	<0.5	-	2,200	<5	<5	<5,000
4/13/2021	-	<10	<10	-	<0.2	<0.5	<0.5	0.17	-	<50	<0.1	0.56	0.15	-	-	<0.1	<0.5	-	3,600	<5	<5	<5,000
5/10/2021	-	<10	<10	-	<0.2	<0.5	<0.5	0.16	-	<50	<0.1	0.57	1.7	-	-	<0.1	<0.5	-	5,500	<5	<5	<5,000
6/10/2021	-	<10	<10	-	<0.2	<0.5	<0.5	<0.1	-	<50	<0.1	0.29	2.5	-	-	<0.1	<0.5	-	2,800	<5	<5	<5,000
7/12/2021	-	<10	<10	-	0.21	<0.5	<0.5	<0.1	-	<50	<0.1	0.24	1.9	-	-	<0.1	<0.5	-	2,500	<5	<5	<5,000
8/16/2021	-	<10	<10	-	<0.2	<0.5	<0.5	0.14	-	<50	<0.1	0.29	2.6	-	-	<0.1	<0.5	-	3,300	<5	<5	<5,000
9/16/2021	-	<10	<10	-	<0.2	<0.5	<0.5	0.12	-	<50	<0.1	0.22	1.7	-	-	<0.1	<0.5	-	2,000	<5	<5	<5,000
10/11/2021	-	<10	<10	-	<0.2	<0.6	0.5	0.11	-	<50	<0.1	0.18	1.8	-	-	<0.1	<0.5	-	2,000	<5	<5	<5,000
11/18/2021	-	<10	<10	-	<0.2	<0.5	<0.5	<0.1	-	<50	<0.1	0.25	2.2	-	-	<0.1	<0.5	-	2,400	<5	<5	<5,000
12/13/2021	-	<10	<10	-	<0.2	<0.5	0.5	<0.1	-	<50	<0.1	0.30	1.5	-	-	<0.1	<0.5	-	2,700	<5	<5	<5,000

Notes:

1. "µg/L" indicates micrograms per liter; "mg/L" indicates milligrams per liter.

2. "NT" indicates that the analyte was not tested for.

3. "NS" indicates that the sample was not sampled.

4. "<" indicates not detected above the analytical laboratory reporting limit shown.

5. "-" indicates not analyzed for referenced parameter.

6. "Value/Value*" indicates that there was a detection for both analysis for 1,4-dioxane performed using EPA Method 8260B and 8260B SIM, respectively.
7. Antimony was detected at a concentration of 4.1 ug/L and 2.7 in the 6/11/2020 and 6/19/20 effluent samples, respectively.

8. Antimony was detected at a concentration of 0.73 ug/L in the 7/13/2020 effluent sample

TABLE 9A REMEDIAL SYSTEM SUPPLEMENTAL GROUNDWATER PERFORMANCE DATA

Dartmouth College, Rennie Farm Site

Hanover, New Hampshire

							NHDES	Site No. 20111110), DES Project No.	2///3/							
GZ-PN	И-1U	GZ-PI	M-1L	GZ-PN	ท-20	GZ-PI	M-2L	GZ-PI	N-3U	GZ-PI	M-3L	GZ-PI	M-4U	GZ-PN	Л-4L	GZ-PN	<i>/</i> I-5U
Sample Date	1,4-Dioxane Conc.	Sample Date	1,4-Dioxane Conc.	Sample Date	1,4-Dioxane Conc.	Sample Date	1,4-Dioxane Conc.	Sample Date	1,4-Dioxane Conc.	Sample Date	1,4-Dioxane Conc.						
Bedr	ock	Bedr	ock	Bedr	ock	Bedr	ock	Overb	urden	Bedr	ock	Overb	urden	Bedr	ock	Overb	urden
12/29/2016	2.2	12/29/2016	2.7	12/28/2016	47	12/28/2016	110	1/26/2017	0.27	1/26/2017	18	1/25/2017	3.8	1/25/2017	4.0	1/25/2017	12
7/27/2017	<0.25	7/27/2017	16	1/26/2017	29	1/26/2017	160	9/29/2017	dry	9/29/2017	54	9/29/2017	dry	9/29/2017	1.2	9/29/2017	dry
9/29/2017	dry	8/25/2017	22	7/27/2017	23	7/27/2017	59	1/25/2018	<0.25	1/25/2018	19	1/25/2018	0.98	1/25/2018	1.3	1/25/2018	2.8
1/25/2018	<0.25	9/29/2017	18	9/29/2017	25	8/25/2017	60	12/20/2018	<0.2	9/18/2018	24	12/20/2018	0.9	9/18/2018	0.79	12/26/2018	0.36
12/26/2018	<0.2	1/25/2018	7.7	1/25/2018	22	9/29/2017	200	12/18/2019	<0.2	12/20/2018	13	12/18/2019	1.7	12/20/2018	0.66		
12/18/2019	<0.2	12/26/2018	13	12/26/2018	33	1/25/2018	82	6/17/2021	<0.2	12/18/2019	9.4	3/17/2021	1.2	12/18/2019	0.95		
6/17/2021	<0.2	12/18/2019	6.6	12/18/2019	21	9/12/2018	67	9/27/2021	<0.2	6/16/2020	4.3	6/17/2021	1.4	12/18/2020	8.0		
		6/16/2020	5.5	6/16/2020	13	12/26/2018	25			12/18/2020	2.4	9/27/2021	1.3	3/17/2021	1.3		
		12/22/2020	3.8	12/22/2020	25	12/18/2019	59			3/17/2021	1.4			6/17/2021	0.84		
		6/17/2021	6.3	3/17/2021	21	6/16/2020	65			6/17/2021	1.1			9/27/2021	0.69		
		9/27/2021	3.9	6/17/2021	30	12/22/2020	36			9/27/2021	0.96						
				9/27/2021	19	3/17/2021	50					-					
						6/17/2021	64										
						9/27/2021	29										

GZ-PI	M-5L	GZ-PI	M-6U	GZ-PI	M-7U	GZ-PI	M-8U	GZ-PI	M-8L	GZ-PI	M-9L
Sample Date	1,4-Dioxane Conc.										
Bedr	rock	Overb	urden	Overburden		Overb	urden	Bedr	ock	Bedr	rock
1/25/2017	21	1/26/2017	53	1/26/2017	dry	1/26/2017	dry	1/25/2017	<0.25	1/26/2017	0.71
9/29/2017	5.5	9/29/2017	32	9/29/2017	dry	9/29/2017	dry	9/29/2017	dry	9/29/2017	<0.25
1/25/2018	16	1/25/2018	7.5	1/25/2018	dry	1/25/2018	dry	1/25/2018	<0.25	1/25/2018	<0.25
9/18/2018	4.4	12/20/2018	5.1					12/26/2018	<0.2	9/18/2018	<0.2
12/26/2018	5.3	12/18/2019	12					12/18/2019	<0.2	12/26/2018	<0.2
12/18/2019	4.0	6/16/2020	4.0					12/18/2020	<0.2	12/18/2019	<0.2
6/16/2020	3.5	3/17/2021	5.5					6/17/2021	<0.2	12/18/2020	<0.2
12/18/2020	1.4	6/17/2021	6.3					9/27/2021	<0.2	6/17/2021	0.22
3/17/2021	3.4	9/27/2021	8.1							9/27/2021	<0.2
6/17/2021	3.7			-							
9/27/2021	1.8										

GZ-OP	PM-6A	GZ-OP	PM-6B	GZ-OP	M-6C	GZ-OP	M-6D	GZ-OP	M-11A	GZ-OPI	M-11B	GZ-OP	M-11C	GZ-OPI	M-11D
Sample Date	1,4-Dioxane Conc.														
Overb	urden														
11/3/2021	62	11/3/2021	96	11/3/2021	59	11/3/2021	110	11/3/2021	69	11/3/2021	81	11/3/2021	99	11/3/2021	430

GZ-OPI	M-14A	GZ-OPI	M-14B	GZ-OPI	M-14C	GZ-OPI	M-14D
Sample Date	1,4-Dioxane Conc.						
Overbu	urden	Overb	urden	Overb	urden	Overb	urden
11/3/2021	250	11/3/2021	280	11/3/2021	120	11/3/2021	400

Notes:

1. Data indicate concentrations of 1,4-dioxane in micrograms per liter.

2. "<" indicates that 1,4-dioxane was not detected above the associated reporting limit.

3." dry" indicates no water in monitoring well at the time of the respective sampling round.

TABLE 9A REMEDIAL SYSTEM SUPPLEMENTAL GROUNDWATER PERFORMANCE DATA

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

[ORW-1	ORW-2	ORW-3	ORW-4	ORW-5	ORW-6	ORW-7	ORW-8	ORW-9	ORW-10	ORW-11	ORW-12	ORW-13	ORW-14	ORW-15
		1,4-Dioxane Concentration													
Sample Date	Overburden														
1/18/2021	-	140	-	56	-	-	-	-	-	-	-	260	-	170	-
1/21/2021	-	-	44	-	-	-	-	-	-	330	-	-	-	-	-
1/25/2021	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/23/2021	21	49	41	41	59	110	140	280	340	340	640	170	200	200	55
9/23/2021	19	38	29	29	46	100	110	190	230	280	490	190	180	170	47

	RW-13	RW-14			
Sample Date	1,4-Dioxane Conc.				
	Bedrock				
2/23/2021	2.2	8.1			
9/23/2021	1.6	5.9			
12/17/2021	1.3	5.6			

	MOD-1	MOD-2			
Sample Date	1,4-Dioxa	ine Conc.			
	System				
1/20/2021	88	14			
1/20/2021	00				

1. Data indicate concentrations of 1,4-dioxane in micrograms per liter.

2. "<" indicates that 1,4-dioxane was not detected above the associated reporting limit.

3." dry" indicates no water in monitoring well at the time of the respective sampling round.

Data	System Inf	Post Carbon	System		LGAC		System
Date	System III.	Post Carbon	Mid.	Inf.	Mid.	Eff.	Eff.
2/1/2017	45	-	<0.25	-	-	-	<0.25
2/6/2017	75	-	<0.25	-	-	-	<0.25
2/14/2017	53	-	<0.25	-	-	-	<0.25
2/21/2017	91	-	<0.25	-	-	-	<0.25
2/27/2017	48	-	<0.25	-	-	-	<0.25
5/22/2017	42	19	<0.25	-	-	-	<0.25
5/24/2017		-	-	440	<0.25	<0.25	-
5/30/2017	37	58	<0.25	-	-	-	<0.25
6/2/2017		-	-	2,900	<0.25	<0.25	-
6/7/2017	40	73	<0.25	-	-	-	<0.25
6/9/2017		-	-	1,400	<0.25	<0.25	-
6/12/2017	34	-	-	-	-	-	<0.25
6/14/2017	31	36	<0.25	2,700	0.46	<0.25	-
6/29/2017	29	39	<0.25	1,600	9.9	<0.25	-
7/6/2017	37	-	-	-	-	-	<0.25
7/13/2017	28	27	<0.25	2,400	29	<0.25	-
7/26/2017	34	37	<0.25	2,400	<0.25	<0.25	-
8/8/2017	35	-	-	-	-	-	<0.25
8/15/2017	25	31	<0.25	2,700	<0.25	<0.25	-
8/22/2017	17	-	-	-	-	-	<0.25
9/8/2017	27	-	-	-	-	-	<0.25
9/12/2017	45	46	<0.25	1,800	<0.25	<0.25	-
10/13/2017	26	-	-	-	-	-	<0.25
10/18/2017	29	-	<0.25	2,900	<0.25	<0.25	-
11/9/2017	19	-	-	-	-	-	<0.25
11/13/2017	35	-	<0.25	2,100	<0.25	<0.25	-
11/27/2017	42	-	<0.25	1,800	0.59	<0.25	-
12/8/2017	22	-	-	-	-	-	<0.25
1/2/2018	31	-	<0.25	2,200	21	<0.25	-
1/8/2018	23	-	-	-	-	-	<0.25
1/22/2018	24	-	<0.25	1,400	<0.25	<0.25	-
2/5/2018	27	-	<0.25	1,800	<0.25	<0.25	-
2/9/2018	22	-	-	-	-	-	<0.25
2/21/2018	31	-	<0.25	1,400	<0.25	<0.25	-
3/6/2018	21	-	<0.25	-	-	-	-
3/15/2018	20	-	-	600	3.8	<0.25	<0.25
3/19/2018	19	-	<0.25	1,500	30	<0.25	-
4/2/2018	23	-	<0.25	1,400	<0.25	0.42	-
4/12/2018	23	-	<0.25	13,000	1.5	<0.25	-
4/17/2018	17	-	-	-	-	-	<0.25

Data	Sustana Inf	Dest Carbon	System		LGAC		System
Date	System Inf.	Post Carbon	Mid.	Inf.	Mid.	Eff.	Eff.
4/25/2018	18	-	<0.25	1,800	<0.25	<0.25	-
5/7/2018	17	-	<0.25	1,200	<0.25	<0.25	-
5/18/2018	16	-	-	-	-	-	<0.25
5/22/2018	17	-	<0.25	1,200	<0.25	<0.25	-
6/12/2018	23	-	<0.25	1,100	4.1	<0.25	-
6/21/2018	20	-	-	-	-	-	<0.25
7/16/2018	17	-	-	-	-	-	<0.25
7/18/2018		-	<0.25	40	<0.25	-	-
7/26/2018		1.0	<0.25	-	-	-	-
8/16/2018	14	-	-	-	-	-	<0.25
9/6/2018		8.2	<0.25	230	<0.25	-	-
9/17/2018	19	15	-	-	-	-	<0.25
10/15/2018	21	-	-	-	-	-	<0.25
10/18/2018		19	<0.2	860	<0.2	-	-
11/14/2018	17	-	-	-	-	-	<0.25
11/19/2018		18	<0.2	1,100	0.24	-	-
12/13/2018		18	<0.2	1,400	<0.2	-	-
12/17/2018	11	-	-	-	-	-	<0.25
1/2/2019	11	-	<0.2	1,200	<0.2	-	-
1/14/2019	18	-	-	_	-	-	<0.25
1/23/2019	19	-	<0.2	1,200	0.34	-	-
2/6/2019	17	-	<0.2	1,100	4.2	-	-
2/12/2019	15	-	-	_	-	-	<0.25
2/25/2019	20	-	<0.2	1,700	<0.2	-	-
3/14/2019	20	-	-	-	-	-	<0.25
3/20/2019	18	-	<0.2	970	<0.2	-	-
4/8/2019	11	-	<0.2	1,700	2.4	-	-
4/22/2019	16	-	<0.2	1,700	27	-	-
4/24/2019	11	-	-	-	-	-	<0.2
5/14/2019	14	-	<0.2	1,100	<0.2	-	-
5/20/2019	10	-	-	-	-	-	<0.2
6/10/2019	14	-	-	-	-	-	<0.2
6/17/2019	12	-	-	-	-	-	<0.2
7/2/2019	15	-	<0.2	920	0.28	-	-
7/11/2019	15	-	-	-	-	-	<0.2
7/21/2019	15	0.56	<0.2	680	<0.2	-	-
8/15/2019	18	-	-	-	-	-	<0.2
8/21/2019	18	-	<0.2	44	0.22	-	-
9/19/2019	14	-	-	-	-	-	<0.2
10/14/2019	22	-	<0.2	130	0.89	-	-

Date	System Inf	Post Carbon	System		System		
Date	System III.	Post Carbon	Mid.	Inf.	Mid.	Eff.	Eff.
10/17/2019	14	-	-	-	-	-	<0.20
11/14/2019	16	-	-	-	-	-	<0.20
11/18/2019	27	-	<0.2	910	1.6	-	-
12/16/2019	19	-	<0.2	1,500	5.0	-	-
12/19/2019	11	-	-	-	-	-	<0.20
1/7/2020	22	-	<0.2	3,100	3.0	-	-
1/13/2020	11	-	-	-	-	-	<0.20
2/3/2020	15	-	<0.2	1,400	0.41	0.80	
2/10/2020	11	-	-	-	-	-	<0.20
3/4/2020	15	-	<0.2	1,200	0.61	-	-
3/9/2020	13	-	-	-	-	-	<0.20
3/25/2020	13	-	<0.2	1,400	0.52	3.9	-
4/8/2020	-	-	-	-	-	-	<0.20
4/9/2020	12	-	-	-	-	-	-
4/15/2020	9.8	-	0.39	920	<0.2	2.7	-
5/6/2020	8.4	-	<0.2	-	-	-	<0.20
5/8/2020	-	-	-	1,000	0.54	1.3	-
6/1/2020	14	-	<0.2	1000	1.0	<0.2	-
6/11/2020	10	-	-	-	-	-	<0.2
7/13/2020	11	-	-	-	-	-	0.57
8/3/2020	12	-	<0.2	300	<0.2	<0.2	-
8/11/2020	6.3	-	-	-	-	-	<0.2
9/14/2020	6.7	-	-	-	-	-	<0.2
10/14/2020	3.9	-	<0.2	300	<0.2	<0.2	-
10/19/2020	4.5	-	-	-	-	-	<0.2
11/12/2020	4.5	-	-	-	-	-	<0.2
11/24/2020	3.7	-	<0.2	270	2.2	<0.2	-
12/14/2020	9.8	-	-	-	-	-	<0.20
12/29/2020	14		<0.2	490	19	<0.2	-
1/13/2021	8.3	-	-	-	-	-	<0.2
1/19/2021	8.5	-	<0.2	1,000	<0.2	0.33	-
2/3/2021	17	-	<0.2	910	<0.2	<0.2	-
2/10/2021	12	-	-	-	-	-	<0.2
2/17/2021	20	-	<0.2	740	<0.2	0.23	-
3/8/2021	35	-	<0.2	1,500	0.69	0.23	-
3/11/2021	18	-	-	-	-	-	<0.2
3/23/2021	29	-	<0.2	2,100	<0.2	1.2	-
4/5/2021	7.7	-	<0.2	1,900	2.3	0.82	-
4/13/2021	20	-	-	-	-	-	<0.2
4/14/2021	15	-	<0.2	1,100	280	0.70	-
4/28/2021	36	-	<0.2	1,800	0.59	1.10	-
5/10/2021	20	-	-	-	-	-	<0.2
5/11/2021	21	-	<0.2	1,400	0.60	0.62	-
5/24/2021	21	-	<0.2	1,400	0.61	0.43	-
6/7/2021	26	-	<0.2	670	11	0.44	-
6/10/2021	16	-	-	-	-	-	<0.2
6/22/2021	23	-	<0.2	2,000	98	0.95	-

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

Data	System Inf	Post Carbon	System		LGAC		System
Date	System III.	Post Carbon	Mid.	Inf.	Mid.	Eff.	Eff.
7/12/2021	5.9	-	-	-	-	-	0.21
7/14/2021	7.1	-	<0.2	1,700	570	0.83	-
7/26/2021	-	-	<0.2	-	-	-	<0.2
7/29/2021	6.3	-	<0.2	960	1500	5.3	-
8/10/2021	18	-	<0.2	1,000	77	0.52	-
8/16/2021	5.5	-	-	-	-	-	<0.2
8/23/2021	28	-	<0.2	1,500	500	0.24	-
9/7/2021	24	-	<0.2	2400	740	<0.2	-
9/16/2021	21	-	-	-	-	-	<0.2
9/28/2021	25	-	<0.2	3,000	1.9	1.6	-
10/11/2021	27	-	-	-	-	-	<0.2
10/18/2021	27	-	<0.2	3,500	1.1	0.81	-
11/8/2021	25	-	<0.2	3,300	1.4	0.62	-
11/18/2021	19	-	-	-	-	-	<0.2
11/22/2021	19	-	<0.2	2,200	5.5	0.29	-
12/7/2021	19	-	<0.2	2,600	36	<0.2	-
12/13/2021	22	-	-	-	-	-	<0.2
12/20/2021	21	-	<0.2	2,100	0.25	7.4	-

Notes:

1. Data indicate concentrations of 1,4-dioxane in micrograms per liter.

2. Empty cell indicates sampling location not included in respective sampling round.

3. "<" indicates 1,4-dioxane was not detected above the reporting limit shown.

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TABLE 11SUMMARY OF 1,4-DIOXANE CONCENTRATION CHANGE

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

			Pre-system Startup	Collection Date of Most	Most Recent Detected		
Area/Monitoring		Collection Date of Pre-	Concentration of 1,4-	Recent Sample	Concentration of 1,4-	Change in Concentration	Calculated Percent Change
Well Type	Well	system Startup Sample	dioxane (µg/L)	(through 2021)	dioxane (μg/L)	(µg/L)	in Concentration
	GZ-2	1/24/17	37	12/16/21	1.4	35.6	96%
Source	GZ-14L	1/24/17	81	12/16/21	17	64	79%
	GZ-20L	1/24/17	10	9/22/21	10	0	0%
	GZ-5L	1/24/17	6.8	9/22/21	0.88	5.92	87%
	GZ-7L	1/24/17	2.9	9/22/21	1.5	1.4	48%
Down Gradient	GZ-9L	1/24/17	88	12/15/21	0.46	87.54	99%
Down Gradient	GZ-9D	1/24/17	86	12/15/21	64	22	26%
	GZ-10L	1/24/17	2.1	9/22/21	0.37	1.73	82%
	GZ-17L	1/24/17	2.5	9/22/21	3.4	0.9	36%
	GZ-PM-1U	12/29/16	2.2	6/17/21	<0.20	2.2	100%
	GZ-PM-1L	12/29/16	2.7	9/27/21	3.9	1.2	44%
	GZ-PM-2U	12/28/16	47	9/27/21	19	28	60%
	GZ-PM-2L	12/28/16	110	9/27/21	29	81	74%
	GZ-PM-3U	1/26/17	0.27	9/27/21	<0.2	0.27	100%
Performance	GZ-PM-3L	1/26/17	18	9/27/21	0.96	17.04	95%
Monitoring	GZ-PM-4U	1/25/17	3.8	9/27/21	1.3	2.5	66%
	GZ-PM-4L	1/25/17	4.0	9/27/21	0.7	3.31	83%
	GZ-PM-5U	1/25/17	12	12/26/18	0.36	11.64	97%
	GZ-PM-5L	1/25/17	21	9/27/21	1.8	19.2	91%
	GZ-PM-6U	1/26/17	53	9/27/21	8.1	44.9	85%
	GZ-PM-9L	1/26/17	0.71	9/27/21	<0.2	0.71	100%

Notes:

1. "<" indicates 1,4-dioxane not detected above the laboratory reporting limit shown.

2. Shading indicate relative increase in concentration.

3. "µg/L" indicates micrograms per liter.

TABLE 12CYANIDE CONCENTRATION DATA

Dartmouth College, Rennie Farm Site Hanover, New Hampshire NHDES Site No. 201111109, DES Project No. 277737

		Sampling Location								
			Bedrock Gro	oundwater Ext	raction Well		Treatme	nt System	Offsite RW	EAI ID No.
Date	Analysis	RW-2	RW-5	RW-7	RW-8	RW-12	Influent	Effluent	RW-02	
8/15/2019	,	-	-	_	-	_	0.0069	0.0059	-	199214
8/23/2019		0.010	<0.005	<0.005	<0.005	<0.005			_	199511
0/2/2010		0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	100071
9/3/2019		<0.005	0.016	<0.005	<0.005	<0.005	<0.005	-	-	199871
9/9/2019		<0.005	< 0.005	<0.005	< 0.005	< 0.005	< 0.005	-	-	200146
9/16/2019		< 0.005	<0.005	< 0.005	<0.005	<0.005	<0.005	-	-	200441
9/19/2019		-	-	-	-	-	0.011	0.0064	-	200570
9/23/2019		0.012	0.0094	0.0085	< 0.005	0.0050	0.0085	-	-	200671
9/27/2019		-	-	-	-	-	< 0.005	< 0.005	-	200872
9/30/2019	Total	0.0067	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	-	200966, 200992
10/17/2019		-	-	-	-	-	< 0.005	< 0.005	-	201991
11/14/2019		-	-	-	-	_	< 0.005	< 0.005	-	203394
12/19/2021		-	-	_	-	_	0.011	0.0085	-	204948
12/30/2019			_		_	_	-		_	201310
12/30/2013		_	_	_	_	_	0.0055	<0.005	-	205115
1/2/2019		-	-	-	-	-	0.0055	<0.003	-	203140
1/2/2020		0.012	0.0053	<0.005	<0.005	<0.005	< 0.005	-	-	205192
1/13/2020		-	-	-	-	-	<0.005	< 0.005	-	205624
1/17/2020		0.013	< 0.005	< 0.005	-	<0.005	0.011	<0.005	-	205865
1/17/2020	Free	< 0.005	< 0.005	< 0.005	-	< 0.005	< 0.005	< 0.005	-	205865
2/10/2020	l	-	-	-	-	-	<0.005	<0.005	-	206616
2/11/2020	Total	-	-	-	-	-	-	-	0.0051	206617
3/9/2020	iotai	-	-	-	-	-	0.0092	< 0.005	-	207646
4/8/2020		-	-	-	-	-	0.0095	< 0.005	-	208829
4/8/2020	Free	-	-	-	-	-	< 0.005	< 0.005	-	208829
5/11/2020		-	-	-	-	-	0.010	< 0.005	-	210106
6/11/2020	Total	-	-	-	-	_	< 0.005	< 0.005		211550
6/15/2020	Free	_	_	_	_	_	<0.005	<0.005		211759
7/13/2020	1100	_	_	_	-	-	0.023	0.0059	_	212804
7/13/2020	Total	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005		212004
7/27/2020	Free	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	213479
7/27/2020	Free	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	213479
8/11/2020	lotal	-	-	-	-	-	<0.005	< 0.005	-	214291
8/11/2020	Free	-	-	-	-	-	< 0.005	< 0.005	-	214291
8/14/2020	Total	<0.005	<0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	-	214456
8/14/2020	Free	<0.005	<0.005	< 0.005	<0.005	<0.005	<0.005	<0.005	-	214456
9/14/2020	Total	-	-	-	-	-	<0.005	<0.005	-	215699
9/14/2020	Free	-	-	-	-	-	< 0.005	< 0.005	-	215699
10/19/2020	Total	-	-	-	-	-	< 0.005	< 0.005	-	217327
10/19/2020	Free	-	-	-	-	-	< 0.005	< 0.005	-	217327
11/12/2020	Total	-	-	-	-	-	<0.005	<0.005	-	218736
11/12/2020	Free	-	-	-	-	-	<0.005	<0.005	-	218736
12/14/2020	Total	_	_	_	_	_	<0.005	<0.005	_	220039
12/14/2020	Eree	_	_		_	_	<0.005	<0.005		220035
1/12/2020	Tatal	-	-	-	-	-	<0.005	<0.005	-	220039
1/13/2021	Total	-	-	-	-	-	< 0.005	<0.005	-	221158
1/13/2021	Free	-	-	-	-	-	<0.005	< 0.005	-	221158
2/10/2021	Total	-	-	-	-	-	< 0.005	< 0.005	-	222172
2/10/2021	Free	-	-	-	-	-	< 0.005	< 0.005	-	222172
3/11/2021	Total	-	-	-	-	-	<0.005	<0.005	-	223237
3/11/2021	Free	-	-	-	-	-	< 0.005	< 0.005	-	223237
4/13/2021	Total	-	-	-	-	-	0.076	< 0.005	-	224593
4/13/2021	Free	-	-	-	-	-	< 0.005	< 0.005	-	224593
5/10/2021	Total	-	-	-	-	-	< 0.005	< 0.005	-	225980
5/10/2021	Free	-	-	-	-	-	< 0.005	< 0.005	-	225980
6/10/2021	Total	-	-	-	-	-	< 0.005	< 0.005	-	227526
6/10/2021	Free	_	_	-	-	-	<0.005	<0.005	-	227526
7/12/2021	Total						<0.005			227520
7/12/2021	Eroc	-	-	-	-	-			-	220303
9/10/2021	Tatal	-	-	-	-	-	<0.005	<0.005	-	220303
8/16/2021	iotal	-	-	-	-	-	< 0.005	< 0.005	-	230704
8/16/2021	Free	-	-	-	-	-	< 0.005	< 0.005	-	230704
9/16/2021	Total	-	-	-	-	-	< 0.005	<0.005	-	232227
9/16/2021	Free	-	-	-	-	-	< 0.005	< 0.005	-	232227
10/11/2021	Total	-	-	-	-	-	<0.005	<0.005	-	233431
10/11/2021	Free	-	-	-	-	-	< 0.005	< 0.005	-	233431
11/18/2021	Total	-	-	-	-	-	< 0.005	< 0.005	-	235560
11/18/2021	Free	-	-	-	-	-	< 0.005	< 0.005	-	235560
12/13/2021	Total	-	-	-	-	-	< 0.005	<0.005	-	236597
12/13/2021	Free	-	-	-	-	-	< 0.005	< 0.005	-	236597

Notes:

1. Data are in milligrams per liter (mg/L).

2. The Remediation General Permit Effluent Limitation for the site is 0.0052 mg/L. The New Hampshire

Ambient Groundwater Quality Standard is 0.200 mg/L.

3. "<" indicates less than laboratory reporting limit shown.

4. "-" indicates no sample collected from referenced location on the referenced date.

5. "Total" indicates analysis for total cyanide; "Free" indicates analysis for free cyanide.

6. EAI ID No. indicates Easter Analytical, Inc. report identification number. Refer to Appendix C for reports related to samples collected during 2021.

\\GZABedford\Jobs\04Jobs\0190000s\04.0190030.00\04.0190030.02\Report\2021 ASR\Tables\ 04.0190030.02 Table 12 CN 2020 Concentration Data Summary 020822.xlsx

GZA GeoEnvironmental, Inc.



Figures



) 2022 - GZA GeoEnvironmental, Inc. P:\04Jobs\019000s\04.0190030.00\04.0190030.00\Figures-CAD\2021 ASR\Figure 1A - Locus Water Resources Plan.mxd, 3/2/2022, 1:35:53 PM, ian.gaudt

LEGEND: – – – – INTERMITTENT STREAM TOWN AND/OR STATE BOUNDARY INTERMITTENT/PERENNIAL STREAM; ARROW INDICATES DIRECTION OF SURFACE WATER FLOW 108.0125 WELL BOARD WATER SUPPLY WELL IDENTIFICATION NUMBER DUG WELL NOT SAMPLED WATER SUPPLY WELL NOT SAMPLED \oplus WATER SUPPLY WELL SAMPLED: 1,4-DIOXANE \oplus NOT DETECTED RESULTS OF WATER SUPPLY WELL SAMPLED: 1,4-DIOXANE **(** DETECTED ABOVE GROUNDWATER STANDARD WATER SUPPLY WELL SAMPLED: 1-4 DIOXANE DETECTED BELOW GROUNDWATER STANDARD \oplus DUG WELL SAMPLED: 1,4-DIOXANE NOT \bigcirc DETECTED EXISTING SURFACE WATER QUALITY \land MONITORING LOCATION APPROXIMATE WATERSHED BOUNDARY OF UNNAMED TRIBUTARY TO HEWES BROOK BASED ON TOPOGRAPHY AND SURFACE WATER FEATURES SHOWN ON USGS QUADRANGLE MAPS INCLUDING ENFIELD AND LYME ---- SITE BOUNDARY / TAX MAP BOUNDARY



GENERAL NOTES:

- 1) 2010-2011 1-FT COLOR AERIAL PHOTOS FOR THE TOWN OF HANOVER WERE OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 2) LOCATIONS OF ON SITE DUG WELL AND PORTION OF ONSITE INTERMITTENT STREAM BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE ON OCTOBER 14, 2014 AND JUNE 1, 2015.
- 3) SUPPLY WELLS SHOWN HEREON WERE ADAPTED FROM THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES ONESTOP PROGRAM WEB GIS WATER WELL INVENTORY LAYER IN JANUARY 2016, OR BASED ON OBSERVATION BY GZA.

NO.		ISSUE / DESCRIPTIC	DN		BY	DATE				
UNLESS GEOEN CLIENT THE DR USE AT TRANSF EXPRES	UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OF FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.									
	YEAR 2021 ANNUAL SUMMARY REPORT DARTMOUTH COLLEGE, RENNIE FARM SITE HANOVER, NEW HAMPSHIRE NHDES SITE NO. 201111109, PROJECT NO. 277737									
	LOCUS PLAN / WATER RESOURCES PLAN (AERIAL PHOTOGRAPH BASED)									
PREPA	RED BY:		PREPARED FOR	R:						
GZ	GZA Geo Enginee wv	DARTMOUTH COLLEGE								
PROJ N	MGR: JMW	REVIEWED BY: SRL	CHECKED BY:	JMW	FIGU	RF				

REVISION NO.

1A

DESIGNED BY: JMW DRAWN BY: IPG SCALE: 1 inch = 600 feet

04.0190030.02

PROJECT NO.

DATE:

03-02-2022





LEGEND: INTERMITTENT/PERENNIAL STREAM; ARROW INDICATES DIRECTION OF SURFACE WATER FLOW — – – — – INTERMITTENT STREAM TOWN AND/OR STATE BOUNDARY WELL BOARD WATER SUPPLY WELL IDENTIFICATION NUMBER 108.0125 DUG WELL NOT SAMPLED 0 WATER SUPPLY WELL NOT SAMPLED \oplus WATER SUPPLY WELL SAMPLED: 1,4-DIOXANE NOT DETECTED RESULTS OF WATER SUPPLY WELL SAMPLED: 1,4-DIOXANE DETECTED ABOVE GROUNDWATER DETECTED ABOVE GROUNDWATER **(** STANDARD WATER SUPPLY WELL SAMPLED: 1-4 DIOXANE DETECTED BELOW GROUNDWATER \oplus STANDARD DUG WELL: 1,4-DIOXANE NOT DETECTED EXISTING SURFACE WATER QUALITY MONITORING LOCATION APPROXIMATE WATERSHED BOUNDARY OF UNNAMED TRIBUTARY TO HEWES BROOK BASED ON TOPOGRAPHY AND SURFACE WATER FEATURES SHOWN ON USGS QUADRANGLE MAPS INCLUDING ENFIELD

SITE BOUNDARY / TAX MAP BOUNDARY

AND LYME



GENERAL NOTES:

- 1) BASEMAP CONTAINS ENFIELD AND LYME USGS 7.5 MINUTE QUADRANGLES.
- 2) LOCATIONS OF ON SITE DUG WELL AND PORTION OF ONSITE INTERMITTENT STREAM BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE ON OCTOBER 14, 2014 AND JUNE 1, 2015.
- 3) SUPPLY WELLS SHOWN HEREON WERE ADAPTED FROM THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES ONESTOP PROGRAM WEB GIS WATER WELL INVENTORY LAYER IN JANUARY 2016, OR BASED ON OBSERVATION BY GZA.

2										
1	NO.		ISSUE / DESCRIPTI	NC	BY	DATE				
1	UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.									
	YEAR 2021 ANNUAL SUMMARY REPORT DARTMOUTH COLLEGE, RENNIE FARM SITE HANOVER, NEW HAMPSHIRE NHDES SITE NO. 201111109, PROJECT NO. 277737									
1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	LOCUS PLAN / WATER RESOURCES PLAN (USGS QUADRANGLE BASED)									
1	PREPA	RED BY:		PREPARED FOR:						
1	GZ	GZA Geo Enginee ww	Environmental, Inc. rs and Scientists /w.gza.com	DARTMOUTH COLLEGE						
	PROJ N	/IGR: JMW	REVIEWED BY: SRL	CHECKED BY: JMW	FIGU	RE				

REVISION NO.

PROJECT NO.

04.0190030.02

1B



LEGEND:	
\bigcirc	ACTIVE DUG WELL
\bigcirc	ABANDONDED DUG WELL
108.0289	APPROXIMATE PRIVATE WELL LOCATION AND WELL BOARD ID
GZ-46	APPROXIMATE MONITORING WELL LOCATION (CERTAIN REMEDIAL SYSTEM PERFORMANCE MONITORING WELL LOCATIONS ARE NOT SHOWN TO MAINTAIN CLARITY; REFER TO FIGURES 2C AND 6B FOR ADDITIONAL MONITORING WELL LOCATIONS)
	ANNUAL SAMPLING LOCATION
	QUARTERLY SAMPLING LOCATION
•	BIANNUAL SAMPLING LOCATION
۲	OVERBURDEN GROUNDWATER EXTRACTION WELL
	EXISTING SURFACE WATER QUALITY MONITORING LOCATION
	APPROXIMATE REMEDIAL EASEMENT BOUNDARY
1000	APPROXIMATE GROUND SURFACE ELEVATION CONTOUR (SEE NOTE 5)
	INTERMITTENT/PERENNIAL STREAM; ARROW INDICATES DIRECTION OF SURFACE WATER FLOW
	APPROXIMATE PROPERTY BOUNDARY
	APPROXIMATE LOCATION OF INTERMITTENT STREAM
	RENNIE FARM/SITE PROPERTY BOUNDARY
A A'	APPROXIMATE LOCATION OF CROSS SECTION LINE SEE FIGURE 7A AND 7B FOR CROSS SECTIONS



- 2016, AND MAY 31, 2016, JANUARY 4 AND 8, 2017, OR ARE BASED ON
- 4) SUPPLY WELLS SHOWN HEREON WERE ADAPTED FROM THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES ONESTOP PROGRAM WEB GIS WATER WELL INVENTORY LAYER IN JANUARY 2016, OR BASED ON OBSERVATION BY GZA.
- WATERSHED (2015) BARE EARTH DIGITAL ELEVATION MODEL, OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS

1	NO.	ISSUE / DESCRIPTION	BY	DATE
	UNLESS GEOEN CLIENT	SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE /IRONMENTAL, INC. (6ZA). THE INFORMATION SHOWN ON THE DRAWING IS SOL OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT A	SOLE PR LELY FOR T	OPERTY OF GZA "HE USE BY GZA'S ON IDENTIFIED ON
_	THE DR	AWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR AL	TERED IN	ANY MANNER FOR

USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.



GEND:	
\bigcirc	ACTIVE DUG WELL
	ABANDONDED DUG WELL
-46	APPROXIMATE MONITORING WELL LOCATION (CERTAIN REMEDIAL SYSTEM PERFORMANCE MONITORING WELL LOCATIONS ARE NOT SHOWN TO MAINTAIN CLARITY; REFER TO FIGURES 2C AND 6B FOR ADDITIONAL MONITORING WELL LOCATIONS)
	ANNUAL SAMPLING LOCATION
<u>z-2</u>	QUARTERLY SAMPLING LOCATION
Z-3	BIANNUAL SAMPLING LOCATION
	EXISTING SURFACE WATER QUALITY MONITORING LOCATION
8.0289 W	APPROXIMATE PRIVATE WELL LOCATION AND WELL BOARD ID
	APPROXIMATE REMEDIAL EASEMENT BOUNDARY
1000	APPROXIMATE GROUND SURFACE ELEVATION CONTOUR (SEE NOTE 4)
	INTERMITTENT/PERENNIAL STREAM; ARROW INDICATES DIRECTION OF SURFACE WATER FLOW
	APPROXIMATE PROPERTY BOUNDARY
	APPROXIMATE LOCATION OF INTERMITTENT STREAM
	RENNIE FARM/SITE PROPERTY BOUNDARY



- 2) APPROXIMATE PROPERTY BOUNDARIES OBTAINED FROM THE NEW HAMPSHIRE PARCEL MOSAIC DATASET, AVAILABLE FROM THE NH
- 3) LOCATIONS OF MONITORING WELLS, WATER SUPPLY WELL WSW-1, DUG WELL (FORMERLY WATER SUPPLY WELL FOR 8 RENNIE ROAD), ONSITE PORTION OF INTERMITTENT STREAM, AND CERTAIN OTHER SITE FEATURES BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE DURING OCTOBER 2014, JUNE 2015, JANUARY
- OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS
- OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS

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	BEDROCK GROUNDWATER EXTRACTION WELL
	OVERBURDEN GROUNDWATER EXTRACTION WELL
	EXISTING SURFACE WATER QUALITY MONITORING LOCATION
+	APPROXIMATE MONITORING WELL LOCATION
108.0289 W	APPROXIMATE PRIVATE WELL LOCATION AND WELL BOARD ID
	ABANDONDED DUG WELL
	ACTIVE DUG WELL
	APPROXIMATE EASEMENT BOUNDARY
\rightarrow	APPROXIMATE STREAM CHANNEL LOCATION
	VEHICLE ACCESS WAY
	ATV ACCESS WAY
	APPROXIMATE EXISTING BUILDING FOOTPRINT
1000	APPROXIMATE 10-FT GROUND SURFACE ELEVATION CONTOUR (SEE NOTE 4)
890	APPROXIMATE 1-FT GROUND SURFACE ELEVATION CONTOUR PROVIDED BY WSP (SEE NOTE 6)
\longrightarrow	INTERMITTENT/PERENNIAL STREAM; ARROW INDICATES DIRECTION OF SURFACE WATER FLOW

APPROXIMATE PROPERTY BOUNDARY

APPROXIMATE LOCATION OF INTERMITTENT STREAM

RENNIE FARM/SITE PROPERTY BOUNDARY

GENERAL NOTES:

LEGEND:

1) 2015-2016 1-FT COLOR AERIAL PHOTOS FOR THE TOWN OF HANOVER WERE OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.

SCALE IN FE

- 2) APPROXIMATE PROPERTY BOUNDARIES OBTAINED FROM THE NEW HAMPSHIRE PARCEL MOSAIC DATASET, AVAILABLE FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 3) LOCATIONS OF MONITORING WELLS, WATER SUPPLY WELL WSW-1, DUG WELL (FORMERLY WATER SUPPLY WELL FOR 8 RENNIE ROAD) ONSITE PORTION OF INTERMITTENT STREAM, AND CERTAIN OTHER SITE FEATURES BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE DURING OCTOBER 2014, JUNE 2015, JANUARY 2016, AND MAY 31, 2016. WELLS INSTALLED AS PART OF REMEDIAL DESIGN INVESTIGATION WERE LOCATED BY GZA USING GPS SURVEY METHODS. REFERENCE POINT ELEVATIONS WERE ESTABLISHED USING OPTICAL SURVEY METHODS.
-) APPROXIMATE GROUND SURFACE ELEVATION CONTOURS SHOWN HEREON WERE DERIVED FROM THE TWO FOOT TOPOGRAPHIC CONTOURS - MINK BROOK-CONNECTICUT RIVER (0108010404) FILTERED GIS DATASET OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 5) INTERMITTENT/PERENNIAL STREAMS SHOWN HEREON WERE DERIVED FROM THE NEW HAMPSHIRE HYDOGRAPHY DATASET OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 6) APPROXIMATE 1-FOOT GROUND SURFACE ELEVATION CONTOURS WERE SURVEYED BY WSP TRANSPORTATION AND INFRASTRUCTURE, OF NASHUA, NH DURING JANUARY 2017. THE VERTICAL DATUM REFERENCED IS NAVD 88.

NO. ISSUE / DESCRIPTION BY DAT	
NO. ISSUE / DESCRIPTION BY DAT	
NO. ISSUE / DESCRIPTION BY DAT	
	BY DATE
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YEAR 2021 ANNUAL SUMMARY REPORT DARTMOUTH COLLEGE, RENNIE FARM SITE HANOVER, NEW HAMPSHIRE NHDES SITE NO. 201111109, PROJECT NO. 277737

OFFSITE REMEDIATION AREA PLAN

PREPARED FOR:

PREPARED BY: GZA GeoEnvironmental, Inc. DARTMOUTH COLLEGE GZ Engineers and Scientists www.gza.com PROJ MGR: JMW REVIEWED BY: SRL CHECKED BY: JMW FIGURE DESIGNED BY: EBD DRAWN BY: IPG SCALE: 1 inch = 50 feet 2C ROJECT NO. REVISION NO. 04-07-2022 04.0190030.02



LEGEND:

•



	BEDROCK GROUNDWATER EXTRACTION WELL
	OVERBURDEN GROUNDWATER EXTRACTION
¢	APPROXIMATE MONITORING WELL LOCATION
¢	ANNUAL SAMPLING LOCATION
è	QUARTERLY SAMPLING LOCATION

SOIL BORING

BIANNUAL SAMPLING LOCATION

OOOOOO STONE WALL



GROUND SURFACE TOPOGRAPHIC CONTOURS (SEE NOTE 2)

LIMITS OF GPR SURVEY (SEE NOTE 4)

APPROXIMATE LOCATION OF LABORATORY WASTE BURIAL PIT AND NUMBER (SEE NOTE 5)

AREA OF GPR AND EM ANOMOLIES AND NUMBER (SEE NOTES 3 AND 4)



GENERAL NOTES:

-) 2010-2011 1-FT COLOR AERIAL PHOTOS FOR THE TOWN OF HANOVER WERE OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 2) LOCATIONS OF CERTAIN MONITORING WELLS, GROUND SURFACE TOPOGRAPHY WITHIN CERTAIN AREAS OF THE SITE, AND CERTAIN OTHER SITE FEATURES BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE DURING OCTOBER 2014, JUNE 2015, JANUARY 2016, AND MAY 31, 2016.
- 3) GPR INDICATES GROUND PENETRATING RADAR; EM INDICATES ELECTROMAGNETIC INDUCTION (GEONICS EM61 AND EM31 INSTRUMENTS).
-) THE AREAS OF GPR AND EM ANOMALIES SHOWN HEREON ARE BASED ON SURFICIAL GEOPHYSICAL SURVEYS PERFORMED BY HAGER-RICHTER GEOSCIENCE, INC. OF SALEM, NEW HAMPSHIRE. GPR SURVEYS WERE PERFORMED ON MAY 5 AND MAY 9, 2016 AND THE EM SURVEY WAS PERFORMED ON MAY 27, 2016.
- 5) THE APPROXIMATE LOCATIONS OF LABORATORY WASTE BURIAL PITS ARE BASED ON A SKETCH TITLED "RADIOACTIVE BURIAL AREA AT RENNIE FARM" AND THE SURVEYED LOCATIONS OF FEATURES ILLUSTRATED ON THE SKETCH INCLUDING A FENCE POST IDENTIFIED AS THE SOUTHWESTERN CORNER OF THE BURIAL AREA FENCE, A FENCE POST ALLOCATED ALONG THE SOUTHERN FENCE LINE, THE HUMAN BURIAL AREA, AND SECTIONS OF STONE WALLS. THE LOCATIONS OF THESE FEATURES ARE BASED ON A SURVEYS BY WSP (SEE NOTE 2).
- 6) LOCATIONS OF GEOPHYSICAL ANOMALY TEST PITS ARE BASED ON LOCATIONS OF ANOMALIES MARKED BY HAGER-RICHTER GEOSCIENCE, INC. OF SALEM, NEW HAMPSHIRE AND AS LOCATED IN THE FIELD BY WSP AND MEASUREMENTS TO SITE FEATRUES BY GZA.
- LIMITS OF AUGUST 22-34, 2016 SEXCAVATION AREA BASED ON TAPED MEASUREMENTS MADE BY GZA ON AUGUST 24, 2016 TO SITE FEATURES INCLUDED IN WSP TRANSPORTATION AND INFRASTURUCTRE SURVEY ON MAY 31, 2016.

1.5					
	NO.	ISSUE / DESCRIPTION	BY	DATE	
	UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA				

CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DELENT IS DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

YEAR 2021 ANNUAL SUMMARY REPORT DARTMOUTH COLLEGE, RENNIE FARM SITE HANOVER, NEW HAMPSHIRE NHDES SITE NO. 201111109, PROJECT NO. 277737

FORMER BURIAL AREA PLAN

PREPARED FOR:

1	GZA Geo Enginee wv	Environmental, Inc. rs and Scientists /w.gza.com	DARTMOUTH COLLEGE		
	PROJ MGR: JMW	REVIEWED BY: SRL	CHECKED BY: JMW	FIGURE	
	DESIGNED BY: JMW	DRAWN BY: IPG	SCALE: 1 inch = 20 feet		
	DATE:	PROJECT NO.	REVISION NO.	1 3	
	03-02-2022	04.0190030.02			

PREPARED BY:



LEGEND:	
\$	GROUNDWATER MONITORING WELL (SEE FIGURES 2A, 2B, AND 2C FOR WELL NUMBERS)
	SURFACE WATER SAMPLING LOCATION
	SURFACE WATER SAMPLING LOCATION INCLUDED IN GROUNDWATER MANAGEMENT PERMIT MONITORING PROGRAM
<i></i>	INTERMITTENT/PERENNIAL STREAM; ARROW INDICATES DIRECTION OF SURFACE WATER FLOW
	INTERMITTENT STREAM
Ŵ	APPROXIMATE PRIVATE WELL LOCATION
	PRIVATE WATER SUPPLY WELL INCLUDED IN GROUNDWATER MANAGEMENT PERMIT MONITORING PROGRAM
	GMZ BOUNDARY
	TOWN AND/OR STATE
>	INFERRED AXIS OF 1,4 - DIOXANE
	RENNIE FARM PROPERTY BOUNDARY
	PARCEL BOUNDARY
1000	APPROXIMATE GROUND SURFACE ELEVATION CONTOUR (SEE NOTE 4)
	INFERRED LIMITS OF 1,4-DIOXANE AT CONCENTRATIONS EXCEEDING 0.32 MICROGRAMS PER LITER



GENERAL NOTES:

- 1) 2015-2016 1-FT COLOR AERIAL PHOTOS FOR THE TOWN OF HANOVER WERE OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 2) APPROXIMATE PROPERTY BOUNDARIES OBTAINED FROM THE NEW HAMPSHIRE PARCEL MOSAIC DATASET, AVAILABLE FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 3) LOCATIONS OF MONITORING WELLS, WATER SUPPLY WELL WSW-1, DUG WELL (FORMERLY WATER SUPPLY WELL FOR 8 RENNIE ROAD), AND ONSITE PORTION OF INTERMITTENT STREAM BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE DURING OCTOBER 2014, JUNE 2015, JANUARY 2016, AND MAY 31, 2016.
- 4) APPROXIMATE GROUND SURFACE ELEVATION CONTOURS SHOWN HEREON WERE DERIVED FROM THE CONNECTICUT RIVER WATERSHED (2015) BARE EARTH DIGITAL ELEVATION MODEL, OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 5) INTERMITTENT/PERENNIAL STREAMS SHOWN HEREON WERE DERIVED FROM THE NEW HAMPSHIRE HYDOGRAPHY DATASET OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 6) LOCATIONS OF WATER SUPPLY WELLS BASED ON OBERVATIONS BY GZA PERSONNEL OR BASED ON PRESENCE OF STRUCTURE ON THE AERIAL PHOTO REFERENCED UNDER NOTE 1. WATER SUPPLY WELL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE.

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ζ,							
/	NO.		ISSUE / DESCRIPT	ION	BY	DATE	
	UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.						
/	YEAR 2021 ANNUAL SUMMARY REPORT DARTMOUTH COLLEGE, RENNIE FARM SITE HANOVER, NEW HAMPSHIRE NHDES SITE NO. 201111109, PROJECT NO. 277737						
	GROUNDWATER MANAGEMENT PERMIT WATER SUPPLY WELL AND SURFACE WATER MONITORING LOCATION PLAN						
	PREPARED BY: PREPARED FOR:						
1	GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com						
1	PROJ N	/IGR: JMW	REVIEWED BY: SRL	CHECKED BY: JMW	FIGU	RE	

REVISION NO.

ROJECT NO.

03-03-2022

04.0190030.02

DESIGNED BY: JMW DRAWN BY: IPG SCALE: 1 inch = 550 feet 4


LEGEND: GZ-2 OVERBURDEN GROUNDWATER MONITORING • WELL GZ-1 BEDROCK GROUNDWATER MONITORING WELL OFF-SITE SYSTEM BEDROCK GROUNDWATER EXTRACTION WELL ABANDONDED DUG WELL ACTIVE DUG WELL \bigcirc EXISTING SURFACE WATER QUALITY MONITORING LOCATION INFERRED BEDROCK GROUNDWATER HYDRAULIC HEAD CONTOUR INFERRED BULK DIRECTION OF GROUNDWATER FLOW INFERRED GROUNDWATER CAPTURE ZONE APPROXIMATE 10-FT GROUND SURFACE ELEVATION CONTOUR (SEE NOTE 7) INTERMITTENT/PERENNIAL STREAM; ARROW INDICATES DIRECTION OF SURFACE WATER FLOW \rightarrow INTERMITTENT STREAM RENNIE PROPERTY BOUNDARY PARCEL BOUNDARY CALCULATED HYDRAULIC HEAD BASED ON MEASUREMENTS MADE BY GZA ON SEPTEMBER 21, 1018.4 2021 - REFER TO TABLE 6B FOR ADDITIONAL **INFORMATION** (HYDRAULIC HEAD DATA REFERENCED TO NAVD88) **GENERAL NOTES:** 1) 2010-2011 1-FT COLOR AERIAL PHOTOS FOR THE TOWN OF HANOVER WERE OBTAINED FROM THE NH GRANIT STATEWIDE GIS CLEARINGHOUSE. 2) APPROXIMATE PROPERTY BOUNDARIES OBTAINED FROM THE NEW HAMPSHIRE PARCEL MOSAIC DATASET, AVAILABLE FROM THE NH GRANIT STATEWIDE GIS CLEARINGHOUSE. B) LOCATIONS OF MONITORING WELLS, DUG WELL (FORMERLY WATER SUPPLY WELL FOR 8 RENNIE ROAD), ONSITE PORTION OF INTERMITTENT STREAM, AND CERTAIN OTHER SITE FEATURES BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE DUR ING OCTOBER 2014, JUNE 2015, JANUARY 2016, AND MAY 31, 2016. WELLS INSTALLED AS PART OF REMEDIAL DESIGN INVESTIGATION WERE LOCATED BY GZA USING GPS SURVEY METHODS. REFERENCE POINT ELEVATIONS WERE ESTABLISHED USING OPTICAL SURVEY METHODS.) CALCULATED HYDRAULIC HEAD VALUES, ESTIMATED BEDROCK GROUNDWATER HYDRAULIC HEAD CONTOURS AND INFERRED BULK DIRECTION OF GROUNDWATER FLOW SHOWN ARE DERIVED FROM THE SEPTEMBER 21, 2021 MONITORING ROUND. PLEASE REFER TO TABLE 6A AND TABLE 6B FOR ADDITIONAL INFORMATION.) INTERMITTENT/PERENNIAL STREAMS SHOWN HEREON WERE DERIVED FROM THE NEW HAMPSHIRE HYDOGRAPHY DATASET OBTAINED FROM THE NH GRANIT STATEWIDE GIS CLEARINGHOUSE.) ESTIMATED GROUNDWATER ELEVATION CONTOURS AND INFERRED DIRECTIONS OF GROUNDWATER FLOW SHOWN ASSUME ISOTROPIC HOMOGENOUS CONDITIONS. THESE ASSUMPTIONS ARE NOT VALID FOR FRACTURED BEDROCK HYDROGEOLOGIC SYSTEMS AT SMALLER SPATIAL SCALES, AND LOCAL VARIATIONS IN GROUNDWATER FLOW ARE ANTICIPATED. BASED ON OUR UNDERSTANDING OF LOCAL HYDROGEOLOGY, THE ASSUMPTIONS OF ISOTROPIC HOMOGENOUS CONDITIONS AT THE SPATIAL SCALE ILLUSTRATED HEREON ARE CONSIDERED VALID BY GZA. APPROXIMATE GROUND SURFACE ELEVATION CONTOURS SHOWN HEREON WERE DERIVED FROM THE TWO FOOT TOPOGRAPHIC CONTOURS - MINK BROOK-CONNECTICUT RIVER (0108010404) FILTERED GIS DATASET OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE. NO. **ISSUE / DESCRIPTION** BY DATE UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY RANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN XPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA. YEAR 2021 ANNUAL SUMMARY REPORT DARTMOUTH COLLEGE, RENNIE FARM SITE HANOVER, NEW HAMPSHIRE NHDES SITE NO. 201111109, PROJECT NO. 277737 BEDROCK GROUNDWATER HYDRAULIC HEAD DATA SUMMARY - SEPTEMBER 2021 PREPARED BY: PREPARED FOR:

GZA Geo Enginee wv	Environmental, Inc. ers and Scientists ww.gza.com	DARTMOUT	H COLLEGE
R: JMW	REVIEWED BY: SRL	CHECKED BY: JMW	FIGURE
D BY: JMW	DRAWN BY: IPG	SCALE: 1 inch = 125 feet	
	PROJECT NO.	REVISION NO.	bA
08-2022	04.0190030.02		
D BY: JMW	DRAWN BY: IPG PROJECT NO. 04.0190030.02	SCALE: 1 inch = 125 feet REVISION NO.	5A

ESIGN

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EGEND:	
\$	MONITORING WELL LOCATION
	EXISTING SURFACE WATER QUALITY MONITORING LOCATION
	ESTIMATED OVERBURDEN GROUNDWATER SURFACE ELEVATION CONTOUR (SEE NOTE 7 AND 8)
1067.0	CALCULATED HYDRAULIC HEAD BASED ON MEASUREMENTS MADE BY GZA ON SEPTEMBER 21, 2021 - REFER TO TABLE 6B FOR ADDITIONAL INFORMATION ^(HYDRAULIC HEAD DATA REFERENCED TO NAVD88)
3.0289 W	APPROXIMATE PRIVATE WELL LOCATION AND WELL BOARD ID
	ABANDONDED DUG WELL
\bigcirc	ACTIVE DUG WELL
	OFF-SITE SYSTEM OVERBURDEN GROUNDWATER EXTRACTION WELL
	EASEMENT BOUNDARY
	STREAM CHANNEL LOCATION
	INTERMITTENT STREAM
	INFERRED DIRECTION OF SHALLOW OVERBURDGEN GROUNDWATER FLOW
1000	APPROXIMATE 10-FT GROUND SURFACE ELEVATION CONTOUR (SEE NOTE 4)
800	APPROXIMATE 1-FT GROUND SURFACE ELEVATION CONTOUR PROVIDED BY WSP (SEE NOTE 6)
	APPROXIMATE WETLANDS LOCATION
	RENNIE FARM PROPERTY BOUNDARY
	PARCEL BOUNDARY

GENERAL NOTES

- 2015-2016 1-FT COLOR AERIAL PHOTOS FOR THE TOWN OF HANOVER WERE OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 2) APPROXIMATE PROPERTY BOUNDARIES OBTAINED FROM THE NEW HAMPSHIRE PARCEL MOSAIC DATASET, AVAILABLE FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 3) LOCATIONS OF MONITORING WELLS, WATER SUPPLY WELL WSW-1, DUG WELL (FORMERLY WATER SUPPLY WELL FOR 8 RENNIE ROAD), ONSITE PORTION OF INTERMITTENT STREAM, AND CERTAIN OTHER SITE FEATURES BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE DURING OCTOBER 2014, JUNE 2015, JANUARY 2016, AND MAY 31, 2016. WELLS INSTALLED AS PART OF REMEDIAL
- DESIGN INVESTIGATION WERE LOCATED BY GZA USING GPS SURVEY METHODS. REFERENCE POINT ELEVATIONS WERE ESTABLISHED USING OPTICAL SURVEY METHODS.
- 4) APPROXIMATE GROUND SURFACE ELEVATION CONTOURS SHOWN HEREON WERE DERIVED FROM THE TWO FOOT TOPOGRAPHIC CONTOURS - MINK BROOK-CONNECTICUT RIVER (0108010404) FILTERED GIS DATASET OBTAINED FROM THE NH GRANIT NEW
- HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE. 5) INTERMITTENT/PERENNIAL STREAMS SHOWN HEREON WERE DERIVED
- FROM THE NEW HAMPSHIRE HYDOGRAPHY DATASET OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE. 6) ESTIMATED GROUND SURFACE ELEVATION CONTOURS WITHIN
- REMEDIAL EASEMENT AREA ARE BASED ON A GROUND SURFACE TOPOGRAPHIC SURVEY BY WSP TRANSPORTATION AND INFRASTRUCTURE, OF NASHUA, NH DURING JANUARY 2017. THE VERTICAL DATUM REFERENCED IS NAVD 88.
- 7) ESTIMATED OVERBURDEN GROUNDWATER ELEVATION CONTOURS SHOWN ASSUME ISOTROPIC HOMOGENOUS CONDITIONS. VARIATIONS IN GROUNDWATER FLOW ARE ANTICIPATED BASED ON OUR UNDERSTANDING OF LOCAL HYDROGEOLOGY. REFER TOTEXT FOR ADDITIONAL INFORMATION.
- 8) CALCULATED HYDRAULIC HEAD, ESTIMATED SHALLOW OVERBURDEN GROUNDWATER HYDRAULIC HEAD CONTOURS, AND THE INFERRED BULK DIRECTION OF GROUNDWATER FLOW ARE BASED ON DEPTH-TO-WATER LEVEL AND PRESSURE MEASUREMENTS MADE ON SEPTEMBER 21, 2021.

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YEAR 2021 ANNUAL SUMMARY REPORT DARTMOUTH COLLEGE, RENNIE FARM SITE HANOVER, NEW HAMPSHIRE NHDES SITE NO. 201111109, PROJECT NO. 277737

OVERBURDEN GROUNDWATER HYDRAULIC HEAD DATA SUMMARY - SEPTEMBER 2021 PREPARED BY: PREPARED FOR:

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.comDARTMOUTH COLLEGEPROJ MGR:JMWREVIEWED BY:
REVIEWED BY:SRLCHECKED BY:
SCALE:JMWDESIGNED BY:EBDDRAWN BY:IPGSCALE:
REVISION NO.FIGURE
SDBDATE:PROJECT NO.
04-07-202204.0190030.02REVISION NO.SDB



LEGEND:	
	GROUNDWATER MONITORING WELL CLL ID MPLE DATE: 1,4-DIOXANE CONCENTRATION MICPOCRANS DEPL LITER
GZ-21	
08.0289 •	SOIL BORING
W	APPROXIMATE PRIVATE WELL LOCATION AND WELL BOARD ID
۲	SPRING
	ABANDONDED DUG WELL
\bigcirc	ACTIVE DUG WELL
	INFERRED LIMITS OF 1,4-DIOXANE AT CONCENTRATIONS EXCEEDING 0.32 MICROGRAMS PER LITER IN FRACTURED BEDROCK GROUNDWATER
\rightarrow	INTERMITTENT/PERENNIAL STREAM; ARROW INDICATES DIRECTION OF SURFACE WATER FLOW
	INTERMITTENT STREAM
$\langle \rangle$	INFERRED LIMITS OF 1,4-DIOXANE AT CONCENTRATIONS EXCEEDING 0.32 MICROGRAMS PER LITER IN OVERBURDEN GROUNDWATER
	RENNIE PROPERTY BOUNDARY
	EXISTING SURFACE WATER QUALITY MONITORING LOCATION
SUR SAM	*ND INDICATES NOT DETECTED ABOVE THE LABORATORY PLE DATE: 1,4-DIOXANE CONCENTRATION *1,4-DIOXANE DATA IN MICROGRAMS PER LITER



GENERAL NOTES:

- 1) 2010-2011 1-FT COLOR AERIAL PHOTOS FOR THE TOWN OF HANOVER WERE OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 2) APPROXIMATE PROPERTY BOUNDARIES OBTAINED FROM THE NEW HAMPSHIRE PARCEL MOSAIC DATASET, AVAILABLE FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 3) LOCATIONS OF MONITORING WELLS, DUG WELL (FORMERLY WATER SUPPLY WELL FOR 8 RENNIE ROAD), ONSITE PORTION OF INTERMITTENT STREAM, AND CERTAIN OTHER SITE FEATURES BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE DUR ING OCTOBER 2014, JUNE 2015, JANUARY 2016, AND MAY 31, 2016. WELLS INSTALLED AS PART OF REMEDIAL DESIGN INVESTIGATION WERE LOCATED BY GZA USING GPS SURVEY METHODS. REFERENCE POINT ELEVATIONS WERE ESTABLISHED USING OPTICAL SURVEY METHODS.
- 4) INTERMITTENT/PERENNIAL STREAMS SHOWN HEREON WERE DERIVED FROM THE NEW HAMPSHIRE HYDOGRAPHY DATASET OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 5) WATER QUALITY DATA SUMMARIZED HEREON REPRESENT THE RESULTS OF THE ANALYSIS OF SAMPLES COLLECTED DURING THE 2021 PERMIT SAMPLING ROUNDS (MARCH, JUNE, SEPTEMBER, AND DECEMBER). CERTAIN MONITORING WELL LOCATIONS WERE DRY OR FROZEN AT THE TIME OF THE SAMPLING ROUNDS. ADDITIONAL ATTEMPTS TO COLLECT SAMPLES MAY HAVE BEEN MADE AND WERE NOT INCLUDED HEREON. REFER TO TABLE 3A AND TABLE 3B FOR ADDITIONAL INFORMATION. CERTAIN WATER SUPPLY WELLS COULD NOT BE RE-SAMPLED DUE TO ACCESS OR PHYSICAL RESTRICTIONS.

NO.	ISSUE / DESCRIPTION	BY	DATE			
UNLESS GEOEN CLIENT THE DR USE AT TRANSF EXPRES	UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.					
YEAR 2021 ANNUAL SUMMARY REPORT DARTMOUTH COLLEGE, RENNIE FARM SITE HANOVER, NEW HAMPSHIRE NHDES SITE NO. 201111109, PROJECT NO. 277737						

1,4-DIOXANE CONCENTRATION DATA SUMMARY

PREPARED FOR:

PREPARED BY:		PREPARED FOR:	
GZA Geo Enginee ww	Environmental, Inc. rs and Scientists /w.gza.com	DARTMOUT	H COLLEGE
PROJ MGR: JMW	REVIEWED BY: SRL	CHECKED BY: JMW	FIGURE
DESIGNED BY: JMW	DRAWN BY: IPG	SCALE: 1 inch = 225 feet	/ Λ
DATE:	PROJECT NO.	REVISION NO.	6A
04-07-2022	04.0190030.02		0/ (





ARED BY:				PREPARE	D FOR:	
GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com			DARTMOUTH COLLEGE HANOVER, NEW HAMPSHIRE			
) J MGR:	JMW	REVIEWED BY:	SRL	CHECKE	DBY: JMW	SHEET
GNED BY:	JMW	DRAWN BY: A	IP	SCALE:	AS NOTED	7 ^
E: MARCH 20	22	PROJECT NO. 04.0190030).02	REVISIC	on no. 0	/A
	ARED BY: DJ MGR: DJ M	ARED BY: GZA Engineric DJ MGR: JMW SIGNED BY: JMW E: MARCH 2022	ARED BY: GZA GeoEnvironmenta Engineers and Scientis www.gza.com DJ MGR: JMW REVIEWED BY: BIGNED BY: JMW DRAWN BY: A. E: PROJECT NO. MARCH 2022 04.0190030	ARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com DJ MGR: JMW REVIEWED BY: SRL BIGNED BY: JMW DRAWN BY: AJP E: MARCH 2022 04.0190030.02	ARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com DJ MGR: JMW REVIEWED BY: SRL CHECKE GIGNED BY: JMW DRAWN BY: AJP SCALE: E: PROJECT NO. MARCH 2022 04.0190030.02	ARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com DJ MGR: JMW REVIEWED BY: SRL CHECKED BY: JMW BIGNED BY: JMW DRAWN BY: AJP SCALE: AS NOTED E: PROJECT NO. MARCH 2022 04.0190030.02 0

3.

<u>NO</u> 1.	<u>TES:</u> HYDRAULIC HEAD VALUES SHOWN FOR MONITORING WELL LOCATIONS ARE BASED ON MEASUREMENTS MADE ON
2	MULTIPLE DATES DURING SEPTEMBER 2021. REFER TO TABLE 6B FOR ADDITIONAL INFORMATION.
2.	INFRASTRUCTURE OF NASHUA, NEW HAMPSHIRE ON MULTIPLE DATES. REFERENCE ELEVATIONS FOR MONITORING WELLS GZ-40M, GZ-40L, GZ-42L, AND GZ-44 THROUGH GZ-55 ARE BASED ON LEVEL ELEVATION SURVEYS BY GZA USING STANDARD OPTICAL SURVEY TECHNIQUES.
3.	GROUND SURFACE ELEVATION BASED ON SURVEYED GROUND SURFACE ELEVATION AT THE LOCATIONS OF MONITORING WELLS ON OR PROXIMATE TO THE SECTION LINE. GROUND SURFACE ELEVATION AT OTHER LOCATIONS IS BASED ON GROUND SURFACE TOPOGRAPHY ILLUSTRATED ON THE UNITED STATES GEOLOGICAL SURVEY (USGS) LYME, NEW HAMPSHIRE 7.5 SERIES QUADRANGLE MAP.
4.	1,4-DIOXANE CONCENTRATION DATA ARE BASED ON THE RESULTS OF SAMPLING BY GZA DURING MARCH, JUNE, SEPTEMBER AND DECEMBER 2021; MOST RESENT RESULT SHOWN; REFER TO TABLE 3A FOR ADDITIONAL INFORMATION. UNITS ARE MICROGRAMS PER LITER (UG/L).
5.	REFER TO TEXT FOR ADDITIONAL INFORMATION.



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ELEVATION IN I (NAVD 88)



	DARTMOUTH COLLEC HANOVER, NE NHDES SITE No. 20	GE, RENNIE FARM SITE W HAMPSHIRE 1111109, NH6910071	
	CROSS SE	CTION B-B'	
PREPARED BY:		PREPARED FOR:	
	ZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	DARTMOUT HANOVER, NE ^V	H COLLEGE W HAMPSHIRE
PROJ MGR: JN	MW REVIEWED BY: SRL	CHECKED BY: JMW	SHEET
DESIGNED BY: J	MW DRAWN BY: AJP	SCALE: AS NOTED	
DATE: MARCH 2022	PROJECT NO. 04.0190030.02	REVISION NO. 0	(Β

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA

GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

2021 ANNUAL SUMMARY REPORT



32A GeoEnvironmental, Inc. GZA-\\gzabedford\uobs\04Jobs\0190000s\04.0190030.00\04.0190030.02\Report\2021 ASR\Figures\P&IDs\Figure 8A - Remedial System Layout.dwg [Figure 8A] March 08, 2022 - 3:45pm alexander.perez



LEGEND: GROUNDWATER MONITORING WELL OFE SITE SYSTEM OVER IDDEN COOLINDWATER ON-SITE SYSTEM GROUNDWATER EXTRACTION WELL OFF-SITE SYSTEM BEDROCK GROUNDWATER EXTRACTION WELL UTILITY POLE -0-MANHOLE INFERRED LIMITS OF 1,4-DIOXANE AT CONCENTRATIONS EXCEEDING 0.32 MICROGRAMS PER LITER APPROXIMATE REMEDIATION EASEMENT BOUNDARY APPROXIMATE BUILDING FOOTPRINT VEHICLE ACCESS ROAD UTV ACCESS PATH EDGE OF PAVED ROADWAY APPROXIMATE STREAM CHANNEL LOCATION LOGGING ROAD \mathbb{X} OVERHEAD WIRE -----APPROXIMATE RENNIE FARM PROPERTY BOUNDARY



GENERAL NOTES

04-07-2022

- 1) BASE PLAN FROM PLAN BY WSP TRANSPORTATION AND INFRASTRUCTURE, TITLED "MONITORING WELL SURVEY, RENNIE ROAD ETNA, NEW HAMPSHIRE. PREPARED FOR GZA," REVISION 7, DATED JANUARY 8, 2017 AND 188289A_REV3.DWG OF PLAN TITLED MONITORING WELL SURVEY PREPARED BY WSP GROUP (DATED 11-05-2015, LAST REVISED 06-26-2016)
- 2) BASEMAP IMAGERY SHOWN HEREON IS DERIVED FROM THE 2015 1-FT COLOR AERIAL PHOTOS DATASET PROVIDED BY NH GRANIT. 3) APPROXIMATE PROPERTY BOUNDARIES, INCLUDING RENNIE
- FARM PROPERTY BOUNDARY, BASED ON REVIEW OF TOWN OF HANOVER, NEW HAMPSHIRE TAX MAP 13, 15, AND 16, DATED APRIL 1, 2015.
- 4) LOCATIONS OF EXISTING MONITORING WELLS, GROUND SURFACE TOPOGRAPHY, AND CERTAIN OTHER SITE FEATURES BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE DURING OCTOBER 2014, JUNE 2015, JANUARY 2016, MAY 31, 2016, AUGUST 2016, OCTOBER 2016, AND JANUARY 2017. WELLS INSTALLED AS PART OF REMEDIAL
- DESIGN INVESTIGATION WERE LOCATED BY GZA USING GPS SURVEY METHODS. REFERENCE POINT ELEVATIONS WERE ESTABLISHED USING OPTICAL SURVEY METHODS.
- 5) APPROXIMATE LOCATIONS OF WETLANDS BASED ON SURVEYS BY GZA.
- 6) LOCATIONS OF FEATURES SHOWN ARE APPROXIMATE. 7) LOCATIONS OF OFF-SITE REMEDIAL PERFORMANCE MONITORING WELLS (I.E., WELLS DESIGNATED GZ-OPM) ARE BASED ON OBSERVATIONS BY GZA AND ARE APPROXIMATE.

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YEAR 2021 ANNUAL SUMMARY REPORT DARTMOUTH COLLEGE, RENNIE FARM SITE HANOVER, NEW HAMPSHIRE NHDES SITE NO. 201111109, PROJECT NO. 277737

REMEDIATION SYSTEM LAYOUT, ON-SITE AND OFF-SITE FEATURES					
PREPARED FOR:					
s DARTMOU ⁻	TH COLLEGE				
L CHECKED BY: JMW	FIGURE				
G SCALE: 1 inch = 75 feet					
REVISION NO.	8B				
	N SYSTEM LAYOU OFF-SITE FEATUR PREPARED FOR: DARTMOUT				

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USA GEOENVIRONMENTAL USE BY GZA'S CLIENT (AND LOCATION IDENTIFIE COPIED, OR ALTERED I PURPOSE WITHOUT THE TO THE DRAWING BY TH GZA, WILL BE AT THE	, INC. (GZA). THE INFOR DR THE CLIENT'S DESIGNA DO N THE DRAWING. THE N ANY MANNER FOR USE PRIOR WRITTEN CONSENT IE CLIENT OR OTHERS, WIT USER'S SOLE RISK AN	MATION SHOWN ON THE DF MATION SHOWN ON THE DF ED REPRESENTATIVE FOR DRAWING SHALL NOT BE AT ANY OTHER LOCATION OF GZA. ANY TRANSFER, R HOUT THE PRIOR WRITTEN ND WITHOUT ANY RISK (RAWING IS SOLELY FOR THE SPECIFIC PROJECT TRANSFERRED, REUSED, N OR FOR ANY OTHER EUSE, OR MODIFICATION EXPRESS CONSENT OF DR LIABILITY TO GZA.
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22 – GZA GeoEnvironme





Appendix A – Limitations



USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

STANDARD OF CARE

- 2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Proposal for Services and/or Report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
- 3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state or federal agency.
- 4. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

SUBSURFACE CONDITIONS

- 5. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.
- 6. Water level readings have been made, as described in this Report, in and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the Report.

COMPLIANCE WITH CODES AND REGULATIONS

7. We used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various, and possibly contradictory, interpretations. Interpretations and compliance with codes and regulations by other parties is beyond our control.



SCREENING AND ANALYTICAL TESTING

- 8. GZA collected environmental samples at the locations identified in the Report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future Site activities and uses may result in a requirement for additional testing.
- 9. Our interpretation of field screening and laboratory data is presented in the Report. Unless otherwise noted, we relied upon the laboratory's QA/QC program to validate these data.
- 10. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the Report.

INTERPRETATION OF DATA

11. Our opinions are based on available information as described in the Report, and on our professional judgment. Additional observations made over time, and/or space, may not support the opinions provided in the Report.

ADDITIONAL INFORMATION

12. In the event that the Client or others authorized to use this report obtain additional information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

ADDITIONAL SERVICES

13. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction, and/or property development/ redevelopment at the Site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.

CONCEPTUAL SITE MODEL

14. Our opinions were developed, in part, based upon a comparison of site data to conditions anticipated within our Conceptual Site Model (CSM). The CSM is based on available information, and professional judgment. There are rarely sufficient data to develop a unique CSM. Therefore observations over time, and/or space, may vary from those depicted in the CSM provided in this report. In addition, the CSM should be evaluated and refined (as appropriate) whenever significant new information and/or data is obtained.



Appendix B – Conceptual Site Model



1.0 CONCEPTUAL SITE MODEL

The CSM is described in this section and is based on the results of the investigation activities summarized in the reports listed in **Table 1**. The CSM was originally included in GZA's May 6, 2016 report and was updated in GZA's September 1, 2016 Remedial Action Plan (RAP), and July 14, 2017 report.

1.1 SITE LOCATION USE AND PHYSIOGRAPHY

The site consists of an approximate 223-acre parcel (Town of Hanover Tax Map 13, Block 14, Lot 1), with a street address of 572 Hanover Center Road, Hanover, New Hampshire. The limits of the site are illustrated on **Figure 1A**. In addition to Hanover Center Road, the site abuts Rennie, Visiting, and Wardrobe Roads in Hanover. The site is located within a Rural Residential zone and is abutted by residential and undeveloped lots. The majority of the site is wooded. Five large fields comprising approximately 20 acres of the site are maintained by Dartmouth by periodic mowing.

Prior to the 1960s the site is believed to have been used for agricultural purposes. The site is currently owned by Dartmouth College which acquired the site during the 1960s. During the period from approximately 1966 to 1978, Dartmouth Medical School used a less-than-0.5-acre portion of the site for the disposal of animal carcasses that had been used in experiments involving radiological materials. An approximately 100-square-foot area adjacent to the burial area was also used by Dartmouth Medical School for the burial of human remains used in gross anatomy instruction. The approximate locations of the animal carcass and human remains burial areas are depicted on **Figure 3**.

Structures formerly located on the site include a barn located near the entrance to the site off Hanover Center Road demolished during 2018 near the former location of a residence at the site that was demolished during 2011. Other historical site features are depicted on **Figure 2B** and include:

- An abandoned overburden water supply well (Dug Well);
- An abandoned overburden water supply (Dug Well-2) located adjacent to a field within the south-central portion of the site. This well was recently identified at the site by GZA and has not been sampled due to dry conditions when inspected;
- An abandoned drilled bedrock water supply well located approximately 100 feet north of the barn. This well was sampled by GZA on September 20, 2016 as described in Section 2.5.4 of GZA's July 14, 2017 report;
- Stone and concrete foundations (barn and possible grain silo) located to the north of the site entrance; and
- An approximately 10-foot by 10-foot area marked by a post and chain fence used for the burial of human remains used in gross anatomy instruction by the Dartmouth Medical School proximate to the burial area.

The groundwater extraction system components constructed on site are depicted on **Figure 8A**. The remainder of the description of the site included in this section is focused on the area within the vicinity of the former animal carcass burial area.



The topography of the site and surrounding area are illustrated on **Figure 1A**. Ground surface elevation¹ within the burial area is approximately 1,080 feet, and slopes gradually downward to the east. Beginning approximately 100 feet east of the burial area, the ground surface slopes more rapidly downward to the east and the southern branch of an unnamed tributary of Hewes Brook at approximately elevation 890 feet.

1.2 SURFACE WATER

The southern branch of an unnamed tributary of Hewes Brook is the nearest persistent surface water feature to the site. The stream is located approximately 1,050 feet east of the former burial area. A small intermittent tributary to the southern branch of the unnamed tributary originates on the site at the location of the on-site Dug Well and receives flow from springs located downslope of Dug Well. The small tributary flows east to the southern branch of the unnamed tributary 13 Lot 18-1, flowing under Rennie Road, and along the property boundary between 7 and 9 Rennie Road (Tax Map 13 Lot 17-1 and Tax Map 13 Lot 81-1, respectively).

The confluence of the south branch and north branch of the unnamed tributary is located approximately 1,400 feet northeast of the former burial area. The confluence of the unnamed tributary and Hewes Brook is located approximately one mile north-northwest of the burial area. Hewes Brook discharges to the Connecticut River at a point approximately 2.8 miles northwest of the burial area.

An unnamed tributary of the Connecticut River originates in the western portion of the site and flows northwest to the Connecticut River. Surface water sampling location Stream-11 was established on the stream to monitor water quality. The locations of surface water bodies within the vicinity of the site are illustrated on **Figure 1A** and **Figure 1B**.

1.3 PREVIOUS SITE INVESTIGATION AND REMEDIATION

Prior to 2012, investigation and remedial work at the site was related to the identification and removal of animal carcasses used by the Dartmouth Medical School in experiments involving the use of radionuclides and removal of soils proximate to animal carcasses that were potentially contaminated with radionuclides. The animal carcasses and surrounding soil were excavated during late 2011 and subsequently removed from the site. Clym and GZA performed the previous removal activities for Dartmouth College, under the authorization of the Radiological Health Section (RHS) of the New Hampshire Department of Health and Human Services (DHHS). Radionuclide-related work at the site has been completed and the site was released from radiological controls by RHS.

Animal carcasses were buried over time within a series of shallow excavations 'pits'. The approximate locations of the burial pits are illustrated on **Figure 3**. During the excavation of the animal carcasses, laboratory waste was also encountered within the pits, and evidence of chemical waste was encountered in a portion of the burial area including pits 34 through 43. Laboratory waste identified included syringes and various containers. Prior to the observation of laboratory waste in the excavation area, there was no information that laboratory wastes were disposed of at the site. The presence of laboratory waste in the excavation was not expected. Soils exhibiting the presence of VOCs, based on field screening for total VOCs, chemical odors, or 'purple staining' were observed within pits 34 through 43. Confirmatory composite soil sampling of the sidewalls and bottom of these pits was performed by Clym, and the samples submitted for analytical laboratory analyses including VOCs and semi-VOCs.

¹ Referenced to NAVD 88.



A list of the analytical parameters and results of the analyses are included in GZA's April 23, 2012 letter report.² Table 2 of GZA's April 23, 2012 letter report provides a summary of the results of the analyses of the soil samples and is included in Appendix J of GZA's July 14, 2017 report. A limited number of organic compounds were detected; however, none of the compounds were detected at concentrations approaching or exceeding Soil Remediation Standards (SRSs) or New Hampshire Department of Environmental Services (NHDES) Hw 400 Identification and Listing of Hazardous Waste toxicity characteristic standards. VOCs were only detected in the soil sample from pit number 41, and include toluene, naphthalene, and tetrachloroethylene (TCE).

Groundwater quality monitoring following the completion of the 2011 excavation is described in reports by GZA submitted to the NHDES including reports dated December 9, 2011,³ January 17, 2012,⁴ April 23, 2012, and June 14, 2012.⁵ The VOC 1,4-dioxane was first detected in a sample collected from well GZ-2 on April 19, 2012 at a concentration of 150 micrograms per liter (μ /L). NHDES was notified of the detection of 1,4-dioxane in groundwater at a concentration exceeding the NH AGQS in GZA's letter dated June 14, 2012. The ongoing investigation activities are related to the detection of 1,4-dioxane in groundwater quality samples initially collected during the post excavation groundwater sampling at the site.

Recent investigation activities related to 1,4-dioxane have been focused on the delineation of 1,4-dioxane in groundwater and evaluation of the source of the 1,4-dioxane and have included installation of 105 monitoring wells (GZ-12L through GZ-55 and GZ-PM-1U through GZ-PM-9L); geologic mapping and surficial geophysics; and collection of water supply well and surface water samples. Previous reports by GZA describing these activities are listed in **Table 1**. Additional letters describing groundwater quality monitoring during 2012 and 2013 were submitted to NHDES. 1,4-dioxane data included in these letters are included in **Table 3A** and **Table 3B**.

Groundwater remediation has included extraction and treatment of groundwater on site to limit the transport of 1,4-dioxane from the source area. The source area groundwater extraction and treatment system was largely constructed in 2016 and has been in operation since February 2017. The groundwater extraction system was expanded in 2020 and 2021 to include two additional wells in fractured bedrock along the downgradient site boundary and 15 wells screened in overburden off-site. The primary components of the groundwater extraction and treatment system are described in **Section 4.0** of this report and reports listed in **Table 1**.

1.4 <u>HYDROGEOLOGY</u>

1.4.1 <u>Geology</u>

Site geology includes laterally discontinuous deposits of glacial till overlying fractured bedrock. The thickness of the glacial till deposits, where borings and/test pit excavations have been performed on the site, is up to approximately 25 feet (GZ-7L). Probable outcroppings of bedrock have been observed on site. The arithmetic average overburden thickness is approximately 13 feet based on 46 locations where borings have been drilled to the probable bedrock surface on the site. Within the source area the depth to bedrock ranges from approximately 4 feet to 12 feet based on borings and a ground penetrating radar (GPR) survey completed during 2016.

² Report by GZA titled "Dartmouth College Rennie Farm site, Chemical Waste Management/Groundwater Monitoring Program, Etna, New Hampshire."

³ Report by GZA titled "Dartmouth College Rennie Farm site, Discovery and Management of Chemical Wastes, Etna, New Hampshire."

⁴ Report by GZA titled "Dartmouth College Rennie Farm site, Chemical Waste Management/Groundwater Monitoring Program, Etna, New Hampshire."

⁵ Report by GZA titled "Dartmouth College Rennie Farm site, Groundwater Monitoring Results/Notice of AGQS Exceedance, Etna, New Hampshire."



Samples of glacial till collected from borings drilled at the site vary in grain size, but generally range from silty clay with variable amounts of fine sand and gravel, to fine to medium sand and silt and little clay. Probable boulders have been encountered while drilling borings, and probable large boulders have been observed at the ground surface.

The thickness of glacial till increases with distance toward the east and off-site with a maximum measured thickness of just over 100 feet within the approximate center of the valley east of the site (GZ-28D). Descriptions of glacial till encountered while drilling at off-site monitoring well locations are consistent with the descriptions of glacial till encountered on site. Additional description of offsite overburden is included in GZA's report⁶ dated March 23, 2020, which summarizes an offsite remedial design investigation completed during 2019.

Bedrock cored at the site and to the east of the site has been generally described by GZA as a medium hard to hard, highly to moderately weathered, fine to coarse grained, gray, schist and phyllite. Potential slate and thick quartz veins have also been cored. Steeply dipping to near vertical fractures have been observed in bedrock cores. Bedrock geologic maps depicting the site vicinity,⁷ indicate bedrock beneath the site consists of Orfordville Formation middle metamorphic grade black to dark-gray mica-quartz schist, mica schist, garnet schist and quartzite. However, more recent published bedrock geologic maps⁸ identify bedrock beneath the site as part of the Partridge Formation, which is described as a black, rusty-weathering sulfidic-graphitic slate or schist and abundant metagraywacke. Both of these descriptions are inclusive of the lithology observed at bedrock outcrops at the site and within the vicinity of the site, and of the bedrock core samples collected from the site.

The bedrock geologic maps referenced above indicate the predominance of bedding features trending toward the northeast and generally dipping steeply toward the southeast and northwest in the vicinity of the site, as well as northeasterly trending vertical foliations and schistosity. Inspection of bedrock outcrops within the vicinity of the site indicate that the bedrock fracture system is dominated by fractures striking to the northeast. The northeast striking fractures dip steeply toward the northwest with some fractures nearly vertically dipping. A limited number of more northerly striking steeply dipping fractures are also likely present. Additionally, a limited number of low angle apparently randomly oriented fractures are also likely present beneath and within the vicinity of the site. Bedrock geologic information summarized from review of geologic maps and bedrock mapping are summarized on the attached copy of Figure 4 of GZA's May 6, 2016 report. GZA's estimates of the bedrock surface topography within the off-site area are depicted on the attached copy of Figure 9 from GZA's March 23, 2020 report.

The locations of ten Possible Fracture Zones (PFZ) have been identified based on the bedrock structural mapping, and the very low frequency (VLF) radio and electric resistivity imaging (ERI) surveys. In general, it is assumed that the PFZs have a higher concentration of bedrock fractures that are consistent with the dominant trends in the area leading to anticipated zones of preferential groundwater flow. The locations of the PFZs are illustrated along with selected contoured VLF data provided by Hager-Richter on the attached copy of Figure 5 of GZA's May 6, 2016 report. The average strike of PFZs 3 through 8 is N44E and is consistent with the range of strikes (N30E -- N45E) estimated by Hager-Richter based on the bedrock outcrop mapping. The strike of PFZ 9 was

⁶ Report by GZA titled "Remedial Design Plans and Construction Specifications Report, Groundwater Extraction System Expansion, Dartmouth College, Rennie Farm Site, Hanover, New Hampshire, NHDES Site No. 201111109, DES Project No. 277737, Groundwater Management Permit No. GWP-201111109-H-001."

⁷ Including the Geologic Map and Structure Sections of the Mascoma Quadrangle, New Hampshire published 1938 and the Geologic Map and Structure Sections of the Mt. Cube Quadrangle, New Hampshire published 1938.

⁸ Lyons et al. (1991), A New Bedrock Geologic Map of New Hampshire," revised and automated at the Complex Systems Research Center of the University of New Hampshire, Durham, New Hampshire.



estimated by Hager-Richter (H-R) as N8E. Only PFZ 9 transects the area immediately downgradient of the burial area through which 1,4-dioxane is transported.

As part of the source investigation associated with the water supply well at 668 Hanover Center Road, (H-R) performed borehole logging of the water supply well at 668 Hanover Center Road. Bedrock fracture orientations and statistics are plotted and reported on the bedrock fracture statistics plots included in H-R's report. Based on the optical televiewer (OTV) and acoustical televiewer (ATV) data, 182 bedrock fractures were detected in the logged borehole. The most prominent orientation of the bedrock fractures in the borehole is a dip azimuth to the northwest of 285°- 315° and a steep dip angle of 60°- 80° from horizontal. The orientation of the fractures is consistent with the measurements made on bedrock outcrops in the area and the results of surficial geophysics described in Section 2.1.1 (Bedrock Outcrop Mapping) and Section 2.2 (Surficial Geophysical Surveys) of GZA's May 6, 2016 report.

Photo-lineaments identified by GZA and H-R are described in GZA's May 6, 2016 report. While numerous photo-lineaments have been identified within the vicinity and crossing portions of the site, none of the identified photo-lineaments transect the former animal carcass burial area. Several photo-lineaments transect the area downgradient of the site within the identified area of 1,4-dioxane transport in groundwater (see the attached copy of Figure 4 of GZA's May 6, 2016 report.

1.4.2 Groundwater Occurrence and Flow

Saturated overburden is discontinuous and may be perched on the bedrock surface within certain areas on site, with the presence and direction of groundwater flow locally controlled by the topography of the bedrock surface and presence of fractures. Consequently, the overall lateral direction of groundwater flow within overburden downgradient of the burial area is anticipated to be generally toward the east-northeast consistent with the ground and bedrock surface topography.

Within fractured bedrock, groundwater flow is controlled by the orientation of interconnected open fractures. Hydraulic head data based on measurements of depth-to-groundwater made during September 2021 are depicted on **Figure 5A** and **Figure 5B** along with estimated hydraulic head contours based on hydraulic head data for groundwater monitoring wells screened within shallow fractured bedrock and overburden, respectively. Since hydraulic head measurements within a bedrock borehole are dependent upon the fractures intersecting the borehole, the interpretation of hydraulic head data should be considered an overall bulk lateral hydraulic gradient. Excluding the effects of the operation of the groundwater extraction remedial system at the site, the data presented in **Table 6B** and illustrated on **Figure 5A** indicates an overall lateral hydraulic gradient toward the east beneath the site. Based on the prevalence of northeasterly striking fractures and detected distribution of 1,4-dioxane downgradient of the source area, the anticipated lateral component of groundwater flow is primarily toward the northeast. Groundwater flow within fractures oriented toward the east or series of fractures that create an interconnected pathway toward the east may result in a component of groundwater flow toward the east; however, transport toward the east is limited, based on groundwater quality data from the water supply well at 7 Rennie Road and groundwater monitoring well triplet GZ-28U/L/D.

Groundwater flow toward the north-northeast may also be possible along the limited number of fractures oriented toward the north/north-northeast, notability within PFZ 9 which transects the area immediately downgradient of the burial area. Monitoring well triplet GZ-24U/L/D was constructed to further evaluate the potential for groundwater flow and 1,4-dioxane transport toward the north. 1,4-dioxane was detected at a concentration of 0.39 μ g/L in the initial sample collected from bedrock well GZ-24D on October 27, 2016 but was



not detected in confirmatory samples collected on November 11, 2016 and March 29, 2017 or during monitoring of this location though 2021.

Due to the fracture-controlled nature of bedrock groundwater flow within the site vicinity, calculation of overall rates of groundwater flow based on hydraulic head and hydraulic conductivity is not possible. Seepage velocities for the horizontal and vertical components of groundwater flow within overburden were calculated, based on the average of the calculated hydraulic conductivity (3.5×10^{-7} cm/sec) and calculated horizontal (0.03 to 0.12) and vertical (0.11 to 0.25) hydraulic head gradients within the off-site area. The calculated estimates of lateral and vertical groundwater seepage velocities are 1.3 cm/year (0.04 ft/year) to 5.3 cm/year (0.2 ft/year), and to 4.9 cm/year (0.2 ft/year) to 11 cm/year (0.4 ft/year), respectively. The calculation of geometric mean hydraulic conductivity (typically by an order of magnitude). Therefore, the calculated estimate of the range of vertical seepage velocity may overestimate the range relative to the calculated estimates of horizontal seepage velocities. Collectively, the calculated groundwater seepage velocities appear low relative to the detected transport within overburden off site and may underestimate lateral hydraulic conductivity.

In general, the vertical component of hydraulic head within the upland area closer to the burial area is downward, and then becomes upward with distance down slope (e.g., GZ-11U/L and GZ-17L). However, within the burial area a limited upward vertical component of hydraulic head has been intermittently measured at well couplets GZ-14U/L, GZ-18U/L, and GZ-19U/L prior to the startup of the groundwater extraction system. The upward gradient within the well couplets was likely related to recharge events within the surrounding upland area and was intermittent.

Similar to the lateral component of hydraulic head, the vertical hydraulic head gradients within bedrock are a function of fracture connectivity. Measurements of hydraulic head between pairs of bedrock wells installed at multi-well monitoring locations (GZ-9L/D, GZ-30U/L, GZ-34L/D, GZ-37L/D, GZ-PM-1U/L, and GZ-PM2U/L) are generally consistent with the relationship between bedrock and overburden described above, where the vertical component of hydraulic head is downward within upland areas and upward within the valley areas. Exceptions to this relationship include downward gradients between GZ-34L and GZ-34D and between GZ-37L and GZ-37D. Based on ground surface elevation, GZ-34U/L/D would be anticipated to have an upward hydraulic gradient. While there is an upward gradient between wells GZ-34L and GZ-34U, there is a downward gradient between wells GZ-34L and GZ-34L to upgradient areas.

Beneath and within the vicinity of the source area at the site, the vertical component of the hydraulic head gradient is downward with groundwater flow and 1,4-dioxane transport vertically downward through overburden into the fractured bedrock. Lateral and vertical 1,4-dioxane concentration gradients indicate that the vertical axis of the plume, downgradient of the capture zone of the groundwater extraction system, transitions from fractured bedrock to overburden at approximately elevation 850 feet to elevation 860 feet at a location east of Rennie Road. 1,4-dioxane is transported laterally vertically upward relative to the ground surface, discharging through the thick sequence of glacial till, eventually flowing to the unnamed tributary to Hewes Brook where it is diluted within the flow of surface water to concentrations below 0.20 μ g/L within the flow of surface water under non-drought conditions.

The upward vertical gradient and flow of groundwater within the valley is due to convergent lateral hydraulic gradients toward the northeast and west associated with the upland areas on either side of the valley. Glacial till deposits with a thickness up to approximately 100 feet have been measured within the valley. The thickness and



relative low hydraulic conductivity of the glacial till, and hydraulic head associated with the upland areas result in a strong upward hydraulic head gradient within the valley. **Figure 7A** and **Figure 7B** depict stratigraphy, hydraulic head, and 1,4-dioxane concentrations along cross sections A-A' and B-B' (see **Figure 2A** for the locations of cross sections A-A' and B-B'). Cross-section line A-A' is oriented along the approximate dominant strike of bedrock fractures measured within the vicinity of the site.

Limited underflow of the stream in the valley area occurs, as indicated by the detection of low concentrations of 1,4-dioxane in samples collected from bedrock groundwater monitoring well GZ-37D. The underflow is estimated to be limited to the areas surrounding the stream by the convergent groundwater flow to the west associated with the upland area to the east of the stream.

1.5 <u>CONTAMINANT SOURCE</u>

1.5.1 <u>1,4-dioxane</u>

Based on the results of the soil and groundwater quality data from the source area and downgradient wells, 1,4-dioxane is the only identified VOC detected at concentrations exceeding regulatory standards, and is the only VOC that has been detected in samples of groundwater collected downgradient of the area immediately surrounding the source area. Important properties of 1,4-dioxane include:

- Miscibility in water;
- Limited tendency to become sorbed to soil particles (low octanol-water coefficient of -0.27 log K_{ow}); and
- Low volatility making it difficult to volatilize (low Henry's Law Constant of 4.80x10⁻⁶ atmosphere-cubic meters per mole).

1,4-dioxane has a low Koc (soil adsorption coefficient for soil organic matter) and a high solubility and therefore has limited sorption to soils. Because of these characteristics, 1,4-dioxane is dominantly found in groundwater.⁹ These properties result in 1,4-dioxane being advectively transported in groundwater more readily compared to most contaminants, and make it difficult to remove from groundwater. Based on the properties of 1,4-dioxane and our understanding of conditions and activities at the site as described in the following subsections, the remaining source of 1,4-dioxane at the site is likely dissolved in overburden and shallow weathered bedrock groundwater beneath the portion of the former animal carcass burial area that includes burial pits 34 through 43.

1.5.2 Source Area Soil Quality Data

1.5.2.1 <u>1,4-Dioxane</u>

Based on our understanding of the use of 1,4-dioxane in radiological analyses and the presence of laboratory waste materials encountered while excavating animal carcasses at the site during late 2011, the likely source of the 1,4-dioxane is the burial of laboratory waste containing scintillation fluids, which can contain 1,4-dioxane. The results of the analyses of overburden groundwater samples collected within the former burial area during May 2016 indicate the presence of an approximately 30-foot by 50-foot area with concentrations of 1,4-dioxane above 500 μ g/L, with a center near GZG-17 (see Figure 6 from GZA's RAP in Appendix J of GZA's July 14, 2017 report). This area containing relatively higher concentrations of dissolved 1,4-dioxane in

⁹ Mohr, Thomas K.G., 2016. Environmental Investigation and Remediation: 1,4-dioxane and Other Solvent Stabilizers, CRC Press.



groundwater is anticipated to be the source of the 1,4-dioxane detected in samples collected downgradient of the burial area.

A total of 181¹⁰ soil samples have been collected for analysis of 1,4-dioxane from the borings and excavations recently completed within the burial area. Collectively, these data do not indicate the presence of a significant discrete source(s) of 1,4-dioxane in soil, and are thereby consistent with the source of 1,4-dixoane being dissolved in groundwater.

The soil data indicate the presence of apparently random spatially discontinuous low concentrations of 1,4-dioxane within the source area described above. The arithmetic average of the 1,4-dioxane data assuming a soil concentration of half the reporting limit (0.05 milligrams per kilogram [mg/kg]) for samples from which 1,4-dioxane was not detected above the reporting limit is 0.062 mg/kg. Calculation of the potential leaching based concentration of 1,4-dioxane in groundwater resulting from the concentrations of 1,4-dioxane detected in soil using the calculated arithmetic average soil concentration (0.062 mg/kg) results in a groundwater concentration of 5 μ g/L. While slightly exceeding NH AGQS, this concentration is less than 1 percent of the maximum concentration of 1,4-dioxane detected within samples of groundwater collected within the source area. Using the maximum detected soil concentration for 1,4-dioxane (0.3 mg/kg) results in a groundwater concentration of 23 μ g/L. However, this concentration was detected in only 1 of the 181 soil samples analyzed for 1,4-dioxane.

Collectively, the 1,4-dioxane groundwater and soil data collected indicate the general lack of a chemical product (free product or residual) source area in the overburden soils and are consistent with the remaining source of the 1,4-dioxane being dissolved in groundwater in overburden and shallow weathered/highly fractured bedrock in the vicinity of burial pits 34 through 43.

1.5.2.2 Other VOCs

VOCs other than 1,4-dioxane were detected in 9 of the 19 samples recently submitted for VOC analysis using EPA Method 8260B (Waste Management List). VOCs detected included: diethyl ether, toluene, xylene, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, and naphthalene. The detected concentrations were below their respective SRS, with the exception of the concentration of naphthalene detected in soil sample SS-19B; 5 feet - 6 feet (64 mg/kg) which exceeds the SRS for naphthalene (5 mg/kg). While naphthalene was detected in groundwater samples collected from wells GZ-1 through GZ-4 during one round in November 2011, the detected concentrations are below the NH AGQS. In addition, more recent sampling within the source area during May 2016 and of downgradient wells GZ-9L and GZ-10L during September 2015 did not detect naphthalene (refer to Sections 3.2 and 3.5.2 of GZA's RAP for additional information). The detection of naphthalene during only one round and detection of naphthalene in the sample collected from background well GZ-1 during that round indicate that the detection of naphthalene in the samples collected during November 2011 are not representative of site groundwater quality.

During 2011, toluene, naphthalene, and trichloroethylene were detected in a composite soil sample collected from animal carcass burial pit number 41.

¹⁰ Includes duplicate samples; see **Table 1**.



1.5.2.3 Radionuclides

Carbon-14 was detected in 2 of 19 soil samples recently collected at depths within the former animal carcass burial area for radiological analyses. The detected concentrations of Carbon-14 are 6.05 picocuries per gram (pCi/g) (SS-19B; 5 feet – 6 feet) and 1.88 pCi/g (SS-47B; 7.5 feet – 8.5 feet); both results are less than the approved release criteria of 12 pCi/g. No other radionuclides were detected in the samples collected by GZA and Clym. Please refer to Appendix E of GZA's July 14, 2017 report for the radiological laboratory data (EAI IDs 159748_R_1, 162014_R#2_1, 162069_R_1, and 162121_R#2_1).

The results of the analysis of shallow soil samples collected beyond the area impacted by 1,4-dioxane and the former animal carcass burial provide evidence of background levels of Cesium-137 and Lead-210. Refer to Appendix E of GZA's July 14, 2017 report for the results of the radionuclides analyses (EAI IDs 163780_R_1 and 165128).

1.5.3 <u>Source Area Groundwater Quality Data</u>

Refer to Section 3.0 (Water Quality Monitoring)

1.5.4 Other VOCs

Other than 1,4-dioxane, toluene, ethylbenzene, xylenes, naphthalene and diethyl ether, no other volatile organic compounds (VOCs) or semi-VOCs have been detected in groundwater samples collected on or downgradient of the site. The following subsections summarize the groundwater quality data for these VOCs.

1.5.4.1 November 20, 2009 through December 19, 2013

In addition to 1,4-dioxane, analysis of groundwater samples collected from wells GZ-1, GZ-2, GZ-3, and GZ-4 for VOCs using EPA Method 8260B during the period from November 20, 2009 through December 19, 2013 detected naphthalene and diethyl ether in certain samples including:

- Naphthalene in a sample collected from well GZ-1 (October 12, 2010 2.2 μg/L);
- Diethyl ether in samples collected from well GZ-2 (May 23, 2012, 9 μg/L; March 12, 2013, 9 μg/L; June 20, 2013, 6 μg/L; July 31, 2013, 13 μg/L; and September 23, 2013, 5 μg/L); and
- Diethyl ether in samples collected from well GZ-3 (September 25, 2013, 17 $\mu g/L$; and December 19, 2013, 23 $\mu g/L$).

The NH AGQS for diethyl ether and naphthalene are 1,400 μ g/L and 20 μ g/L, respectively.

Certain groundwater samples were also collected for analysis of semi-VOCs by EPA Method 8270D. Naphthalene was detected in one or more sample collected from GZ-1, GZ-2, GZ-3, and GZ-4 at concentrations ranging from 0.1 μ g/L to 0.4 μ g/L. The results of previous groundwater sampling and analysis for parameters other than



1,4-dioxane are summarized on Table 1 from GZA's January 15, 2013 letter¹¹ and August 5, 2016 work plan¹² (see Appendix J of GZA's July 14, 2017 report).

1.5.4.2 Groundwater sampling for VOC after 2013

Groundwater sampling within the source area for VOCs other than 1,4-dioxane is described in Section 3.2 of the RAP, and detected toluene, ethylbenzene, xylenes, and diethyl ether in certain samples collected for analysis of VOCs by EPA Method 8260B. The detected concentrations of these VOCs are well below the NH AGQS.

1.5.4.3 Radionuclides

Groundwater quality samples were collected from wells GZ-2, GZ-9L, and GZ-11L on June 27, 2016, as described in Section 3.5.2 of the RAP. No radionuclides were detected with the exception of Lead-210 which was detected at a concentration of 5.23 pCi/L in the sample collected from well GZ-9L. The laboratory reporting limit for Lead-210 for the analyses of each of the samples is 5 pCi/L. In consideration of the reported uncertainty with the analysis of the samples, GZA and Clym concluded that these results are consistent with anticipated background levels.

1.6 <u>CONTAMINANT DISTRIBUTION, TRANSPORT, AND FATE</u>

The following subsections summarize the distribution and anticipated transport of 1,4-dioxane within and downgradient of the source area. Refer to **Section 3.1** for additional summary of recent contaminant distribution data including 1,4-dioxane contrition trends. 1,4-dioxane concentration data are summarized in **Table 3**, and recent 1,4-dioxane concentration data are illustrated on **Figure 6A** and **Figure 6B**. Due to the properties of 1,4-dioxane, it is anticipated to be transported within groundwater by advection, with hydrodynamic dispersion attenuating the concentration of 1,4-dioxane over time. No significant sorption or transformation are anticipated.

Prior to the excavation of animal carcasses during late 2011, it was not known that 1,4-dioxane was present within the source area. The timing of the release is also not known. Animal carcasses were buried at the site during the period from approximately 1966 to 1978, and 1,4-dioxane was first discovered in groundwater samples collected from monitoring well GZ-2 during April 2012.

1,4-dioxane concentration data for groundwater samples collected from wells GZ-2 and GZ-3 collectively suggest that 1,4-dioxane concentrations in groundwater may have increased during the excavation of animal carcasses. This conclusion is supported by the following:

The 1,4-dioxane concentration trend for samples collected from well GZ-2 (located immediately downgradient of the source area) illustrated on Chart 1 suggests an increasing concentration trend from April 19, 2012 to July 25, 2012 and an overall decreasing concentration trend from July 25, 2012 to the present. GZA notes that 1,4-dioxane was included as a target VOC in the pre-excavation sampling round performed on November 29, 2011 and that the analytical method used was EPA Method 8260B (50 µg/L reporting limit). However, the concentration of 1,4-dioxane detected in groundwater samples collected from GZ-2 during the following nine sampling rounds (April 19, 2011 through December 19, 2013) were greater than 50 µg/L, suggesting that it

¹¹ Letter by GZA titled "Groundwater Monitoring Results for July and November Sampling Events, Dartmouth College Rennie Farm site, Etna, New Hampshire."

¹² Letter by GZA titled "*Revised* License No. 276R Amendment Request, Rennie Farm Decommissioning, Laboratory Waste Test Pit Excavation Work Plan, Dartmouth College, Rennie Farm site, Hanover, New Hampshire, DES site No. 201111109, Project No. 27737."



would have been detected if present at the time of the November 29, 2011 sampling round. The concentration depicted on **Chart 1** is assumed at included at half of the reporting limit (*i.e.*, 25 μ g/L).

- 1,4-dioxane was only detected in samples collected from well GZ-4 during three sampling events at concentrations including 0.37 μg/L (July 31, 2013), 0.59 μg/L (June 20, 2013), and 1.4 μg/L (March 13, 2013).
 1,4-dioxane was not detected above a reporting limit of 0.25 μg/L in samples collected from GZ-4 during five subsequent sampling rounds (most recently July 2015). Well GZ-4 has been dry during recent sampling rounds due to the operation of the groundwater extraction system. The short period and timing of low concentration detections of 1,4-dioxane in samples from GZ-4 are consistent with an expanding and subsequently retracting plume moving along an axis between GZ-3 and GZ-4 following the excavation of animal carcasses during late 2011.
- Although only detected at low concentrations in groundwater, diethyl ether was not detected in samples collected from well GZ-2 prior to May 23, 2012 and was not detected in samples collected from well GZ-3 until September 25, 2013. Diethyl ether was included in multiple pre-excavation sampling rounds with RLs of 2 µg/L to 5 µg/L and was not detected.

The following subsections describe the distribution of 1,4-dioxane in groundwater.

1.6.1 Source Area

1,4-dioxane has been detected in groundwater monitoring wells within and immediately downgradient of the source area including overburden wells GZ-2, GZ-3, GZ-4, GZ-14U, GZ-18U, and GZ-19U and shallow bedrock wells GZ-12L, GZ-13L, GZ-14L, GZ-18L, GZ-19L, GZ-20U, and GZ-20L. Wells GZ-12L, GZ-13L, GZ-14U, GZ-14L, GZ-18U, GZ-18L, GZ-19U, GZ-19L, GZ-20U, GZ-20L, GZ-22U, and GZ-23U are located within or proximate to the area including burial pits 34 through 43. Concentration data for these wells are summarized in **Table 3A.1** and described in **Section 3.1.1** and **Section 4.3.5**.

The concentrations of 1,4-dioxane detected in groundwater samples collected from well GZ-2 have historically been greater than the concentrations detected in samples collected from wells GZ-3 and GZ-4 and indicate that GZ-2 is likely close to the axis of the plume within overburden immediately east of the source area. However, the concentrations of 1,4-dioxane detected in groundwater samples collected from well couplet GZ-18U/L suggest transport also occurs to the northeast. The estimated bedrock surface illustrated on Figure 5 of the RAP suggest that both routes may be controlled in part by the elevation of the bedrock surface.

Hydraulic head and 1,4-dioxane concentration data from well couplets GZ-5U/L and GZ-7U/L indicate that downgradient of the source area, 1,4-dioxane is transported with groundwater from overburden into bedrock. Further downgradient at well triplet GZ-9U/L/D and well couplet GZ-10U/L, 1,4-dioxane has not been detected in samples collected from the wells screened within overburden (GZ-9U and GZ-10U), suggesting that prior to reaching these wells the groundwater containing 1,4-dioxane has entered into the fractured bedrock groundwater system.

Based on the general vertically downward component of the hydraulic head gradient measured at GZ-5U/L, GZ-10U/L, and GZ-9U/L/D, a historic flowing artesian condition at the Dug Well is anticipated to be due to a change in topography that occurs at the location of the well, and groundwater discharge from the overburden groundwater system to the stream. The presence of 1,4-dioxane in water quality samples collected from the Dug



Well is anticipated to be due to the presence of 1,4-dioxane in overburden groundwater, consistent with the detection of 1,4-dioxane in samples collected from overburden well GZ-5U.

Laterally, the 1,4-dioxane plume within shallow fractured bedrock is bounded on the site to the north and south by well couplets GZ-8U/L and GZ-11U/L. The concentrations of 1,4-dioxane detected in samples collected from well GZ-9L and GZ-9D suggest that well triplet GZ-9U/L/D is located along the axis of the 1,4-dioxane plume moving from the source area to the northeast. A northeast direction of 1,4-dioxane transport is consistent with orientation of the primary fracture set within the vicinity of the site. 1,4-dioxane concentration data for samples collected from wells GZ-9L and GZ-9D are summarized on **Chart 3** and described in **Section 3.1.1**.

The presence of 1,4-dioxane in samples collected from well GZ-9D and downward component of the pregroundwater extraction vertical hydraulic head gradient between GZ-9L and GZ-9D indicates downward transport of 1,4-dioxane to below elevation 915 feet.

The relatively low concentrations of 1,4-dioxane detected in groundwater samples collected from well GZ-10L are consistent with transport within fractured bedrock primarily toward the northeast due to the predominance of northeast striking fractures.

The source area and downgradient plume area within the fractured bedrock groundwater system are not coincident with northeast trending PFZs identified by H-R. However, the PFZs are anticipated to be indicative of the overall northeasterly striking fracture set, with many similarly striking fractures anticipated to be located between the PFZs. 1,4-dioxane transport is likely occurring along these fractures between the northeast striking PFZs. Significantly, PFZ 9 which strikes north-northeast transects the plume to the east of the source area. Monitoring well triplet GZ-24U/L/D was constructed to evaluate the potential for groundwater flow and 1,4- dioxane transport toward the north coincident with PFZ 9. 1,4-dioxane was detected in the sample of groundwater collected from bedrock well GZ-24D on October 27, 2016 but has not been detected in subsequently collected samples (through December 2021). Collectively, the 1,4-dioxane concentration data collected to date do not indicate the presence of preferential transport toward the north-northeast along PFZ-9.

Closer to the midpoint of the valley to the east of the source area occupied by the unnamed tributary of Hewes Brook, the vertical component of hydraulic head is anticipated to become upward, as a result of the hydraulic head associated with the upland area to further to the east. The hydraulic head associated with the upland area to the east is anticipated to create a boundary to groundwater flow toward the east and northeast resulting in groundwater discharge within the valley and may result in groundwater flow toward the north. The detection of 1,4-dioxane in samples collected under low stream flow conditions at surface water sampling locations Steam-3, Stream-4, and Stream-5 is consistent with this model and the anticipated direction of 1,4-dioxane transport. Hydraulic head and 1,4-dioxane concentration data from the off-site monitoring wells installed to the northeast of the site are also consistent with model. Additional information regarding 1,4-dioxane distribution and transport are summarized in GZA's March 23, 2020 report.



In summary, beneath and within the vicinity of the source area at the site, the vertical component of the hydraulic head gradient and 1,4-dioxane transport is downward through overburden into the fractured bedrock. As groundwater reaches the valley to the northeast of the source area, the flow and 1,4-dioxane transport are vertically upward, with the majority anticipated to discharge through the thick sequence of glacial till, eventually reaching the unnamed tributary to Hewes Brook where it is diluted within the flow of surface water. Under average, non-drought, stream flow conditions, the concentration of 1,4-dioxane is diluted to below 0.20 μ g/L. The relatively lower concentrations of 1,4-dioxane detected in samples collected from bedrock wells GZ-39D and GZ-40D suggest that the axis of the plume transitions from bedrock to overburden at a point west of these wells as described in **Section 1.4.2** of this appendix. The lateral hydraulic gradient toward the west associated with the upland areas on the eastern side of the valley limits transport of 1,4-dioxane toward the east and northeast. However, limited 1,4-dioxane transport northward in the valley is possible in overburden and bedrock fractures. 1,4-dioxane data from further monitoring are needed to evaluate if further northward transport of 1,4-dioxane will expand the area in which 1,4-dixoane can be detected and is above the NH AGQS; however, the current data do not indicate expansion of the plume.

The inferred length of the plume at concentrations exceeding NH AGQS is approximately 2,300 feet¹³ (see **Figure 6A**). 1,4-dioxane has been detected at concentrations just above the NH AGQS (0.32 μ g/L.) in samples collected from off-site wells GZ-25D and GZ-37D.

The combined bedrock fracture and overburden transport pathway and uncertainty regarding the timing of the release of 1,4-dioxane limit accurate calculation of transport velocity and evaluation of the condition of the plume relative to steady state conditions. Continued monitoring is needed to evaluate if further northward transport of 1,4-dioxane will expand the area in which 1,4-dioxane can be detected and is above the NH AGQS. These data may eventually enable estimation of the transport velocity and timing of the release.

1.7 IDENTIFIED AND POTENTIAL RECEPTORS

Identified potential exposure pathways to 1,4-dioxane from the site include exposure to 1,4-dioxane in groundwater and surface water containing groundwater. Human exposure to groundwater would be primarily through ingestion of groundwater from a private water supply well.

More than 140 water supplies have been sampled within an approximate 2-mile radius of the site. Other than the water supply well at 9 Rennie Road, 1,4-dioxane attributed to the site has not been detected in water quality samples collected from any of these active water supply wells.

The water supply well at 9 Rennie Road is the only identified known receptor of 1,4-dioxane from the site. Bottled water was supplied to the residence at 9 Rennie Road immediately following the detection of 1,4-dioxane in water samples collected from the well on September 18, 2015, and a POE treatment system installed on November 2, 2015. The POE treatment system consists of two parallel trains of granular activated carbon (GAC) vessels, with each train including two 2-cubic-foot GAC vessels. The POE treatment system is further described in GZA's November 11, 2015 letter report. With the exception of the detection of 1,4-dioxane at a concentration of 0.33 μ g/L in the midpoint sample collected on October 21, 2016, results of the analysis of samples collected from the midpoint and final treated water for the POE treatment system at 9 Rennie Road have not detected 1,4-dioxane above the RL and indicate that the POE treatment system has been removing 1,4-dioxane. Following the detection of 1,4-dioxane in the midpoint sample, in November 2016, the POE treatment system carbon was

 $^{^{13}}$ The estimated plume length Increased relative to 2017 due to a reduction in the NH AGQS from 3.0 μ g/L to 0.32 μ g/L.



replaced by Secondwind Water Systems Inc. of Manchester, New Hampshire on November 14, 2016. Carbon was proactively replaced annually during 2017 and 2018. The residence at 9 Rennie Road has been vacant since November 2019 and is currently owned by Dartmouth College.

1,4-dioxane has been detected at concentrations below NH AGQS within surface water samples collected on site from the stream that originates at the Dug Well downgradient of the source area (Stream-1). Sampling of the south branch of the unnamed stream to which flow from the on-site stream contributes (Stream-2) has not detected 1,4-dioxane. 1,4-dioxane has been detected at concentrations between 0.21 μ g/L (Stream-4; September 10, 2018) to 2.8 μ g/L (Stream-3; September 2020) in surface water samples collected from Stream-3 to the confluence of the unnamed tributary with Hewes Brook under low stream flow conditions (sample locations Stream-3, Stream-4, and Stream-5). The detection of 1,4-dioxane in surface water samples collected from locations Stream-3 through Stream-5 is well correlated with seasonal periods of low stream flow and has been detected during periods of low stream flow in late summer and early fall through 2020. 1,4-dioxane was not detected in surface water samples collected during 2021.

The detection of 1,4-dioxane in the surface water samples collected at and downstream of Stream-3 and the consistent lack of detection of 1,4-dioxane in the sample collected at location Steam-2 (upstream of Stream-3), suggests discharge of groundwater containing 1,4-dioxane is occurring along the tributary at or upstream of Stream-3, and is consistent with the anticipated direction of 1,4-dioxane transport and discharge of groundwater to the stream.

The reach of the stream from the Dug Well to the south branch of the unnamed stream may be a pathway for environmental receptors. Under low stream flow the reach of the stream near Stream-3 to the confluence with Hewes Brook may also be a potential pathway for environmental receptors.



Figures



LEGEND: ACTIVE DUG WELL RED CIRCLE INDICATES WELL SAMPLED DURING INITIAL AND/OR CONFIRMATORY OFF SITE WATER QUALITY SAMPLING ROUND BLUE CIRCLE INDICATES PROPERTY OWNER HAS REQUESTED SAMPLING OF WELL, SAMPLING PLANNED ABANDONED DUG WELL GREEN CIRCLE INDICATES PROPERTY OWNER HAS SAMPLED THEIR OWN WELL W WATER SUPPLY WELL GZ-1 GROUNDWATER MONITORING WELL SUPPLY WELL -SPRING INTERMITTENT/PERENNIAL STREAM; ARROW INDICATES DIRECTION OF SURFACE WATER FLOW INFERRED DIRECTION OF GROUNDWATER FLOW BASED ON 1, 4 - DIOXANE DISTRIBUTION IN GROUNDWATER LOCATION OF INTERMITTENT STREAM ____ TOWN AND/OR STATE BOUNDARY GZA MAPPED BEDROCK OUTCROPS BEDROCK OUTCROPS \bigcirc LINEAMENT OBSERVED BY THE USE OF LOW-ALTITUDE AERIAL PHOTOGRAPHY HAVING AN APROXIMATE SCALE OF ____ 1:20,000. LOCATION +/- 80 FEET. LINEAMENT OBSERVED BY THE USE OF HIGH-ALTITUDE AERIAL PHOTOGRAPHY HAVING AN APROXIMATE SCALE OF 1:80,000. LOCATION +/- 80 FEET. LINEAMENT OBSERVED BY THE USE OF SIDE-LOOKING AIRBORNE RADAR MOSAIC (FAR RANGE), GLEN FALLS, NY, ××××××××××× VT, AND NH.: US GEOLOGICAL SURVEY, 1:250,000. LOCATION +/- 200 FEET. LINEAMENT OBSERVED BY THE USE OF 1:250,000-SCALE LANDSAT IMAGERY, BAND 7, IMAGES NUMBERS 10057-004 AND 10054-109, OBTAINED DECEMBER 20, 1990. LOCATION +/-150 FEET. BEDROCK GEOLOGY LITTLETON FORMATION PARTRIDGE FORMATION/ORFORDVILLE FORMATION AMMONOOSUC VOLCANICS/ORFORDVILLE FORMATION -POST POND VOLCANIC **GENERAL NOTES:** 1) 2010-2011 1-FT COLOR AERIAL PHOTOS FOR THE TOWN OF HANOVER WERE OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE. 2) APPROXIMATE PROPERTY BOUNDARIES BASED ON REVIEW OF TOWN OF HANOVER, NEW HAMPSHIRE TAX MAP 13, 15, AND 16, DATED APRIL 1, 2015. 3) LOCATIONS OF ON SITE DUG WELL AND ONSITE INTERMITTENT STREAM BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE ON OCTOBER 14, 2014 AND JUNE 1, 2015. 4) GZA UNDERSTANDS THAT 20 RENNIE ROAD IS CURRENTLY NOT OCCUPIED; ACCESS FOR COLLECTION OF A WATER SUPPLY SAMPLE COULD NOT BE OBTAINED. 5) LINEAMENTS SHOWN HEREON WERE GEOREFERENCED FROM THE EXISTING FIGURE TITLED "LINEAMENT MAP OF AREA 10 OF THE NEW HAMPSHIRE BEDROCK AQUIFER ASSESSMENT, NORTHWEST-NORTHCENTRAL NEW HAMPSHIRE" BY ERIC W. FERGUSON, STEWART F. CLARK, JR., HEATHER A. SHORT, GARRIKCK J. MARCOUX, AND RICHARD BRIDGE MOORE, 1999. 6) BEDROCK GEOLOGY SHOWN HEREON WAS GEOREFERENCED FROM THE EXISTING FIGURE TITLED "GEOLOGIC MAP AND STRUCTURE SECTIONS OF THE MASCOMA QUADRANGLE, NEW HAMPSHIRE" BY CARLETON A. CHAPMAN ET. AL., 1938. 7) SUPPLY WELLS SHOWN HEREON WERE ADAPTED FROM THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES ONESTOP PROGRAM WEB GIS WATER WELL INVENTORY LAYER.

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© 2016 - GZA GeoEnvironmental, Inc. P:\04Jobs\0190000s\04.0190030.00\04.0190030.02\Figures-CAD\April Figures\MXD\Figure 5 - VLF Survey Summary Plan.mxd, 5/5/2016, 1:42:21 PM, matthew.deane

LEGEND: ACTIVE DUG WELL RED CIRCLE INDICATES WELL SAMPLED DURING INITIAL AND/OR CONFIRMATORY OFF SITE WATER QUALITY SAMPLING ROUND BLUE CIRCLE INDICATES PROPERTY OWNER HAS REQUESTED SAMPLING OF WELL, SAMPLING PLANNED ABANDONED DUG WELL \bigcirc WATER SUPPLY WELL W GZ-1 GROUNDWATER MONITORING WELL SPRING INTERMITTENT/PERENNIAL STREAM; ARROW INDICATES DIRECTION OF SURFACE WATER FLOW APPROXIMATE PROPERTY BOUNDARY INFERRED DIRECTION OF GROUNDWATER FLOW BASED ON 1, 4 - DIOXANE DISTRIBUTION IN GROUNDWATER LOCATION OF INTERMITTENT STREAM _ _ _ _ _ TOWN AND/OR STATE BOUNDARY 1----- POSSIBLE FRACTURE ZONES IDENTIFIED BY HAGER-RICHTER **RELATIVE RESPONSE -**REAL COMPONENT OF THE VLF FIELD

GENERAL NOTES:

- 1) 2010-2011 1-FT COLOR AERIAL PHOTOS FOR THE TOWN OF HANOVER WERE OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 2) APPROXIMATE PROPERTY BOUNDARIES BASED ON REVIEW OF TOWN OF HANOVER, NEW HAMPSHIRE TAX MAP 13, 15, AND 16, DATED APRIL 1, 2015.
- 3) LOCATIONS OF ON SITE DUG WELL AND ONSITE INTERMITTENT STREAM BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE ON OCTOBER 14, 2014 AND JUNE 1, 2015.
- 4) GZA UNDERSTANDS THAT 20 RENNIE ROAD IS CURRENTLY NOT OCCUPIED; ACCESS FOR COLLECTION OF A WATER SUPPLY SAMPLE COULD NOT BE OBTAINED.
- 5) VLF DATA ACQUIRED USING A GSM-19 WALKING MAG-VLF SYNCED WITH DGPS. RELATIVE REAL COMPONENT RESPONSE SHOWN.

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and the second se		SUPPLEMENTAL HYDROG DARTMOUTH COLLEG HANOVER, NE NHDES SITE NO. 2011111	EOLOGIC INVE E, RENNIE FAR W HAMPSHIRE 09, PROJECT N	STIGA M SIT O. 277	TION E 7737
and the second		VLF SURVE	Y SUMMARY		
	PREPA	RED BY:	PREPARED FOR:		
	GZ	GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	DARTMOUT	TH COL	LEGE

 PROJ MGR:
 JMW
 REVIEWED BY:
 TWK
 CHECKED BY:
 RAB
 FIG

 DESIGNED BY:
 JMW
 DRAWN BY:
 MJD
 SCALE: 1 inch = 300 feet

REVISION NO.

S

PROJECT NO.

05-05-2016

04.0190030.02



EGEND:	
	EXISTING SURFACE WATER QUALITY MONITORING LOCATION
\bigtriangleup	SURFACE WATER QUALITY MONITORING LOCATION SAMPLED MAY 22, 2019
+	APPROXIMATE MONITORING WELL LOCATION
+	PILOT GROUNDWATER EXTRACTION WELL
108.0289 W	APPROXIMATE PRIVATE WELL LOCATION AND WELL BOARD ID
\bigcirc	ABANDONDED DUG WELL
\bigcirc	ACTIVE DUG WELL
	ELECTRICAL RESISTIVITY SURVEY LINE
890	APPROXIMATE 1-FT GROUND SURFACE ELEVATION CONTOUR PROVIDED BY WSP (SEE NOTE 7)
	APPROXIMATE EASEMENT BOUNDARY
\rightarrow	APPROXIMATE STREAM CHANNEL LOCATION
	ESTIMATED BEDROCK SURFACE CONTOUR (SEE NOTE 6)
1000	APPROXIMATE 10-FT GROUND SURFACE ELEVATION CONTOUR (SEE NOTE 4)
	APPROXIMATE WETLANDS LOCATION
	INTERMITTENT/PERENNIAL STREAM; ARROW INDICATES DIRECTION OF SURFACE WATER FLOW
	APPROXIMATE PROPERTY BOUNDARY
	APPROXIMATE LOCATION OF INTERMITTENT STREA
	RENNIE FARM/SITE PROPERTY BOUNDARY

SCALE IN FEE



GENERAL NOTES:

- 1) 2015-2016 1-FT COLOR AERIAL PHOTOS FOR THE TOWN OF HANOVER WERE OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 2) APPROXIMATE PROPERTY BOUNDARIES OBTAINED FROM THE NEW HAMPSHIRE PARCEL MOSAIC DATASET, AVAILABLE FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 3) LOCATIONS OF MONITORING WELLS, WATER SUPPLY WELL WSW-1, DUG WELL (FORMERLY WATER SUPPLY WELL FOR 8 RENNIE ROAD), ONSITE PORTION OF INTERMITTENT STREAM, AND CERTAIN OTHER SITE FEATURES BASED ON SURVEYS BY WSP TRANSPORATION AND INFRASTRUCTURE DURING OCTOBER 2014, JUNE 2015, JANUARY 2016, AND MAY 31, 2016. WELLS INSTALLED AS PART OF REMEDIAL DESIGN INVESTIGATION WERE LOCATED BY GZA USING GPS SURVEY METHODS. REFERENCE POINT ELEVATIONS WERE ESTABLISHED USING OPTICAL SURVEY METHODS.
- 4) APPROXIMATE GROUND SURFACE ELEVATION CONTOURS SHOWN HEREON WERE DERIVED FROM THE CONNECTICUT RIVER WATERSHED (2015) BARE EARTH DIGITAL ELEVATION MODEL, OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 5) INTERMITTENT/PERENNIAL STREAMS SHOWN HEREON WERE DERIVED FROM THE NEW HAMPSHIRE HYDOGRAPHY DATASET OBTAINED FROM THE NH GRANIT NEW HAMPSHIRE STATEWIDE GIS CLEARINGHOUSE.
- 6) BEDROCK SURFACE ELEVATION CONTOURS ARE BASED ON THE DEPTH TO BEDROCK ENCOUNTERED IN THE BORINGS DEPICTED HEREON. REFER TO TABLE 1A FOR ADDITIONAL INFORMATION.
- 7) APPROXIMATE 1-FOOT GROUND SURFACE ELEVATION CONTOURS WERE SURVEYED BY WSP TRANSPORTATION AND INFRASTRUCTURE, OF NASHUA, NH DURING JANUARY 2017. THE VERTICAL DATUM REFERENCED IS NAVD 88.

NO.	ISSUE / DESCRIPTIC	DN .	BY	DATE	
UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA, ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.					
REMEDIAL DESIGN PLANS AND CONSTRUCTION SPECIFICATIONS GROUNDWATER EXTRACTION SYSTEM EXPANSION RENNIE FARM SITE, HANOVER, NEW HAMPSHIRE NHDES SITE NO. 201111109, PROJECT NO. 277737					
OFF-SITE BEDROCK SURFACE PLAN					
PREPA	RED BY:	PREPARED FOR:			
	GZA GeoEnvironmental, Inc.			_	

GZN Engine w	ers and Scientists ww.gza.com	DARTMOUT	HCOLLEGE
PROJ MGR: JMW	REVIEWED BY: SRL	CHECKED BY: RAB	FIG
DESIGNED BY: EBD	DRAWN BY: IPG	SCALE: 1 inch = 60 feet	
DATE:	PROJECT NO.	REVISION NO.	9
03-09-2020	04.0190030.02		



Appendix C – Analytical Laboratory Reports



December 2021 GMP Monitoring and Selected Residential Samples


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



Laboratory Report for:

Eastern Analytical, Inc. ID: 226553 Client Identification: Rennie Farm | 04.0190030.02, Task No: 9 Date Received: 5/20/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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

<u>5 · 26 · 21</u> Date



SAMPLE CONDITIONS PAGE

EAI ID#: 226553

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02, Task No: 9

Temperature upon receipt (°C): 3.9 Received on ice or cold packs (Yes/No): Y Acceptable temperature range (°C): 0-6 Acceptable temperature range (°C): 0-6												
Lab ID	Sample ID	Date Received	Date/ Sam	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)					
226553.01	9-Rennie Rd	5/20/21	5/20/21	13:00	aqueous		Adheres to Sample Acceptance Policy					
226553.02	7-Rennie Rd	5/20/21	5/20/21	13:10	aqueous		Adheres to Sample Acceptance Policy					

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

LABORATORY REPORT

EAI ID#: 226553

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02, Task No: 9

Client Sample ID:	9-Rennie Rd							
Lab Sample ID:	226553.01							
Matrix:	aqueous							
Date Sampled:	5/20/21							
Date Received:	5/20/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	12	0.2	1	ug/L	5/21/21	21:25	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	5/21/21	21:25	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	5/21/21	21:25	8260B SIM	AM

LABORATORY REPORT

EAI ID#: 226553

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02, Task No: 9

Client Sample ID:	7-Rennie Rd							
Lab Sample ID:	226553.02							
Matrix:	aqueous							
Date Sampled:	5/20/21							
Date Received:	5/20/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	5/21/21	21:56	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	5/21/21	21:56	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	. 5/21/21	21:56	8260B SIM	AM

4

Client: GZA GeoEnvironmental, Inc. (NH)

Batch ID: 637572-08759/A052121DIOX1

Client Designation: Rennie Farm | 04.0190030.02, Task No: 9

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.1 (82 %R)	4.4 (89 %R) (7 RPD) 5/21/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	99 %R	99 %R	99 %F	R 5/21/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	99 %R	100 %R	99 %F	R 5/21/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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Sample I.D.	Date/Time Sampled	Matrhi A=Air S=Solt GW=Channd W SW=Surflog W WW=Wasta W DW=Drinting W P=Practact (spacia)	CCAL	et edultare, Ethene	P2 8269 RM Full Lig			24 W.S. R.S. Line	PA 9821- 6000 Line (BTEX)	PA 5241 DW WOC			AL STATE	ee treat new dad in the second se	NAL.				24 (See 202)					2 P - Syearty Relow	X 2200 CMA C 224	-4 Di Oxamp Low	1 rolifed/		////		Pantos No. Missis	indentity fo
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professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 228720 Client Identification: Rennie Farm | 04.0190030.02 Task No: 9 Date Received: 7/8/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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)

# $\mathcal{M}$

SAMPLE CONDITIONS PAGE

EAI ID#: 228720

1

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 9

Temperate Acceptable to	ure upon receipt (°C): 2. emperature range (°C): 0-6	7		Re	ceived o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/1 Samp	Time bled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
228720.01	669 Hanover Center Rd.	7/8/21	7/7/21	11:25	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

# LABORATORY REPORT

EAI ID#: 228720

#### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.02 Task No: 9

Client Sample ID:	669 Hanover Center	Rd.						
Lab Sample ID:	228720.01							
Matrix:	aqueous							
Date Sampled:	7/7/21							
Date Received:	7/8/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	7/12 <b>/</b> 21	15:25	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	7/12/21	15:25	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	7/12/21	15:25	8260B SIM	AM

3

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

Batch ID: 637617-67910/A071221DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task No: 9

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	5.1 (102 %R)	5.1 (102 %R) (0 RPD	) 7/12/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	101 %R	98 %R	103 %	R 7/12/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	102 %R	99 %R	103 %	R 7/12/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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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



Laboratory Report for:

Eastern Analytical, Inc. ID: 231286 Client Identification: Rennie Farm | 04.0190030.02 Task: 22 ST: 1 Date Received: 8/27/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

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- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

eumniable

Lorraine Olashaw, Lab Director



## SAMPLE CONDITIONS PAGE

EAI ID#: 231286

1

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

Client Designation: Rennie Farm | 04.0190030.02 Task: 22 ST: 1

Temperat Acceptable t	ture upon receipt (°C): temperature range (°C): 0-6	1.3		Re	ceived o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/Ti Sample	me ed	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
231286.01	7 Rennie Rd	8/27/21	8/27/21 (	09:45	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

# LABORATORY REPORT

EAI ID#: 231286

Client Sample ID:	7 Rennie Rd							
Lab Sample ID:	231286.01							
Matrix:	aqueous							
Date Sampled:	8/27/21							
Date Received:	8/27/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	8/30/21	18:54	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	8/30/21	18:54	8260B SIM	AM
Toluene-d8 (surr)	105 %R			%	8/30/21	18:54	8260B SIM	AM

# QC REPORT

#### EALID#: 231286

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

Batch ID: 637659-40365/A083021DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task: 22 ST: 1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	5.7 (113 %R)	5.6 (112 %R) (1 RPD	) 8/30/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	103 %R	106 %R	104 %F	R 8/30/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	105 %R	105 %R	105 %F	R 8/30/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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#### CHAIN-OF-CUSIODY RECORD

#### BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

231286

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SAMPLE I.D.	Sampling Date /Time *If Composite, Indicate Both Start & Finish Date /Time	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	524.2 524.2 MTBE ONLY	8260 624 VTICS 1, 4 DIOXANE LOUILEVED	8021	8015 GRO MAVPH	8270 625 Abn Pah Edb dbcp	TPH8100 LI L2	8015 DRO MAEPH	PEST 608 PCB 608 PEST 8081 PCB 8082	OIL & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	BOD CBOD TS TSS TDS	BR CI F 504 NO: NO: NO:NO.	TN T	PH I. RES. CHLORINE	COD PHENOLS TOC DOC	TOTAL CYANIDE TOTAL SULFIDE	REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	TOTAL COLIFORM E. COLI FECAL COLIFORM	ENTEROCOCCI HETEROTROPHIC PLATE COUNT	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)					# OF CONTAINERS	<b>N</b> o MeOH V	tes Vial #
7 Rennie Rd	8/27/21 0945	S	G		X																								2		
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Matrix: A-Air; S-Soil; (GW-Bround Water WW-Waste water Preservative: H-HCL; N-HNO3; S-H2SO4; N	 k; SW-Surface Water; DW-Drink Ia-NaOH; M-MEOH	ing W	ATER;																			-							Mik	ζ	
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PROJECT # 04,0190030	1.02 JOSK122	57	11			L			-		1	-					1														
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**Eastern Analytical, Inc.** professional laboratory and drilling services 51 Antrim Avenue Concord, NH 03301 Tel: 603.228.0525 1.800.287.0525 E-Mail: CustomerService@EasternAnalytical.com www.EasternAnalytical.com

(WHITE: Lab Copy GREEN: Customer Copy)



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



Laboratory Report for:

Eastern Analytical, Inc. ID: 233690 Client Identification: Rennie Farm | 04.0190030.02 Task: 9 Date Received: 10/14/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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

Sincerely,

oumillasum

<u>10 · 24 - 21</u> Date

# SAMPLE CONDITIONS PAGE

#### EAI ID#: 233690

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

Client Designation: Rennie Farm | 04.0190030.02 Task: 9

Temperat Acceptable t	ure upon receipt (°C): emperature range (°C): 0-6	10.9	R	eceived o	n ice or	cold packs (Yes/No): N
Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
233690.01	7-Rennie Rd	10/14/21	10/13/21 14:00	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

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- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

# LABORATORY REPORT

#### EAI ID#: 233690

Client Sample ID:	7-Rennie Rd						
Lab Sample ID:	233690.01						
Matrix:	aqueous						
Date Sampled:	10/13/21						
Date Received:	10/14/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	10/20/21 22:16	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	10/20/21 22:16	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	10/20/21 22:16	8260B SIM	AM

Batch ID: 637704-04712/A102021DIOX1

### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.02 Task: 9

#### Analysis Date Units Limits RPD Method Parameter Name Blank LCS LCSD 10/20/2021 ug/L 70 - 130 20 8260B 1,4-Dioxane < 0.2 3.8 (76 %R) 4.6 (92 %R) (19 RPD) 4-Bromofluorobenzene (surr) 92 %R 102 %R 102 %R 10/20/2021 % Rec 70 - 130 50 8260B Toluene-d8 (surr) 100 %R 102 %R 100 %R 10/20/2021 % Rec 70 - 130 50 8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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	Sampled	Matrix															- P	÷	-									20				
		A=Air S=Soil GW=Ground W SW=Surface W WW=Waste W DW=Drinking W. P=Product Other (specify)	CI pH CI 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	C 601 C 602 WW VOCs	EPA 8270 SVOCs		EPA 625 WW SVOCs	EPA 8082-PCB\$	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 CI CI OO3 CI SO4		1-4 Dioxane L			Total No. of Cont.	Note #
7-Rennie Rd.	10-13-21 14:00	DW																										$\boldsymbol{\chi}$			2	
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CONTAINER TYPE (P-Plastic, C	G-Glass, V-Vial, T-Teflon, O-Other)*	PECEIVED BV.	<del> </del>			<u> </u>		Ļ		1	L		1															V			]	1
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Project Manager:	Jim Wieck	-	LAB USE: II 9 Temp Bla								Temp Blan	k																				
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Page 5 of 5

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233690



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



Laboratory Report for:

Eastern Analytical, Inc. ID: 235892 Client Identification: Rennie Farm | 04.0190030.02 T: 22 ST:1 Date Received: 11/24/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

ounie Dashen

Lorraine Olashaw, Lab Director

<u>(2.2.21</u> Date

# SAMPLE CONDITIONS PAGE

EAI ID#: 235892

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

Client Designation: Rennie Farm | 04.0190030.02 T: 22 ST:1

#### Temperature upon receipt (°C): 2.7

Acceptable temperature range (°C): 0-6

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

110000010010101		Date	Date/Time	Sample	% Dnv	Executions/Commonto
Lab ID	Sample ID	Received	Sampled	Matrix	Weight	(other than thermal preservation)
235892.01	7 Rennie Rd	11/24/21	11/24/21 12:00	aqueous		Adheres to Sample Acceptance Policy
235892.02	9 Rennie Rd	11/24/21	11/24/21 12:15	aqueous		Adheres to Sample Acceptance Policy

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

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- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.pgge 2 of 5

# LABORATORY REPORT

#### EAI ID#: 235892

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

Client Designation: Rennie Farm | 04.0190030.02 T: 22 ST:1

Client Sample ID:	7 Rennie Rd						
Lab Sample ID:	235892.01						
Matrix:	aqueous						
Date Sampled:	11/24/21						
Date Received:	11/24/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	11/29/21 18:26	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	11/29/21 18:26	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	11/29/21 18:26	8260B SIM	AM

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QC REPORT

#### EAI ID#: 235892

#### Client: GZA GeoEnvironmental, Inc. (NH) Rennie Farm | 04.0190030.02 T: 22 ST:1 Client Designation:

Batch ID: 637738-67773/A112921DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.9 (97 %R)	4.6 (91 %R) (7 RPD	) 11/29/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	97 %R	97 %R	98 %F	R 11/29/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	98 %R	98 %R	99 %F	R 11/29/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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					V	C			S	VC	C		TCLP	ME	TALS			NC	DRC	AN	<b>I</b> C	S		M	CRC			ER			
SAMPLE I.D.	Sampling Date /Time *If Composite, Indicate Both Start & Finish Date /Time	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	524.2 524.2 BTFX 574.7 MTRF ONLY	8260 624 VTIC	8021 BTEX HALOS	8015 GRO MAVPH	8270 625 SVTICs EDB DBCP ABN A BN PAH	TPH8100 LI L2	8015 DRO MAEPH	PEST 608 PCB 608 PEST 8081 PCB 8082	OIL & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)	TS TSS TDS SPEC. CON.	BR CI F 504 NO2 NO3 NO3NO3	80D C80D T. ALK.	TKN NH3 T. PHOS. O. PNOS.	PH T. RES. CHLORINE	COD PHENOLS TOC DOC	TOTAL CYANIDE TOTAL SULFIDE	REACTIVE CVANIDE REACTIVE SULFIDE FLASHPOINT AGNITABILITY	TOTAL COLIFORM E. COLI FECAL COLIFORM	ENTEROCOCCI Heterothodure Diate Connet				# OF CONTAINERS	<b>N</b> ot MeOH V	'ES IAL #
7 Rennie Rd 9 Bernie Rd	11/24/21 1200	GN	6		$\times$																								2 2		
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RIX: A-AIR; S-SOIL; GW-GROUND WATER WW-WASTE WATER SERVATIVE: H-HCL; N-HNO3; S-H2SO4; N	; SW-Surface Water; DW-Drink a-NaOH; M-MEOH	ing W	ATER;																												
DJECT MANAGER: Jam MPANY: GZA Geo E RESS: <u>5 c anmerce Po</u> Be & Focd	Nes Wieck Niconmental Ack N STATE: NH	ZIP:	03	11 0		DA QA Ref	VQC PORTI	NEE ING I	DED LEVEL	): - (		F	<b>REPOI</b> PRELIMS	rting : Yes	OPT OR I	rion: No		T I (	emp. <u>6</u> [E? (	YES	2° No	c	Met Othe Sam	TALS: er Met 1PLES	8 ^{"ALS:} <b>Fie</b> i	RCR#	LTERE	3 PP	FE	MN Yes [	Рв, Си ] <b>No</b>
NE: 603-493-2874 II: james, wieck NAME: Rennie Farn	@ gza.com	Ехт.:						o MA I	^{PR} MCP	C-1	00 C	E	ELECTI E-MAIL	ronic PE	Орт )F	Equi	5 15	Excei	L				Note	ES: (IE:	Specia	l Dete	CTION L	LIMITS, I	BILLING	NFO, IF DIF	FERENT
ECT #: 04,0190030 :: NH MA ME V ulatory Program: NPDES: RGP			SAMI Rel		): ISHE	BY:			DATE:	121	Ti	ME:	0	REG	EIVED	BY:	<u>;</u> ]	0													
GWP, OIL FUND, BROWNFI	GWP, OIL FUND, BROWNFIELD OR OTHER:												DN:																		

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)



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



Laboratory Report for:

Eastern Analytical, Inc. ID: 236845 Client Identification: Rennie Farm | 04.0190030.02 Date Received: 12/16/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

ine Olashaw, Lab Director Date

SAMPLE CONDITIONS PAGE

#### EAI ID#: 236845

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

Temperat Acceptable t	ure upon receipt (°C): 0 emperature range (°C): 0-6			Received on ice	or cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample % Di Matrix Weig	ry Exceptions/Comments ght (other than thermal preservation)
236845.01	10 Dairy Ln	12/16/21	12/14/21 08:05	aqueous	Adheres to Sample Acceptance Policy
236845.02	39 Tranquil Br	12/16/21	12/14/21 09:50	aqueous	Adheres to Sample Acceptance Policy
236845.03	42 Rennie Rd	12/16/21	12/14/21 09:00	aqueous	Adheres to Sample Acceptance Policy
236845.04	30 Rennie Rd	12/16/21	12/14/21 10:50	aqueous	Adheres to Sample Acceptance Policy
236845.05	8 Dairy Ln	12/16/21	12/14/21 11:45	aqueous	Adheres to Sample Acceptance Policy
236845.06	38 Rennie Rd	12/16/21	12/14/21 11:00	aqueous	Adheres to Sample Acceptance Policy
236845.07	594 Hanover Center Rd	12/16/21	12/14/21 13:30	aqueous	Adheres to Sample Acceptance Policy
236845.08	39 Rennie Rd	12/16/21	12/16/21 08:20	aqueous	Adheres to Sample Acceptance Policy
236845.09	26 Rennie Rd	12/16/21	12/16/21 10:15	aqueous	Adheres to Sample Acceptance Policy
236845.1	47 Rennie Rd	12/16/21	12/16/21 10:30	aqueous	Adheres to Sample Acceptance Policy
236845.11	7 Rennie Rd	12/16/21	12/16/21 12:25	aqueous	Adheres to Sample Acceptance Policy
236845.12	9 Rennie Rd	12/16/21	12/16/21 12:05	aqueous	Adheres to Sample Acceptance Policy
236845.13	Trip Blank	12/16/21	12/16/21 00:00	aqueous	Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

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

Client Sample ID:	10 Dairy Ln						
Lab Sample ID:	236845.01						
Matrix:	aqueous						
Date Sampled:	12/14/21						
Date Received:	12/16/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21 15:50	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	12/20/21 15:50	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/20/21 15:50	8260B SIM	AM

Client Sample ID:	39 Tranquil Br							
Lab Sample ID:	236845.02							
Matrix:	aqueous							
Date Sampled:	12/14/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / Time Analyzed		Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	16:22	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	12/20/21	16:22	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/20/21	16:22	8260B SIM	AM

Client Sample ID:	42 Rennie Rd							
Lab Sample ID:	236845.03							
Matrix:	aqueous							
Date Sampled:	12/14/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / Time Analyzed		Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	16:53	8260B SIM	AM
4-Bromofluorobenzene (surr)	90 %R			%	12/20/21	16:53	8260B SIM	AM
Toluene-d8 (surr)	97 %R			%	12/20/21	16:53	8260B SIM	AM

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

Client Sample ID:	30 Rennie Rd							
Lab Sample ID:	236845.04							
Matrix:	aqueous							
Date Sampled:	12/14/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / Time Analyzed		Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	17:24	8260B SIM	AM
4-Bromofluorobenzene (surr)	96 %R			%	12/20/21	17:24	8260B SIM	AM
Toluene-d8 (surr)	97 %R			%	12/20/21	17:24	8260B SIM	AM

Client Sample ID:	8 Dairy Ln							
Lab Sample ID:	236845.05							
Matrix:	aqueous							
Date Sampled:	12/14/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	ition Date / Time Stor Units Analyzed		Time zed	Method	Analyst
1.4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	17:55	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	12/20/21	17:55	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/20/21	17:55	8260B SIM	AM

Client Sample ID:	38 Rennie Rd							
Lab Sample ID:	236845.06							
Matrix:	aqueous							
Date Sampled:	12/14/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / Time Analyzed		Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	18:27	8260B SIM	AM
4-Bromofluorobenzene (surr)	92 %R			%	12/20/21	18:27	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/20/21	18:27	8260B SIM	AM

Client Sample ID:	594 Hanover Center	Rd						
Lab Sample ID:	236845.07							
Matrix:	aqueous							
Date Sampled:	12/14/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / Time Analyzed		Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	18:58	8260B SIM	AM
4-Bromofluorobenzene (surr)	91 %R			%	12/20/21	18:58	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	12/20/21	18:58	8260B SIM	AM

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

Client Sample ID:	39 Rennie Rd							
Lab Sample ID:	236845.08							
Matrix:	aqueous							
Date Sampled:	12/16/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / Time Analyzed		Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	19:30	8260B SIM	AM
4-Bromofluorobenzene (surr)	91 %R			%	12/20/21	19:30	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/20/21	19:30	8260B SIM	AM
Client Sample ID:	26 Rennie Rd							
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Lab Sample ID:	236845.09							
Matrix:	aqueous							
Date Sampled:	12/16/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / T Analyz	Гіте zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	20:01	8260B SIM	AM
4-Bromofluorobenzene (surr)	96 %R			%	12/20/21	20:01	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/20/21	20:01	8260B SIM	AM

Client Sample ID:	47 Rennie Rd							
Lab Sample ID:	236845.1							
Matrix:	aqueous							
Date Sampled:	12/16/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / ⁻ Analy:	Time zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	20:33	8260B SIM	AM
4-Bromofluorobenzene (surr)	93 %R			%	12/20/21	20:33	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/20/21	20:33	8260B SIM	AM

Client Sample ID:	7 Rennie Rd							
Lab Sample ID:	236845.11							
Matrix:	aqueous							
Date Sampled:	12/16/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	21:05	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	12/20/21	21:05	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/20/21	21:05	8260B SIM	AM

Client Sample ID:	9 Rennie Rd							
Lab Sample ID:	236845.12							
Matrix:	aqueous							
Date Sampled:	12/16/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / ` Analy	Time zed	Method	Analyst
1,4-Dioxane	8.6	0.2	1	ug/L	12/20/21	21:36	8260B SIM	AM
4-Bromofluorobenzene (surr)	94 %R			%	12/20/21	21:36	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/20/21	21:36	8260B SIM	AM

Client Sample ID:	Trip Blank							
Lab Sample ID:	236845.13							
Matrix:	aqueous							
Date Sampled:	12/16/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	22:08	8260B SIM	AM
4-Bromofluorobenzene (surr)	94 %R			%	12/20/21	22:08	8260B SIM	AM
Toluene-d8 (surr)	97 %R			%	12/20/21	22:08	8260B SIM	AM

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

Batch ID: 637756-11574/A122021DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.6 (91 %R)	4.6 (93 %R) (2 RPD	) 12/20/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	93 %R	98 %R	98 %F	R 12/20/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	97 %R	98 %R	98 %F	R 12/20/2021	% Rec	70 - 130	50	8260B

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Sample I.D.	Sampling Date/Time *If Composite, Indicate Both Start & Finish Date/Time	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	524.2 524.2 MTBE ONLY 82.60 624 VTICS 1.4 0100xAITE 624 VTICS	6021	8015 GRO MAVPH	8270 625 Abn Pah Edb dbcp	TPH8100 LI L2	8015 DR0 MAEPH Pest 608 PCB 608	PEST 8081 PCB 8082 R Oll & Greas 1664 TPH 1664	TCLP 1311 ABN METALS	EOD CBOD TS TSS TDS	BR CI F 50, NO2 NO3 NO3 NO2	TKN NH3 TN TN TV TR	PH T. RES, CHLORINE SPEC. CON. T. ALK.	COD PHEHOLS TOC DOC	TOTAL CHANDE TOTAL SULFIDE	REACTIVE C _{VA} HIDI REACTIVE NUEFIDE I FLACHPOI ICNITABILITY	JORAL GALFORN E. COLI	ENTEROCOCCI Heferrotrodhic Pate Coun-	DISSOLVED NETALS (LIST DELOW)	TOTAL METALS (LET BELOW)					# OF CONTAURERS	Notes MeOH Vial #
10 Dairy Cn	12/14/21 0805	Dω	G	X																						1	2	
39 Tranguil Br	12/14/21 0950		1	$\mathbf{x}$																							Ζ	
42 hennie Ro	12/14/21 0900			Ŕ																							ζ	
30 Rennie Rd	12/14/21 1050			R																							7	
8 Dairy Ln	12/14/21 1145			Ŋ																		1		1			2	
38 Renair Bol	12/14/21 1100	114/21 1100								-		-	1						1								2	
594 Hour Center Rol	12/14/21 1330			×				-				•	1						1		-	-	1				7	
39 Rennie Ro	12/16/21 0820		İ	R				1											ĺ		1						7	
ZG Rennie Rol	12/16/21 1015												+					1					1	1			Z	
47 Renie Rel MATRIX: A-AIR; S-SOH; GW-GROUND WATER MAN. WATEL WATER	iz <i>İ161</i> 21 1030 1; SW-Surface Water; DW-Drini	KING WA	J Iter;	٩								·												+			ح	
Preservative: H-HCL; N-HNO3; S-H2SO4; N	la-NaOH; M-MEOH																											
Project Manager: <u>Sim</u> Company: <u>C2A</u> C= E. Address: <u>S Communica</u>	wieck avisonmental Perk N:			·····	QA/QC REPORTING REPORTING OPTIONS TURN AROUND TIME METALS: PRELIHS: YES OR NO 24hr* 48hr* Other Metals: 3-4 Days* Other Metals:								8 TALS:	RCRA	. 13	8 PP	FE,	. MN PB, Cl										
im: <u>Bed fend</u>	STATE:	ZIP: _C	2310	03_	_	J•		LP	_	Ľ	LECTRO PDF	NIC (	UPTIC Fxcfi	DNS		5 1	Day	1	Day		SAI	MPLES	S FIEL	D FI	LTERE	D?		
/HONE: <u>_GO3~Z3Z-</u> <u>E-MAII: }ames.wie</u> a Site Name: <u>_Ramme_</u>	8732 alt @gza.cou Farm	TE: UP: 3 Z EXT: 5 Z EXT:				TEMP.     O     °C     EQUIS     10 Day     NOTE       ICE?     ICES     NO     OTHER     *Pre-approval Required								E2: (IE:	SPECIAL	L DETEC	CTION LI	IMITS, BI	LLING	INFO, IF DIFFERENT								
PROJECT #: <u>09,01900</u> TATE: NH MA ME	Т#: <u>04, 0190030.02</u> NH MA ME VT OTHER:						- SAMPLER(S): E. Dymess, B. Chins, Ky Marsh -																					
REGULATORY PROGRAM: NPDES: RGP GWP. OIL FUND. BROWNF	IPDES: RGP POTW STORMWATER OR . FUND, BROWNFIELD OR OTHER:						RELINQUISHED BY: DATE: TIME: RECEIVED BY:																					
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						NQU	ISHED	By:		Date	-	1	ÍME:		Rec	EIVED	By:			—	FIEL	d Read	INGS: _					
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Sample I.D.	Sampling Date /Time *If Composite, Indicate Both Start & Finish Date /Time	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	524.2 524.2 MTBE ONEY	82.60 024 VIICS	8021	8015 GKU MAYPH 8	ABN PAN EOB DBCP	11 M 010 LI LZ 8015 DR0 MAEPH	PEST 608 PCB 608	011 & GREASE 1664 TPH 1664	TCLP (311 ABN METALS VOC PEST HERB	BOD CBOD TS TSS TDS	BR CI F 504 NO2 NO3 NO3NO2	TKN NH ₃ TN TL PHOS. O. PHOS.	IPH T. RES. CHLORINE SPEC. CON. T. ALK.	COD PHENOLS TOC DOC	TOTAL CLANIDE TOTAL SULFIDE	REACTIVE CYANIDE REACTIVE SULFIDE	Total Colform E. Coui Fecal Colform	Enterococci Beterotrophic Plate Court	DISSOLVED METALS (LIST BELOW)	Total Metals (LUST BELOW)					# OF CONTAINERS	Notes MeOH Vial #	5 子 子
7 Remire Rd	12/16/21 1225	Dw	G		X							ļ																Z		
9 Renne Rd	12/16/21 1205	עס	G		R																							Z		
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RIX: A-AIR; S-SOIL; GW-GROUND WATER	; SW-SURFACE WATER; DW-DRINK	ING W	TER;								1																			-
SERVATIVE: H-HCL; N-HNO3; S-H2SO4; N	a-NaOH; M-MEOH																													
dject Manager: <u>5;</u> m mpany: <u>624</u> <u>6= E</u>	Witck wironmental Ret W					QA	/QC A	Rep B	ORTIN C	G	Re	eport Prelims	ing ( Yes	Optic or N	dns Io		Turi 24	n Ar hr* 3-4	oune 4 Davs'	• Tim 8hr*	E	Met Othe	t <b>als:</b> r Met	8 Als:	RCRA	13	PP	FE,	MN PB, C	Cu
Bed ford	STATE: NOH	[[P: C	231	63			MA	A MC	P			ECTRO	NIC (	)ptic	DNS		5	Day	7	Day		Sam	PLES	FIEL	d Fil	TEREC	)?			10
E: 603-232-	8732	Ext.:				Тем	p	0	٩	1		PDF	Farm	Excel				10	Day	1		Note	S: (IE: !	SPECIAL	DETEC	TION LI	MITS, BI	ILLING	IFO, IF DIFFEREN	NT)
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ET #: 09,01900	SAMPLER(S): E. Dymess, B. Librs, K. Morsh																													
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Jim Wieck GZA GeoEnvironmental, Inc. (NH) 5 Commerce Park North, Suite 201 Bedford , NH 03110



Laboratory Report for:

Eastern Analytical, Inc. ID: 236846 Client Identification: Rennie Farm | 04.0190030.02 Date Received: 12/16/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

aine Ol⁄a\$haw, Lab Director

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

Temperature upon receipt (°C): 0 Received on ice or cold packs (Yes/No): Y Acceptable temperature range (°C): 0-6 Date Date/Time Sample % Dry **Exceptions/Comments** Lab ID Sample ID Received Sampled Matrix Weight (other than thermal preservation) 236846.01 GZ-2 12/16/21 12/16/21 10:35 aqueous Adheres to Sample Acceptance Policy 236846.02 GZ-9L 12/16/21 12/15/21 10:00 aqueous Adheres to Sample Acceptance Policy 236846.03 G7-9D 12/16/21 12/15/21 09:30 aqueous Adheres to Sample Acceptance Policy 236846.04 GZ-14L 12/16/21 12/15/21 13:15 aqueous Adheres to Sample Acceptance Policy 236846.05 GZ-24L 12/16/21 12/15/21 13:45 aqueous Adheres to Sample Acceptance Policy 236846.06 GZ-24D 12/16/21 12/15/21 13:30 aqueous Adheres to Sample Acceptance Policy 236846.07 GZ-27U 12/16/21 12/15/21 13:25 aqueous Adheres to Sample Acceptance Policy 236846.08 GZ-27L 12/16/21 12/15/21 13:35 aqueous Adheres to Sample Acceptance Policy 236846.09 GZ-27D 12/16/21 12/16/21 09:20 aqueous Adheres to Sample Acceptance Policy 236846.1 GZ-28L 12/16/21 12/15/21 14:30 aqueous Adheres to Sample Acceptance Policy 236846.11 GZ-28D 12/16/21 12/15/21 14:20 aqueous Adheres to Sample Acceptance Policy 236846.12 GZ-32U 12/16/21 12/16/21 12:50 aqueous Adheres to Sample Acceptance Policy 236846.13 GZ-32L 12/16/21 12/16/21 10:00 aqueous Adheres to Sample Acceptance Policy 236846.14 GZ-32D 12/16/21 12/16/21 12:45 aqueous Adheres to Sample Acceptance Policy 236846.15 GZ-34U 12/16/21 12/16/21 12:00 aqueous Adheres to Sample Acceptance Policy 236846.16 GZ-34L 12/16/21 12/16/21 11:50 aqueous Adheres to Sample Acceptance Policy 236846.17 GZ-34D 12/16/21 12/16/21 11:45 aqueous Adheres to Sample Acceptance Policy 236846.18 GZ-35U 12/16/21 12/16/21 13:00 aqueous Adheres to Sample Acceptance Policy GZ-35D 236846.19 12/16/21 12/16/21 13:05 aqueous Adheres to Sample Acceptance Policy 236846.2 GZ-36U 12/16/21 12/16/21 12:15 aqueous Adheres to Sample Acceptance Policy GZ-37U 236846.21 12/16/21 12/16/21 09:50 aqueous Adheres to Sample Acceptance Policy 236846.22 GZ-37L 12/16/21 12/16/21 09:40 aqueous Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

# Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Temperat Acceptable to	ure upon receipt (°C): 0 emperature range (°C): 0-6			Received on	ı ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
236846.23	GZ-39D	12/16/21	12/15/21 14:55	aqueous		Adheres to Sample Acceptance Policy
236846.24	GZ-40U	12/16/21	12/16/21 09:35	aqueous		Adheres to Sample Acceptance Policy
236846.25	GZ-40D	12/16/21	12/15/21 14:40	aqueous		Adheres to Sample Acceptance Policy
236846.26	GZ-41U	12/16/21	12/15/21 13:50	aqueous		Adheres to Sample Acceptance Policy
236846.27	GZ-42U	12/16/21	12/16/21 09:45	aqueous		Adheres to Sample Acceptance Policy
236846.28	SW-1	12/16/21	12/15/21 14:00	aqueous		Adheres to Sample Acceptance Policy
236846.29	SW-2	12/16/21	12/15/21 10:00	aqueous		Adheres to Sample Acceptance Policy
236846.3	SW-3	12/16/21	12/16/21 11:30	aqueous		Adheres to Sample Acceptance Policy
236846.31	SW-4	12/16/21	12/14/21 14:40	aqueous		Adheres to Sample Acceptance Policy
236846.32	SW-5	12/16/21	12/14/21 14:10	aqueous		Adheres to Sample Acceptance Policy
236846.33	SW-6	12/16/21	12/14/21 14:20	aqueous		Adheres to Sample Acceptance Policy
236846.34	Trip Blank	12/16/21	12/14/21 00:00	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

#### EAI ID#: 236846

Client Sample ID:	GZ-2						
Lab Sample ID:	236846.01						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1.4	0.2	1	ug/L	12/20/21 23:11	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	12/20/21 23:11	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/20/21 23:11	8260B SIM	AM

Client Sample ID:	GZ-9L						
Lab Sample ID:	236846.02						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.46	0.2	1	ug/L	12/17/21 22:04	8260B SIM	AM
4-Bromofluorobenzene (surr)	96 %R			%	12/17/21 22:04	8260B SIM	AM
Toluene-d8 (surr)	97 %R			%	12/17/21 22:04	8260B SIM	AM

Client Sample ID:	GZ-9D						
Lab Sample ID:	236846.03						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	64	2	10	ug/L	12/17/21 23:38	8260B SIM	AM
4-Bromofluorobenzene (surr)	95 %R			%	12/17/21 23:38	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/17/21 23:38	8260B SIM	AM

### EAI ID#: 236846

Client Sample ID:	GZ-14L						
Lab Sample ID:	236846.04						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	17	2	10	ug/L	12/18/21 0:09	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	12/18/21 0:09	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/18/21 0:09	8260B SIM	AM

Client Sample ID:	GZ-24L						
Lab Sample ID:	236846.05						
Matrix:	aqueous						
Date Sampled:	12/15 <b>/</b> 21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/1 <b>7</b> /21 16:17	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	12/17/21 16:17	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/17/21 16:17	8260B SIM	AM

Client Sample ID:	GZ-24D						
Lab Sample ID:	236846.06						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/17/21 16:49	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	12/17/21 16:49	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/17/21 16:49	8260B SIM	AM

#### EAI ID#: 236846

Client Sample ID:	GZ-27U						
Lab Sample ID:	236846.07						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	5.7	0.2	1	ug/L	12/17/21 22:35	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	12/17/21 22:35	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/17/21 22:35	8260B SIM	AM

Client Sample ID:	GZ-27L						
Lab Sample ID:	236846.08						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	3.5	0.2	1	ug/L	12/17/21 17:20	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	12/17/21 17:20	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/17/21 17:20	8260B SIM	AM

Client Sample ID:	GZ-27D						
Lab Sample ID:	236846.09						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	2.6	0.2	1	ug/L	12/17/21 17:52	8260B SIM	AM
4-Bromofluorobenzene (surr)	93 %R			%	12/17/21 17:52	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/17/21 17:52	8260B SIM	AM

#### EAI ID#: 236846

Client Sample ID:	GZ-28L						
Lab Sample ID:	236846.1						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/17/21 18:23	8260B SIM	AM
4-Bromofluorobenzene (surr)	90 %R			%	12/17/21 18:23	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	12/17/21 18:23	8260B SIM	AM

Client Sample ID:	GZ-28D						
Lab Sample ID:	236846.11						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/17/21 18:54	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	12/17/21 18:54	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/17/21 18:54	8260B SIM	AM

Client Sample ID:	GZ-32U						
Lab Sample ID:	236846.12						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/17/21 19:26	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	12/17/21 19:26	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/17/21 19:26	8260B SIM	AM

#### EAI ID#: 236846

Client Sample ID:	GZ-32L						
Lab Sample ID:	236846.13						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/17/21 19:58	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	12/17/21 19:58	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/17/21 19:58	8260B SIM	AM

Client Sample ID:	GZ-32D						
Lab Sample ID:	236846.14						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/17/21 20:29	8260B SIM	AM
4-Bromofluorobenzene (surr)	94 %R			%	12/17/21 20:29	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/17/21 20:29	8260B SIM	AM

Client Sample ID:	GZ-34U						
Lab Sample ID:	236846.15						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/17/21 21:01	8260B SIM	AM
4-Bromofluorobenzene (surr)	92 %R			%	12/17/21 21:01	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	12/17/21 21:01	8260B SIM	AM

### EAI ID#: 236846

Client Sample ID:	GZ-34L						
Lab Sample ID:	236846.16						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/17/21 21:32	8260B SIM	AM
4-Bromofluorobenzene (surr)	91 %R			%	12/17/21 21:32	8260B SIM	AM
Toluene-d8 (surr)	97 %R			%	12/17/21 21:32	8260B SIM	AM

Client Sample ID:	GZ-34D						
Lab Sample ID:	236846.17						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21 23:43	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	12/20/21 23:43	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/20/21 23:43	8260B SIM	AM

Client Sample ID:	GZ-35U						
Lab Sample ID:	236846.18						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/21/21 0:14	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	12/21/21 0:14	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/21/21 0:14	8260B SIM	AM

## EAI ID#: 236846

Client Sample ID:	GZ-35D						
Lab Sample ID:	236846.19						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/21/21 14:49	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	12/21/21 14:49	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/21/21 14:49	8260B SIM	AM

Client Sample ID:	GZ-36U						
Lab Sample ID:	236846.2						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/21/21 15:21	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	12/21/21 15:21	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/21/21 15:21	8260B SIM	AM

Client Sample ID:	GZ-37U						
Lab Sample ID:	236846.21						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/21/21 15:52	8260B SIM	AM
4-Bromofluorobenzene (surr)	93 %R			%	12/21/21 15:52	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/21/21 15:52	8260B SIM	AM

#### EAI ID#: 236846

Client Sample ID:	GZ-37L						
Lab Sample ID:	236846.22						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/21/21 16:23	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	12/21/21 16:23	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/21/21 16:23	8260B SIM	AM

Client Sample ID:	GZ-39D						
Lab Sample ID:	236846.23						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.27	0.2	1	ug/L	12/21/21 16:55	8260B SIM	AM
4-Bromofluorobenzene (surr)	91 %R			%	12/21/21 16:55	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/21/21 16:55	8260B SIM	AM

Client Sample ID:	GZ-40U						
Lab Sample ID:	236846.24						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	390	100	500	ug/L	12/21/21 21:38	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	12/21/21 21:38	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/21/21 21:38	8260B SIM	AM

### EAI ID#: 236846

Client Sample ID:	GZ-40D						
Lab Sample ID:	236846.25						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	10	0.2	1	ug/L	12/21/21 22:10	8260B SIM	AM
4-Bromofluorobenzene (surr)	90 %R			%	12/21/21 22:10	8260B SIM	AM
Toluene-d8 (surr)	97 %R			%	12/21/21 22:10	8260B SIM	AM

Client Sample ID:	GZ-41U						
Lab Sample ID:	236846.26						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	27	4	20	ug/L	12/21/21 20:35	8260B SIM	AM
4-Bromofluorobenzene (surr)	96 %R			%	12/21/21 20:35	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/21/21 20:35	8260B SIM	AM

Client Sample ID:	GZ-42U						
Lab Sample ID:	236846.27						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	160	20	100	ug/L	12/21/21 21:07	8260B SIM	AM
4-Bromofluorobenzene (surr)	96 %R			%	12/21/21 21:07	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/21/21 21:07	8260B SIM	AM

#### EAI ID#: 236846

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Client Sample ID:	SW-1						
Lab Sample ID:	236846.28						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/21/21 17:27	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	12/21/21 17:27	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/21/21 17:27	8260B SIM	AM

Client Sample ID:	SW-2						
Lab Sample ID:	236846.29						
Matrix:	aqueous						
Date Sampled:	12/15/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/21/21 17:58	8260B SIM	AM
4-Bromofluorobenzene (surr)	95 %R			%	12/21/21 17:58	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/21/21 17:58	8260B SIM	AM

Client Sample ID:	SW-3						
Lab Sample ID:	236846.3						
Matrix:	aqueous						
Date Sampled:	12/16/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/21/21 18:30	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	12/21/21 18:30	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/21/21 18:30	8260B SIM	AM

#### EAI ID#: 236846

Client Sample ID:	SW-4						
Lab Sample ID:	236846.31						
Matrix:	aqueous						
Date Sampled:	12/14/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/21/21 19:01	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	12/21/21 19:01	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/21/21 19:01	8260B SIM	AM

SW-5						
236846.32						
aqueous						
12/14/21						
12/16/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
< 0.2	0.2	1	ug/L	12/21/21 19:32	8260B SIM	AM
100 %R			%	12/21/21 19:32	8260B SIM	AM
99 %R			%	12/21/21 19:32	8260B SIM	AM
	SW-5 236846.32 aqueous 12/14/21 12/16/21 <b>Result</b> < 0.2 <b>100 %R</b> <b>99 %R</b>	SW-5 236846.32 aqueous 12/14/21 12/16/21 <b>Result RL</b> < 0.2 0.2 100 %R 99 %R	SW-5 236846.32 aqueous 12/14/21 12/16/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>RE Factor</b> < 0.2 0.2 1 <b>100 %R</b> <b>99 %R</b>	SW-5 236846.32 aqueous 12/14/21 12/16/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>RL</b> <b>Factor</b> <b>Units</b> < 0.2 0.2 1 <b>u</b> g/L 100 %R % 99 %R	SW-5 236846.32 aqueous 12/14/21 12/16/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed</b> < 0.2 0.2 1 ug/L 12/21/21 19:32 100 %R % 12/21/21 19:32 99 %R % 12/21/21 19:32	SW-5         236846.32         aqueous         12/14/21         12/16/21 <b>Dilution Result RL</b> Factor         Units         Analyzed         Method         < 0.2

Client Sample ID:	SW-6						
Lab Sample ID:	236846.33						
Matrix:	aqueous						
Date Sampled:	12/14/21						
Date Received:	12/16/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/21/21 20:04	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	12/21/21 20:04	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/21/21 20:04	8260B SIM	AM

Client Sample ID:	Trip Blank							
Lab Sample ID:	236846.34							
Matrix:	aqueous							
Date Sampled:	12/14/21							
Date Received:	12/16/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/20/21	22:40	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	12/20/21	22:40	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/20/21	22:40	8260B SIM	AM

Batch ID: 637753-53847/A121721DIOX1

# 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	< 0.2	4.5 (91 %R)	4.3 (86 %R) (6 RPD)	12/17/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	98 %R	99 %R	94 %R	12/17/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	99 %R	99 %R	99 %R	12/17/2021	% Rec	70 - 130	50	8260B

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

#### Batch ID: 637756-11574/A122021DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.6 (91 %R)	4.6 (93 %R) (2 RPD	) 12/20/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	93 %R	98 %R	98 %F	R 12/20/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	97 %R	98 %R	98 %F	R 12/20/2021	% Rec	70 - 130	50	8260B

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

#### Batch ID: 637756-97834/A122121DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.2 (85 %R)	4.2 (84 %R) (1 RPD	) 12/21/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	92 %R	93 %R	91 %F	R 12/21/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	99 %R	97 %R	97 %F	R 12/21/2021	% Rec	70 - 130	50	8260B

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		В	OLD	FIELDS	Req	UIR	D.	PLE	ASE	CIR	CLE	RE	QUE	STE	D 🖡	ANA	LYS	IS.										
									29		TCLP		ΠĽ	Oi	3G/	AN	CS		M	CRO	)Me	TALS		21	<u>i</u> lti	3		
Sample I.D.	Sampling Date /Time *If Composite, Indicate Both Start & Finish Date /Time	Matrix (see below)	GRAB/*COMPOSITE	524.2 524.2 MTBE ONLY 8260 624 VTICs 1,4 DIOXAND	8021 Ants Grom Maudu	8270 625	ABN PAH EDB DBCP TPH8100 LI L2	8015 DRO MAEPH	PEST 608 PCB 608 PEST 8081 PCB 8082	OIL & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	BOD CBOD TS TSS TDS	BR CI F 504 NO ₂ NO ₃ NO ₃ NO ₂	TKN NH ₃ TN T. PHOS. O. PHOS.	PH T. RES. CHLORINE SPEC. CON T ALK	COD PHENOLS TOC DOC	TOTAL CYANIDE TOTAL SULFIDE	REACTIVE CYANIDE REACTIVE SULFIDE	TOTAL COLIFORM E. COLI FECAL COLIFORM	ENTEROCOCCI Heterotrophic Plate Coint	DISSOLYED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)					# OF CONTAINERS	<b>Notes</b> MeOH Vial #
62-2	12/16/21 / 1035	Gw	G	X																							2	
62-9L	12/15/21 / 1000	Gu	6	Х																							2	
62-90	12/15/21 0930	Gw	6	X																							2	
GZ-THO-KM																										[		
62-14L	12/15/11/1315	έw	6	Х																							2	
6Z - 24L	12/15/21/1345	60	6	X																							Z	
62 - 240	12/15/21 / 1330	bu	6	X																							Z	
62-270	12/15/21 / 1325	60	6	X																							Z	
62-27L	12/15/21 / 1335	60	6	X															-								2	
GZ – 27 D trix: A-Air; S-Soil; GW-Ground Wate WW-Waste water eservative: H-HCL; N-HNO3; S-H2SO4;	1716/21 / 0920 r; SW-Surface Water; DW-Drinh Na-NaOH; M-MEOH	Gw KING W/	G Ater;	X																							Z	
roject Manager: <u>Sim</u> ompany: <u>GZA Geo E</u>	Wieck nuironmental Ret 11				QA	/QC A	<b>Repo</b> B (	RTIN(	G	Re F	E <b>PORT</b> Prelims:	ng ( Yes	Optic or N	ons Io		Tur 24	им Ан 4hr* 3-4	ROUNI 2 Davs	o <b>Tı</b> ⊁ 18hr* ∗	IE	<b>Ме</b> Отні	t <b>als:</b> er Met/	8 NLS:	RCRA	13	PP	Fe,	Mn Pb, C
Bedford		ZIP: _<	331	03	r	MA	MCF	<b>)</b>		Eu	ectro PDF	NIC C	)ptic Excel	ONS		5	Day	1	7 Day		SAM	IPLES	FIELI	DETECT	TERED	)? MITS BI		YES NO
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67-781	12/15/21 / 1436		4	22		8(	8	82 181	<u> </u>	8		ō	28	B E	<u> </u>	<u> Hr</u>	E.S.	8	<u>P</u>	FU RE	<u>e</u> E	플포	ä	10					*	
(-7-780	12/15/21 / 1420	614	6		$\frac{\wedge}{\vee}$																								2	
(+2-374	12/16/21 / 17.50	bru	6		X																								7	
62-32 L	12/11/2) 1000	60	6		X																								2	
62-32D	12/16/11 / 1245	600	6-		X					1																			Z	
62-340	12/16/21 / 1200	6.	6		X																								Z	
62-34 L	12/16/21 / 1150	6.0	6		Х																								Z	
6-2-340	12/16/21 / 1145	62	6		X																								Z	
GZ-350	12/16/21 / 1300	60	6		X																								Z	
62-35 D	12/16/21 / 1305	600	6		X																								Z	
RIX: A-AIR; J-Soil; GW-Ground V WW-Waste water servative: H-HCL; N-HNO ₃ ; S-H ₂ Si	VATER; SW-SURFACE WATER; DW-DRN D4; Na-NaOH; M-MEOH	KING V	ATER;																											
oject Manager: <u>5;</u> » mpany: <u>C2A Geo</u> ness: 5 Communi	n Wieck Environmental ep. Perk N.					Q	)A/Q A	įC R	EPOR	TING		Re P	PORTI RELIMS:	ING ( Yes	Optio or N	)NS 0		Turn 241	s Ar hr* 3-4	ound 4 Days*	Tim 8hr*	E	Met Othe	'ALS: r Meta	8 ILS:	RCRA	13	PP	FE,	, Mn Pb,
Bed ford	STATE: NH	ZIP: _	231	63			1	MA I	1CP			Eli	CTRO	NIC (	) PTIC	286		5 E	Day	7	Day		Sam	PLES	Fieli	d Fil	TEREC	)?		Yes 🔲 I
NE: <u>603-232</u> All: <u>; ате</u> , w: NAME: <u>Rame</u>	- 8732 eoli Ogza.cou Farm	Ext.:				T	EMP Ce?	(ES	) ) nc	_℃ )		OT	rut Her	Equis	CXLEL			*Pre-	10 appro	Day wal Re	quire	1	Note	5: (IE: 5	PECIAL	DETECT	rion Lii	mits, Bi	ILLING	INFO, IF DIFFERE
ECT #: 09.0190	VT OTHER:					SAMP //	PLER(S	): <u>E</u>	<u>, </u>	Dy.	12	: <u>55</u>  11.]:	B	<u>}_ (</u>		<u>-5</u> .	K	J.	ton I	52										
ULATORY PROGRAM: NPDES: GWP. OII FUND RRI	RGP POTW STORMWATER OR DWNFIELD OR OTHER-					REL	INQU	JISHE	d By	ſ:	1	DATE:		T	IME:	-6	REC	EVEN	BY:	na	£									
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							red.	. Fi	LEA:			le r T	EQU	iest NG	ed #	ana NNN	LYSI	S.		PPM	他陪				127			
Sample I.D.	Sampling Date / Time *If Composite, Indicate Both Start & Finish Date / Time	Matrix (see below)	GRAB/*COMPOSITE	524.2 524.2 MTBE ONLY 82.60 624 VTICs	K 4 DIOXANE	8015 GRO MAVPH	82/10 625 ABN PAH EDB DBCP	TPH8100 LI L2	8015 DRO MAEPH	PEST 608 PCB 608 PEST 8081 PCB 8082	OIL & Grease 1664 TPH 1664	VOC PEST HERB	15 TSS TDS BR C1 F SO,	NO1 NO3 NO3NO2 NO3NO2 NO3NO2 NO3NO2 NO3NO2 NO3NO2 NO3NO2 NO3NO2 NO3NO2 NO3NO2 NO3NO2 NO3NO2 NO3NO2 NO3NO2 NO3NO	PL FRUS. U. FRUS. PH T. RES. CHLORINE SPFC. CON T. ALK	COD PHENOLS TOC DOC	Total Cranide Total Sulfide	REACTIVE CYANIDE REACTIVE SULFIDE REACTIVE CONTINUES REACTIVE CONTINUES REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE SULFIDE REACTIVE S	Total Colforn E. Coll Fecal Colforn	ENTEROCOCCI Heterotrophic Plate Count	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)				# of fourtainers	MEOI	Iotes K Vial #
62-360 62-370 62-37L	12/16/21 / 1215 12/16/21 / 0950 12/16/21 / 0940	6u 6u 6u	6 6 6		,																					2 2 2		
62-37 D- 62-39 D 62-400	¹² /15/21 / 1455 ¹² /16/21 / 0935	# 611 611	ج ل	X X																						2 Z	, , ,	
62-40D 62-410 62-420	12/15/21 / 1440 12/15/21 / 1350 12/16/21 / 0945	64	6 6 6																							2 2 2		
ا – یں ک Iatrix: A-Air; S-Soil; GW-Ground Water; WW-Waste water reservative: H-HCL; N-HNO3; S-H2SO4; N	1915/21 / 1400 ; SW-Surface Water; DW-Drink a-NaOH; M-MEOH	Gw ING W	67 Ater;																							Z		
ROJECT MANAGER: <u>Sim</u> OMPANY: <u>GZA</u> <u>Geo Er</u> IDRESS: <u>S</u> <u>Commorce</u> IN: <u>Bedfend</u> IONE: <u>GO3-Z3Z-</u> MAIL: <u>James</u> , wieg	MANAGER: Jim Wilcok MANAGER: Jim Wilcok 1: GZA Geo Environmental 5 Commune Perk N. Bedford STATE: NH UP: 03103 603-232-8732 EXT: 2000, wiedk @gzo, com			63		A/Q( A M EMP	B B A M O Tes	C C CP	ING C		REPO Prel Elect PI OTHEI	rting ims: Yi ronic if Equ	G OPT ES OR OPT EXCE	IONS No IONS L		Turn 24 5 [ *Pre-:	4 Ard hr* 3-4 Day 10 approv	DUND 48 Days* 7 Day val Re	Time Bhr* Day quired		Met. Other Sami Notes	als: n Metai ples :: (ie: Si	8 R LS: Field Pecial D	FILT	I3 P Ered? on Limit	P C	FE, MN <b>] Yes</b> Ig Info, If	PB, CL
E NAME: Kanne F OJECT #: 04,01900 NTE: NH MA ME GULATORY PROGRAM: NPDES: RGP GWP, OIL FUND, BROWNFIL	30.02           VT         OTHER:           POTW         STORMWATER OR           ELD OR OTHER:         DO: //				SAMI Rel	PLER(S): Ihem		D MIA BY:	 	    2/2  2/2  DA	5 //6/z TE:	B.	<u>()</u> 1609 TIME:	5 5	I K REC	ELYER	1 ors BY:	2	<u> </u>		Site H	ISTORY						
IOTE #:	PO #:				REL	INGUI	SHED	BY:		DA	TE:		TIME:		REC	EIVED	BY:			_	SUSPEC	TED CO	)NTAMIN	IATION:				

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SAMPLE 1.D. Sw - 2 Sw - 3 Sw - 4 Sw - 5 Sw - 6	Sampling Date / Time *IF Composite, Indicate Both Start & Finish Date / Time 12/15/21 / 1900 12/14/21 / 1900 12/14/21 / 1910 12/14/21 / 1910	E E E E MATRIX (SEE BELOW)	D P G G C GRAB/*COMPOSITE	224.2 224.2 MBE OUL 2.4.2 MBE OUL 2.4.4 MBE OUL		8015 GRO MAVPH	8270 625 March Mark		8015 DRO MAEPH	PEST 608 PC8 608 PC8 608 PC8 608 PC8 608 PC8 608 PC8 608 PC8 608 PC8 PC8 608 PC8 PC8 PC8 PC8 PC8 PC8 PC8 PC8 PC8 PC	OIL & GRASE 1664 TPH 1664	TCLP 1311 ABN METALS NO. PEST HERB	15 15 100 C600	BA CI F 504 NO, NO, NO, NO, NO, SZ	The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	SPEC. CON. T. ALLONINE OF SPECE. CON. T. ALLY. SSPECE. CON. T. ALK.	TOTAL CRANDE TOTAL SULFICE	REACTIVE CANNOE REACTIVE SULFIDE REACTIVE SULFUL REACTIVE SULFUL REACTIVE SULFUL REACTIVE SULFUL REACTIVE SULFUL REACTIVE SULFUL REACTIVE SULFUL REACTIVE SULFOR SULFOR SULFOR REACTIVE SULFUL REACTIVE SULFUL REA	TOTAL COLIFICAM E. COLI	ENTEROCICI HELENOTROPHIC PLATE COUNT	DISOURED METALS (1677 BELOW)	TOTAL MEAALS (LIST BELOW)					2 2 2 2 4 of Containers	Notes MeOH Vial 7	
atrix: A-Air; S-Soil; GW-Ground Water WW-Waste water reservative: H-HCL; N-HNO3; S-H2SO4; N	 r; SW-Surface Water; DW-Drinf Ia-NaOH; M-MEOH	UNG W	ATER;																										
roject Manager: <u>Sim</u> ompany: <u>CZA</u> <u>Geo En</u> oress: <u>S</u> <u>Commerce</u> iv: <u>Bed ford</u> ione: <u>GO3-Z3Z-</u> Mail: <u>Journes</u> , wied e Name: <u>Romme</u> 1	Wicck <u>avironmental</u> <u>Park Ni</u> <u>STATE: NH</u> 8732 ek Ogza.con Farm	ZIP: _< Ext.: =7	23/1	63		QA/O Temp. ICE?	DC F A I MA (TES	NEPOR 3 C MCP	ting _℃		Ref Pr Ele	PORTI LELIMS: CTROP PDF	NG O Yes IIC O Equis	PTION OR NO PTION XCEL	82	Tur 2 5 *Pre	an An 4hr* 3-4 Day 10 -appro	OUND 41 Days* 7 Day wal Re	Timi Bhr* Day equired	E ·	Met Othe Sam Note	TALS: r Meta PLES S: (IE: S	8 ILS: Fieli Pecial	RCRA D FH Detec	13 .teree tion Lii	PP D? Mits, Bi	FE,	MN PB, I Yes <b>N</b> NFO, IF DIFFEREN	
ADJECT #:O' (1900) ATE: NH MA ME EGULATORY PROGRAM: NPDES: RGP GWP, OIL FUND, BROWNF HOTE #:	>3.0.     >       VT     Other:       POTW     Stormwater or       ield or Other:     PO #:					MPLER( <i>Kur</i> Elinq Elinq	5): <u>2</u> m.N UISHI	E, J Wh ED BY	γ. ::	n7C n	<i>SS</i> // <i>G/2</i> Date: Date:	B	<u> </u>	<u>-hr.</u> 05 1E:	s,. -C	K. I RECEIVED	Y or: BY:	nn m	<u>、</u>		Site 1 Suspe	HISTORY CTED C	ONTAM	INATIO	N:				
M Eastern Analy	tical. Inc. 5	Antri	im Av	enue I		ELINQ	UISHE		': Ta . 41	[ [ []	DATE:	5/14	TIM	1E: 87.057	5   5	RECEIVED	BY:				FIELD	READI	VGS:			-			

(WHITE: Lab Copy GREEN: Customer Copy)



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



Laboratory Report for:

Eastern Analytical, Inc. ID: 236937 Client Identification: Rennie Farm | 04.0190030.02 Date Received: 12/17/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Lorfaine Olashaw, Lab Director

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

Client Designation: Rennie Farm | 04.0190030.02

Temperat Acceptable t	ure upon receipt (°C): emperature range (°C): 0-6	5.3	R	eceived o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
236937.01	GZ-37D	12/17/21	12/17/21 09:05	aqueous		Adheres to Sample Acceptance Policy
236937,02	GZ-51	12/17/21	12/17/21 13:15	aqueous		Adheres to Sample Acceptance Policy
236937.03	GZ-52	12/17/21	12/17/21 13:20	aqueous		Adheres to Sample Acceptance Policy
236937.04	RW-13	12/17/21	12/17/21 13:45	aqueous		Adheres to Sample Acceptance Policy
236937.05	RW-14	12/17/21	12/17/21 13:50	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

#### EAI ID#: 236937

Client Sample ID:	GZ-37D						
Lab Sample ID:	236937.01						
Matrix:	aqueous						
Date Sampled:	12/17/21						
Date Received:	12/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.29	0.2	1	ug/L	12/23/21 13:16	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	12/23/21 13:16	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/23/21 13:16	8260B SIM	AM

Client Sample ID:	GZ-51						
Lab Sample ID:	236937.02						
Matrix:	aqueous						
Date Sampled:	12/17/21						
Date Received:	12/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	10	0.2	1	ug/L	12/23/21 21:41	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	12/23/21 21:41	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/23/21 21:41	8260B SIM	AM

Client Sample ID:	GZ-52						
Lab Sample ID:	236937.03						
Matrix:	aqueous						
Date Sampled:	12/17/21						
Date Received:	12/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	3.6	0.2	1	ug/L	12/23/21 13:47	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	12/23/21 13:47	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	12/23/21 13:47	8260B SIM	AM

#### EAI ID#: 236937

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

Client Sample ID:	RW-13						
Lab Sample ID:	236937.04						
Matrix:	aqueous						
Date Sampled:	12/17/2 <b>1</b>						
Date Received:	12/17/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	1.3	0.2	1	ug/L	12/23/21 14:19	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	12/23/21 14:19	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/23/21 14:19	8260B SIM	AM

Client Sample ID:	RW-14						
Lab Sample ID:	236937.05						
Matrix:	aqueous						
Date Sampled:	12/17/21						
Date Received:	12/17/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	5.6	0.2	1	ug/L	12/23/21 14:50	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	12/23/21 14:50	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/23/21 14:50	8260B SIM	AM

Eastern Analytical, Inc.

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

Batch ID: 637758-64484/A122321DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1.4-Dioxane	< 0.2	4.9 (98 %R)	5.1 (101 %R) (3 RPD	) 12/23/2021	ua/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	103 %R	100 %R	102 %F	R 12/23/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	101 %R	101 %R	100 %F	R 12/23/2021	% Rec	70 - 130	50	8260B

						(	Снд	IN-	OF-	Cu	ISTO	OD.	Y R	EC	ORI	>								Ţ	For Lab	Use Oni	v			of 6
Page of			B	OLD	FIE	lds F	lequ	IRE	). P	LEA	se (		CLE	Rec	QUE	STE	d A	NA	LYSI	s.							236	937		0
						VO	C		S	VO	C		TCLP		N	OF	G/	N	CS		Mic	CRO	Met	ALS		عبلا	LEDA			
SAMPLE I.D.	Same Date *If Con Indicat Start 8 Date	PLING /Time MPOSITE, TE BOTH & FINISH /TIME	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	524.2 524.2 MTBE ONLY	82.60 624 VTICS 4.4 DIOXAMED 0001	8015 GRO MAVPH	8270 625 Arn Pah Fdr drp	TPH8100 LI L2	8015 DRO MAEPH	PEST 608 PCB 608 PEST 8081 PCB 8082	OIL & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	BOD CBOD TS TSS TDS	Br Cl F 504 NO2 NO3 NO3NO2	TKN NH3 TN T. PHOS. O. PHOS.	PH T. RES. CHLORINE SPEC. CON. T. ALK.	COD PHENOLS TOC DOC	TOTAL CYANIDE TOTAL SULFIDE	REACTIVE CYANIDE REACTIVE SULFIDE Flashfoint Ignitability	TOTAL COLIFORM E. COLI FECAL COLIFORM	Enterococci Heterotrophic Plate Count	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)				# OF CONTAINERS	<b>N</b> o MeOH	TES Vial #
62-370	12/17/21	0905	GW	6		χ															<u> </u>					_		2		
62-51	12/17/21	1315				χ												ļ			ļ							2		
62 - 52	12/17/21	1320	A DESCRIPTION OF			χ																						2		
RW-13	12/17/21	1345				Х																						2		
RW-14	12/17/21	1350	¥	4		Х																						2		
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Matrix: A-Air; S-Soil; GW-Ground Water WW-Waste water	r; SW-Surface W	ATER; DW-DRIN	king V	VATER;				-				-																		
PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; N	Na-NaOH; M-ME	DH																												
Project Manager: Jim Company: <u>GZA Geo</u> l	Wieck Environm	ental					QA/	QC I	REPO	RTING		Re	e <b>port</b> Prelims	ING : Yes	OPTI OR	ons No		Tur 2	An A 4hr*	ROUNI	o Tım 18hr*	E	<b>Ме</b> Отн	tals: er Met	8 R ALS:	CRA	13 P	P I	e, Mn	Pb, Cu
ADDRESS: 5 Commerce	Park.	N SMith	<u>e 2</u>	01	10			MA	MCF	)		EL	ECTRO	NIC (	Орті	ONS		ς	3-4 Dav	Days	^ 7 Dav		San	1PLES	Field	FILT	ERED?	Ľ	YES	No
(ITY: 13ed tord Dugue (603) 232 - 8732	STATE:	NA	<i>LIP</i> : _ Εχτ	031			T	5	2	2.00			PDF	_	EXCEL			5	1	0 Day	,		Not	ES: (IE:	SPECIAL I	ETECT	ion Limi	rs, Billin	g Info, If I	DIFFERENT)
E-MAIL: james. wieck@	gza.com		2/10-1				EQUIS *Pre-approval Required																							
SITE NAME: Rennie Farm	irm																													
PROJECT #: 04.0190030.	30.02							SAMPLER(S): E. Dyrness, E. Bennett																						
REGULATORY PROGRAM: NPDES: RGF	POTW STORMY	VATER OR					Gn	m	a <i>B</i>	omj	Ø)	12/1	7/21	19	:3 2 Time:			<u>M</u> Eceivei	MP BY:	U	V									
GWP, OIL Fund, Brown	FIELD OR OTHER:						KELIN	QUISH	ED B	Y:		Phil.											SITE	HISTOR	Y:					
QUOTE #:	PO #	:					Relin	QUISH	IED B	Y:		DATE:	:	1	TIME:		R	ECEIVE	) By:				SUSP	PECTED	Contami	NATION	:			
							Relin	QUISH	ED B	Y:		DATE:	:		TIME:		R	ECEIVEI	) By:				Fiel	d Read	INGS:					

**Eastern Analytical, Inc.** professional laboratory and drilling services 51 Antrim Avenue Concord, NH 03301 Tel: 603.228.0525 1.800.287.0525 E-Mail: CustomerService@EasternAnalytical.com www.EasternAnalytical.com

(WHITE: Lab Copy GREEN: Customer Copy)


Non-GMP Related Groundwater Monitoring Data



professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 234897 Client Identification: Rennie Farm | 04.0190030.02 Date Received: 11/5/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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- > : "greater than" followed by the reporting limit
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#### References:

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- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Counte Olashum Date

Lorraine Olashaw, Lab Director

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

Client Designation: Rennie Farm | 04.0190030.02

Temperate Acceptable to	ure upon receipt (°C): emperature range (°C): 0-6	0.1			Received o	n ice or	cold packs (Yes/No): Υ
Lab iD	Sample ID	Date Received	Date/T Samp	ime led	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
234897.01	OPM-6A	11/5/21	11/3/21	09:55	aqueous		Adheres to Sample Acceptance Policy
234897.02	OPM-6B	11/5/21	11/3/21	12:10	aqueous		Adheres to Sample Acceptance Policy
234897.03	OPM-6C	11/5/21	11/3/21	10:15	aqueous		Adheres to Sample Acceptance Policy
234897.04	OPM-6D	11/5/21	11/3/21	12:15	aqueous		Adheres to Sample Acceptance Policy
234897.05	OPM-11A	11/5/21	11/3/21	10:45	aqueous		Adheres to Sample Acceptance Policy
234897.06	OPM-11B	11/5/21	11/3/21	12:35	aqueous		Adheres to Sample Acceptance Policy
234897.07	OPM-11C	11/5/21	11/3/21	12:45	aqueous		Adheres to Sample Acceptance Policy
234897.08	OPM-11D	11/5/21	11/3/21	12:55	aqueous		Adheres to Sample Acceptance Policy
234897.09	OPM-14A	11/5/21	11/3/21	13:50	aqueous		Adheres to Sample Acceptance Policy
234897.1	OPM-14B	11/5/21	11/3/21	14:05	aqueous		Adheres to Sample Acceptance Policy
234897.11	OPM-14C	11/5/21	11/3/21	13:35	aqueous		Adheres to Sample Acceptance Policy
234897.12	OPM-14D	11/5/21	11/3/21	13:40	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

#### EAI ID#: 234897

Client Sample ID:	OPM-6A						
Lab Sample ID:	234897.01						
Matrix:	aqueous						
Date Sampled:	11/3/21						
Date Received:	11/5/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	62	10	50	ug/L	11/12/21 12:46	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	11/12/21 12:46	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/12/21 12:46	8260B SIM	AM

Client Sample ID:	OPM-6B						
Lab Sample ID:	234897.02						
Matrix:	aqueous						
Date Sampled:	11/3/21						
Date Received:	11/5/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	96	20	100	ug/L	11/12/21 16:26	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	11/12/21 16:26	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/12/21 16:26	8260B SIM	AM

Client Sample ID:	OPM-6C						
Lab Sample ID:	234897.03						
Matrix:	aqueous						
Date Sampled:	11/3/21						
Date Received:	11/5/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	59	10	50	ug/L	11/12/21 13:49	8260B SIM	AM
4-Bromofluorobenzene (surr)	95 %R			%	11/12/21 13:49	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/12/21 13:49	8260B SIM	AM

#### EAI ID#: 234897

Client Sample ID:	OPM-6D						
Lab Sample ID:	234897.04						
Matrix:	aqueous						
Date Sampled:	11/3/21						
Date Received:	11/5/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	110	10	50	ug/L	11/12/21 14:20	8260B SIM	AM
4-Bromofluorobenzene (surr)	95 %R			%	11/12/21 14:20	8260B SIM	AM
Toluene-d8 (surr)	96 %R	•		%	11/12/21 14:20	8260B SIM	AM

Client Sample ID:	OPM-11A						
Lab Sample ID:	234897.05						
Matrix:	aqueous						
Date Sampled:	11/3/21						
Date Received:	11/5/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	69	10	50	ug/L	11/12/21 14:52	8260B SIM	AM
4-Bromofluorobenzene (surr)	94 %R			%	11/12/21 14:52	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/12/21 14:52	8260B SIM	AM

Client Sample ID:	OPM-11B						
Lab Sample ID:	234897.06						
Matrix:	aqueous						
Date Sampled:	11/3/21						
Date Received:	11/5/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	81	10	50	ug/L	11/12/21 15:23	8260B SIM	AM
4-Bromofluorobenzene (surr)	94 %R			%	11/12/21 15:23	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/12/21 15:23	8260B SIM	AM

#### EAI ID#: 234897

Client Sample ID:	OPM-11C						
Lab Sample ID:	234897.07						
Matrix:	aqueous						
Date Sampled:	11/3/21						
Date Received:	11/5/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	99	20	100	ug/L	11/12/21 16:57	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	11/12/21 16:57	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/12/21 16:57	8260B SIM	AM

OPM-11D						
234897.08						
aqueous						
11/3/21						
11/5/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
430	20	100	ug/L	11/12/21 17:29	8260B SIM	AM
97 %R			%	11/12/21 17:29	8260B SIM	AM
96 %R			%	11/12/21 17:29	8260B SIM	AM
	OPM-11D 234897.08 aqueous 11/3/21 11/5/21 <b>Result</b> 430 97 %R 96 %R	OPM-11D 234897.08 aqueous 11/3/21 11/5/21 <b>Result RL</b> 430 20 97 %R 96 %R	OPM-11D 234897.08 aqueous 11/3/21 11/5/21 <b>Bilution</b> <b>Result RL Factor</b> 430 20 100 97 %R 96 %R	OPM-11D 234897.08 aqueous 11/3/21 11/5/21 <b>Bilution</b> <b>Result RL Factor Units</b> 430 20 100 ug/L 97 %R % 96 %R %	OPM-11D 234897.08 aqueous 11/3/21 11/5/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed</b> 430 20 100 ug/L 11/12/21 17:29 97 %R % 11/12/21 17:29 96 %R % 11/12/21 17:29	OPM-11D 234897.08 aqueous 11/3/21 11/5/21 <b>Dilution</b> Date / Time <b>Result</b> RL Factor Units Analyzed Method 430 20 100 ug/L 11/12/21 17:29 8260B SIM 97 %R % 11/12/21 17:29 8260B SIM 96 %R % 11/12/21 17:29 8260B SIM

Client Sample ID:	OPM-14A						
Lab Sample ID:	234897.09						
Matrix:	aqueous						
Date Sampled:	11/3/21						
Date Received:	11/5/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	250	20	100	ug/L	11/12/21 18:00	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	11/12/21 18:00	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/12/21 18:00	8260B SIM	AM

#### EAI ID#: 234897

Client Sample ID:	OPM-14B						
Lab Sample ID:	234897.1						
Matrix:	aqueous						
Date Sampled:	11/3/21						
Date Received:	11/5/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	280	10	50	ug/L	11/12/21 15:55	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	11/12/21 15:55	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/12/21 15:55	8260B SIM	AM

Client Sample ID:	OPM-14C						
Lab Sample ID:	234897.11						
Matrix:	aqueous						
Date Sampled:	11/3/21						
Date Received:	11/5/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	120	20	100	ug/L	11/12/21 18:31	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	11/12/21 18:31	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/12/21 18:31	8260B SIM	AM

Client Sample ID:	OPM-14D						
Lab Sample ID:	234897.12						
Matrix:	aqueous						
Date Sampled:	11/3/21						
Date Received:	11/5/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	400	20	100	ug/L	11/12/21 19:03	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	11/12/21 19:03	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/12/21 19:03	8260B SIM	AM

#### Batch ID: 637725-61127/A111221DIOX1

## 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	< 0.2	4.5 (91 %R)	4.6 (91 %R) (1 RPD	) 11/12/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	93 %R	96 %R	94 %F	R 11/12/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	95 %R	96 %R	95 %F	R 11/12/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

															234	397													
		Bo	OLD	FIELDS	Re	QUI	RED	. P	LEA	SE (		CLE	REG	QUE	STE	ЬΑ	NA	LYSI	s.			1							
					)C		<u>е</u>	S	/0	C		TCLP	Me	TALS			NC	DRC si	AN		S		M	CRC			3		
SAMPLE I.D.	Sampling Date/Time *If Composite, Indicate Both Start & Finish Date/Time	MATRIX (SEE BELOW	GRAB/*COMPOSITE	5,4,2 5,4,2 BTEX 5,24,2 MTBE ONLY 8,260B 6,24 VTICS L_4 DIOXANDS	802IB BTEX HALOS	8015B GRO MAVPH	8270D 625 SVTICs EDB DBC Abn 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 TSS TDS SPEC. CON.	Br CI F SO4 NO2 NO3 NO3	BOD CBOD T. ALK.	TKN NH3 T. PHOS. O. PH	PH T. RES. CHLORINE	COD PHENOLS TOC DOC	Total Cyanide Fotal Sulfide	REACTIVE CYANIDE REACTIVE SULFIDE FLACHDOINT IGNITABILITY	TOTAL COLIFORM E. COLI FECAL COLIFORM	ENTEROCOCCI	HETEROTROPHIC FLATE COUNT		# of Containers	<b>N</b> ( MeOH	otes Vial #
OPM-6A	11/3/21 / 0955	Gw	6	X																							2		
OPM-6B	11/3/21 / 1210	Gu	6	X																							Z		
OPM-6C	11/3/21 / 1015	Ġω	6	X																							2		
OPM-6D	11/3/21 / 1215	Gw	6	X																							2		
opm - 11A	11/3/21 / 1045	Gw	6	X																							2		
ppm - 11B	1/3/21 / 1235	3/21 / 1235 Gw G X												2															
mpm - ik	11/3/21 / 1245	Gw	6	X																							2		
	1/3/21 / 1255	1255 Lin 6 X											Z																
Den 14A	11/3/21 / 1350	Gw	6	X																							2		
apa~ 14B	14/3/21 / 1405	Gu	G	ÍΧ																							Z		
MATRIX: A-Air; S-Soil; GW-Ground Wat WW-Waste water Preservative: H-HCL; N-HNO3; S-H2SO4;	er; SW-Surface Water; DW-Drin Na-NaOH; M-MEOH	king V	VATER;																										
James	luser ik					ATE	NF	EDEI	D۰	Sto	ind	ord					Г		$\overline{\mathcal{A}}$	1		M	ETALS	5:	8 RCRA	13	PP	Fe, Mn	Pb, Cu
COMPANY: GZA	1012011											RED	APT ()	0 34	PTIO			EMP	<u>,</u>	, )	<u>°C</u>	011	JCD MC	7415-					
ADDRESS: 5 COMMERCE PAR	K N., Suite Zol				R	POR	TING	Leve	L			PRELIM	IS: Æ	è or	No			(£?	e	/ N(	)							<b>V-</b>	<b>]</b>
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PHONE: 603-232-8732	) 	EXT.:					C	OR				ELEC	TRO	NIC C	DPTIC	ONS							1E2: (1E	: SPEC	IAL DETEU	110N LIM	IS, DILLI	10 INFO, 1F	Different
FAX: James, wilcok @	aze com				PR	ESUM	IPTIV	e Ce	RTAI	NTY		No Fa	x (	E-MAIL	) (	DF	Equ	211											
SITE NAME Rennie Form	50							V	-215	~ `																			
PROJECT #: 04.0190030,02					SAP	IPLER(	\$): #/:	140		/	11/	17/2	/	77	 A	ç	.J	70	dec	****	_								
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REGULATORY PROGRAM: NPDE	S: RGP POTW STORMWATER OR				2	nd	ØĿ	24	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec	-	ille	21	140	Sis-		Q	n fa		Į	1-		SITE	e Histo	)RY:					
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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 824.0 D 234 VTC	4 DIOXAND	8021B BTEX HALOS Roisr gro mavph	82700 625 SVTICS EDB DBCP ARN A RN DAU	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 TSS TDS SPEC. CON.	Br CI F SO4 NO2 NO3 NO3NO3	BOD CBOD T. ALK.	TKN NH3 T. PROS. O. PROS.	PH T. RES. CHLORINE	COD PNENOLS TOC DOC	Total Cranide Total Sulfide	REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	TOTAL COLFORM E. COLI Fecal Colform	ENTEROCOCCI Heterotrophic Plate Count				# OF CONTAINERS	<b>Notes</b> MeOH Vial #	Pa
0pm-146	11/3/21 / 1335	Gw	6	.	X																							2		
0Pm-14D	1/3/21 / 1340	Gu	6		X																							2		1
Matrix: A-Air; S-Soil; GW-Ground Water	; SW-Surface Water; DW-Drini		ATER;																											
WW-WASTE WATER PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; N	la-NaOH; M-MEOH																													
PROJECT MANAGER: James COMPANY: <u>92 a</u> ADDRESS: <u>5 Commerce Par</u> (ITY: <u>Bed ford</u> PHONE: <u>603 - 232 - 8732</u> FAX:	Wieck K. N. Suite Z STATE: <u>N.H</u>	0) ZIP: Ext.:	03	0110		DATI QA/Q Repoi	E NE C RTING	EDE LEVE B DR	D:	st.		<b>REPO</b> PRELIMS F YES: <b>ELEC</b> Vo Fax	RTIN : ÆR Fax Fron	G OF OR OR P HIC O	PTION No DF PTIO	ns NS	Ti IC Four	EMP( )E?	). (HE	) No	c	ME Othe Sam Note	TALS: ER MET MPLES ES: (IE:	: 8 als: s <b>fiei</b> Speciai	RCRA L <b>d Fi</b> i . Detec	13 LTERE	PP E <b>d?</b> (	Fe	, MN PB, CI T <mark>es I No</mark> Info, If Different	- - -
E-MAIL: Janes, Wieck @ 9 SITE NAME: <u>Rennie Farm</u> PROJECT #: <u>04.0190030.07</u> STATE: NH MA ME REGULATORY PROGRAM: NPDES: GWP, OIL FUND, BROWNED QUOTE #: A A Anal	BZG. COM   Z   VT OTHER:						MPTIV (S): QUISH QUISH QUISH	E CE Kui ED B ED B	RTAI		/3/ DATE: 1/4/ DATE: 5/2 DATE:	215h	1 121 11 142 11	2 3e ME: 0 15 ME: 27 ME:	932	REC REC REC REC	EIVED	BY: BY: BY: BY:	Pur huser	000		Site Suspe Field	HISTOR ECTED ( READ)	Y: Contam Ings:	INATION	N:				-
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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



Laboratory Report for:

Eastern Analytical, Inc. ID: 227873 Client Identification: Rennie Farm | 04.0190030.02 Date Received: 6/17/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Imanie ashaw

Date

# of pages (excluding cover letter)

Lorraine Olashaw, Lab Director

1

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

Temperat Acceptable t	ure upon receipt (°C): emperature range (°C): 0-6	2.5			Received o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/1 Samp	lime Died	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
227873.01	GZ-PM-3U	6/17/21	6/17/21	12:25	aqueous		Adheres to Sample Acceptance Policy
227873.02	GZ-PM-3L	6/17/21	6/17/21	12:20	aqueous		Adheres to Sample Acceptance Policy
227873.03	GZ-PM-4U	6/17/21	6/17/21	12:35	aqueous		Adheres to Sample Acceptance Policy
227873.04	GZ-PM-4L	6/17/21	6/17/21	12:30	aqueous		Adheres to Sample Acceptance Policy
227873.05	GZ-PM-6U	6/17/21	6/17/21	12:40	aqueous		Adheres to Sample Acceptance Policy
227873.06	GZ-PM-2U	6/17/21	6/17/21	12:50	aqueous		Adheres to Sample Acceptance Policy
227873.07	GZ-PM-2L	6/17/21	6/17/21	12:45	aqueous		Adheres to Sample Acceptance Policy
227873.08	GZ-PM-5L	6/17/21	6/17/21	13:00	aqueous		Adheres to Sample Acceptance Policy
227873.09	GZ-PM-1U	6/17/21	6/17/21	13:10	aqueous		Adheres to Sample Acceptance Policy
227873.1	GZ-PM-1L	6/17/21	6/17/21	13:15	aqueous		Adheres to Sample Acceptance Policy
227873.11	GZ-PM-8L	6/17/21	6/17/21	13:25	aqueous		Adheres to Sample Acceptance Policy
227873.12	GZ-PM-9L	6/17/21	6/17/21	13:35	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

#### EAI ID#: 227873

Client Sample ID:	GZ-PM-3U						
Lab Sample ID:	227873.01						
Matrix:	aqueous						
Date Sampled:	6/17/21						
Date Received:	6/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	6/18/21 13:46	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	6/18/21 13:46	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	6/18/21 13:46	8260B SIM	AM

Analyst
AM
AM
AM



Client Sample ID:	GZ-PM-4U						
Lab Sample ID:	227873.03						
Matrix:	aqueous						
Date Sampled:	6/17/21						
Date Received:	6/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1.4	0.2	1	ug/L	6/18/21 15:20	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	6/18/21 15:20	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	6/18/21 15:20	8260B SIM	AM

# M

Client Sample ID:	GZ-PM-4L						
Lab Sample ID:	227873.04						
Matrix:	aqueous						
Date Sampled:	6/17/21						
Date Received:	6/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.84	0.2	1	ug/L	6/18/21 15:51	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	6/18/21 15:51	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	6/18/21 15:51	8260B SIM	AM

Client Sample ID:	GZ-PM-6U						
Lab Sample ID:	227873.05						
Matrix:	aqueous						
Date Sampled:	6/17/21						
Date Received:	6/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	6.3	0.2	1	ug/L	6/18/21 16:22	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	6/18/21 16:22	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	6/18/21 16:22	8260B SIM	AM

Client Sample ID:	GZ-PM-2U						
Lab Sample ID:	227873.06						
Matrix:	aqueous						
Date Sampled:	6/17/21						
Date Received:	6/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	30	2	10	ug/L	6/18/21 21:32	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	6/18/21 21:32	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	6/18/21 21:32	8260B SIM	AM

Client Sample ID:	GZ-PM-2L						
Lab Sample ID:	227873.07						
Matrix:	aqueous						
Date Sampled:	6/17/21						
Date Received:	6/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	64	4	20	ug/L	6/18/21 22:03	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	6/18/21 22:03	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	6/18/21 22:03	8260B SIM	AM

Client Sample ID:	GZ-PM-5L						
Lab Sample ID:	227873.08						
Matrix:	aqueous						
Date Sampled:	6/17/21						
Date Received:	6/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	3.7	0.2	1	ug/L	6/18/21 16:53	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	6/18/21 16:53	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	6/18/21 16:53	8260B SIM	AM

Client Sample ID:	GZ-PM-1U						
Lab Sample ID:	227873.09						
Matrix:	aqueous						
Date Sampled:	6/17/21						
Date Received:	6/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	6/18/21 17:24	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	6/18/21 17:24	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	6/18/21 17:24	8260B SIM	AM

EAI ID#: 227873

Client Sample ID:	GZ-PM-1L						
Lab Sample ID:	227873.1						
Matrix:	aqueous						
Date Sampled:	6/17/21						
Date Received:	6/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	6.3	0.2	1	ug/L	6/18/21 17:55	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	6/18/21 17:55	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	6/18/21 17:55	8260B SIM	AM

Client Sample ID:	GZ-PM-8L						
Lab Sample ID:	227873.11						
Matrix:	aqueous						
Date Sampled:	6/17/21						
Date Received:	6/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	6/18/21 18:26	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	6/18/21 18:26	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	6/18/21 18:26	8260B SIM	AM

Client Sample ID:	GZ-PM-9L						
Lab Sample ID:	227873.12						
Matrix:	aqueous						
Date Sampled:	6/17/21						
Date Received:	6/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.22	0.2	1	ug/L	6/18/21 18:57	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	6/18/21 18:57	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	6/18/21 18:57	8260B SIM	AM

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

Batch ID: 637598-60150/A061821DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.7 (95 %R)	4.6 (91 %R) (4 RPD	) 6/18/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	97 %R	98 %R	99 %F	R 6/18/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	100 %R	99 %R	100 %F	R 6/18/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

EAI ID#: 227873

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

Client Designation: Rennie Farm | 04.0190030.02

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Sample ID:	GZ-PM-3L	GZ-PM-4U	GZ-PM-4L						
I ab Sample ID:	227873 02	227873.03	227873.04						
Matrix:	aqueous	aqueous	aqueous						
	uqueeus	aqueous	aqueous						
Date Sampled:	6/17/21	6/17/21	6/17/21			<b>A</b>	1		
	0/17/01	0147104	0/17/01			Ana	iysis		
Date Received:	6/17/21	6/17/21	6/1//21	RL	Units	Date	Time	Method	Analyst
Cyanide Total	< 0.02	< 0.005	0.010	0.005	mg/L	6/22/21	11:37	ASTM D7511-	09 KD
Cyanide Free	< 0.02	< 0.005	< 0.005	0.005	mg/L	6/23/21	9:47	OIA-1677-09	) KD

Sample ID:	GZ-PM-6U	GZ-PM-2U	GZ-PM-2L						
Lab Sample ID:	227873.05	227873.06	227873.07						
Matrix:	aqueous	aqueous	aqueous						
Date Sampled:	6/17/21	6/17/21	6/17/21			Anal	ysis		
Date Received:	6/17/21	6/17/21	6/17/21	RL	Units	Date	Time	Method	Analyst
Cyanide Total	0.0078	< 0.02	< 0.02	0.005	mg/L	6/22/21	12:12	ASTM D7511-0	)9 KD
Cyanide Free	< 0.005	< 0.02	< 0.02	0.005	mg/L	6/23/21	10:04	OIA-1677-09	KD

GZ-PM-3L, GZ-PM-2U, GZ-PM-2L: The reporting limit for Cyanide Total and Cyanide Free has been elevated to 0.02 mg/L due to sample matrix.

Eastern Analytical, Inc.

# Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02

Sample ID:	GZ-PM-5L	GZ-PM-1U	GZ-PM-1L						
Lab Sample ID:	227873.08	227873.09	227873.1						
Matrix:	aqueous	aqueous	aqueous						
Date Sampled:	6/17/21	6/17/21	6/17/21			Δna	lvsis		
Date Received:	6/17/21	6/17/21	6/17/21	RL	Units	Date	Time	Method	Analyst
Cyanide Total Cyanide Free	< 0.02 < 0.02	< 0.005 < 0.005	< 0.005 < 0.005	0.005 0.005	mg/L mg/L	6/22/21 6/23/21	12:26 10:30	ASTM D7511-( OIA-1677-09	09 KD 1 KD

Sample ID:	GZ-PM-8L	GZ-PM-9L						
	007070 44	007070 10						
Lab Sample ID:	227873.11	227873.12						
Matrix:	aqueous	aqueous						
Date Sampled:	6/17/21	6/17/21			Anal	ysis		
Date Received:	6/17/21	6/17/21	RL	Units	Date	Time	Method	Analyst
Cyanide Total	< 0.02	< 0.02	0.02	mg/L	6/22/21	12:59	ASTM D7511-0	)9 KD
Cyanide Free	< 0.02	< 0.02	0.02	mg/L	6/23/21	10:45	OIA-1677-09	KD

GZ-PM-5L, GZ-PM-8L, GZ-PM-9L: The reporting limit for Cyanide Total and Cyanide Free has been elevated to 0.02 mg/L due to sample matrix.

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

Client Designation: Rennie Farm | 04.0190030.02

				Date of		
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits RPD	Method
Quantida Total	< 0.005				94 116 00	ACTM D7511 00
Cyanide Total	< 0.005	0.11 (110 %R)	0.11 (108 %R) (2 RPD)	mg/L 6/22/21	04 - 110 20	ASTIVI D7511-09
Cyanide Free	< 0.005	0.24 (94 %R)	0.27 (109 %R) (15 RPD)	mg/L 6/23/21	82 - 132 20	OIA-1677-09

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc.

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## CHAIN-OF-CUSTODY RECORD

BOLD FIFLDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

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GZ-PM-4U		1235			X														N					k	R			3		
GZ-PM-4L		1230			Х														X						ĸ			3		
GZ-PM-GU		1240			X														X						X			3		
GZ-PM-ZU		1250			Y									-	ļ			ļ	X						X			3		
GZ-PM-ZL		1245			4														X						X			3		
GZ-PM-SL		1300			4														X						X			3		
GZ-PM-10		1310			7	-													X						N			3		
GZ-PM-1L	1	1315	J	1	8														X						X			3		
MATRIX: A-AIR; S-SOIL; GW-GROUND WATER WW-WASTE WATER	; SW-SURFACE	WATER; DW-DRIN	KING	WATER;																					NA					
PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; N	la-NaOH; M-N	MEOH																	M	1										
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## CHAIN-OF-CUSTODY RECORD

227873

For

BOLD FIFLDS REQUIRED PLEASE CIRCLE REQUESTED ANALYSIS

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Sample I.D.	Sam Dati *If Cc Indica Start Dati	IPLING e / Time dmposite, tte Both & Finish e / Time	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	524.2 524.2 MTBE ONLY	8260 62A VTICS	8021	8015 GRO MAVPH	<u>8270 625</u> Abn Pah Edb dbcp	FH8400 LI L2	8015 DRO MAEPH	PEST 608 PCB 608 PEST 8081 PCB 6082	OIL & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST NERB	BOD CBOD TS TSS TDS	BA CI F 50, NO ₂ NO ₃ NO ₃ NO ₂	TKN NH ₁ TN T. PHOS. O. PHOS.	PH T. RES. CHLORINE SPEC FOW T. AIK	COD PHENOLS TOC DOC	TOTAL CRANDE TOTAL SULFIDE	REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	Total Colform E. Coll Fecal Colform	Emeracocci Heterotrophic Plate Count	DISSOLYED METALS (LIST BELOW)	Fotal Metals (List Below)	Fre Cr				# of Contriners	Nc MeOH	otes Vial #
GZ-PM-8L	6/17/21	1325	Gw	G		γ														X						Х				3		
G2-PM-19L	J	1335	Gu	6		x														Х						X				3	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
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Matrix: A-Air; S-Soil; GW-Ground Wate WW-Waste water Preservative: H-HCL; N-HNO3; S-H2SO4; 1	n; SW-Surface \ Na-NaOH; M-ME	Water; DW-Drini 30H	I (ING W	ATER;															•	NA						NA					****	
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Jim Wieck GZA GeoEnvironmental, Inc. (NH) 5 Commerce Park North, Suite 201 Bedford , NH 03110



Laboratory Report for:

Eastern Analytical, Inc. ID: 232859 Client Identification: Rennie Farm | 04.0190030.02 Date Received: 9/29/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

arenne Outhan

<u>|b ·13 · 21</u> Date

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

Client Designation: Rennie Farm | 04.0190030.02

Temperate Acceptable to	ure upon receipt (°C): 2 emperature range (°C): 0-6	2.8			Received o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/T Samp	'ime oled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
232859.01	GZ-PM-1L	9/29/21	9/27/21	15:15	aqueous		Adheres to Sample Acceptance Policy
232859.02	GZ-PM-2U	9/29/21	9/27/21	15:00	aqueous		Adheres to Sample Acceptance Policy
232859.03	GZ-PM-2L	9/29/21	9/27/21	14:55	aqueous		Adheres to Sample Acceptance Policy
232859.04	GZ-PM-3U	9/29/21	9/27/21	14:40	aqueous		Adheres to Sample Acceptance Policy
232859.05	GZ-PM-3L	9/29/21	9/27/21	14:45	aqueous		Adheres to Sample Acceptance Policy
232859.06	GZ-PM-4U	9/29/21	9/27/21	14:50	aqueous		Adheres to Sample Acceptance Policy
232859.07	GZ-PM-4L	9/29/21	9/27/21	09:05	aqueous		Adheres to Sample Acceptance Policy
232859.08	GZ-PM-5L	9/29/21	9/27/21	15:10	aqueous		Adheres to Sample Acceptance Policy
232859.09	GZ-PM-6U	9/29/21	9/27/21	09:20	aqueous		Adheres to Sample Acceptance Policy
232859.1	GZ-PM-8L	9/29/21	9/27/21	15:30	aqueous		Adheres to Sample Acceptance Policy
232859.11	GZ-PM-9L	9/29/21	9/27/21	15:30	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

#### EAI ID#: 232859

Client Sample ID:	GZ-PM-1L						
Lab Sample ID:	232859.01						
Matrix:	aqueous						
Date Sampled:	9/27/21						
Date Received:	9/29/21		Dilution		Date / Time		
	Result	RĻ	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	3.9	0.2	1	ug/L	10/5/21 18:00	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	10/5/21 18:00	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	10/5/21 18:00	8260B SIM	AM

GZ-PM-2U						
232859.02						
aqueous						
9/27/21						
9/29/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
19	2	10	ug/L	10/5/21 18:31	8260B SIM	AM
99 %R			%	10/5/21 18:31	8260B SIM	AM
99 %R			%	10/5/21 18:31	8260B SIM	AM
	GZ-PM-2U 232859.02 aqueous 9/27/21 9/29/21 Result 19 99 %R 99 %R	GZ-PM-2U 232859.02 aqueous 9/27/21 9/29/21 <b>Result RL</b> 19 2 99 %R 99 %R	GZ-PM-2U 232859.02 aqueous 9/27/21 9/29/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>B</b> <b>B</b> <b>B</b> <b>B</b> <b>B</b> <b>C</b> <b>C</b> <b>C</b> <b>C</b> <b>C</b> <b>C</b> <b>C</b> <b>C</b> <b>C</b> <b>C</b>	GZ-PM-2U 232859.02 aqueous 9/27/21 9/29/21 <b>Dilution</b> <b>Result RL Factor Units</b> 19 2 10 ug/L 99 %R %	GZ-PM-2U 232859.02 aqueous 9/27/21 9/29/21 Dilution Date / Time Result RL Factor Units Analyzed 19 2 10 ug/L 10/5/21 18:31 99 %R % 10/5/21 18:31	GZ-PM-2U 232859.02 aqueous 9/27/21 9/29/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed Method</b> <b>19</b> 2 10 ug/L 10/5/21 18:31 8260B SIM <b>99 %R</b> % 10/5/21 18:31 8260B SIM <b>99 %R</b> % 10/5/21 18:31 8260B SIM

GZ-PM-2L						
232859.03						
aqueous						
9/27/21						
9/29/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
29	4	20	ug/L	10/5/21 19:03	8260B SIM	AM
99 %R			%	10/5/21 19:03	8260B SIM	AM
100 %R			%	10/5/21 19:03	8260B SIM	AM
	GZ-PM-2L 232859.03 aqueous 9/27/21 9/29/21 Result 29 99 %R 100 %R	GZ-PM-2L 232859.03 aqueous 9/27/21 9/29/21 Result RL 29 4 99 %R 100 %R	GZ-PM-2L 232859.03 aqueous 9/27/21 9/29/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Re</b>	GZ-PM-2L 232859.03 aqueous 9/27/21 9/29/21 <b>Dilution</b> <b>Result RL Factor Units</b> 29 4 20 ug/L 99 %R % 100 %R %	GZ-PM-2L 232859.03 aqueous 9/27/21 9/29/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed</b> 29 4 20 ug/L 10/5/21 19:03 99 %R % 10/5/21 19:03 100 %R % 10/5/21 19:03	GZ-PM-2L 232859.03 aqueous 9/27/21 9/29/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed Method</b> <b>29</b> 4 20 ug/L 10/5/21 19:03 8260B SIM <b>99 %R</b> % 10/5/21 19:03 8260B SIM <b>100 %R</b> % 10/5/21 19:03 8260B SIM

Client Sample ID:	GZ-PM-3U						
Lab Sample ID:	232859.04						
Matrix:	aqueous						
Date Sampled:	9/27/21						
Date Received:	9/29/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	10/5/21 13:50	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	10/5/21 13:50	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	10/5/21 13:50	8260B SIM	AM

Client Sample ID:	GZ-PM-3L						
Lab Sample ID:	232859.05						
Matrix:	aqueous						
Date Sampled:	9/27/21						
Date Received:	9/29/21		Dilution		Date / Time		
	Result	RL	Factor	Ųnits	Analyzed	Method	Analyst
1,4-Dioxane	0.96	0.2	1	ug/L	10/5/21 14:21	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	10/5/21 14:21	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	10/5/21 14:21	8260B SIM	AM

Client Sample ID:	GZ-PM-4U						
Lab Sample ID:	232859.06						
Matrix:	aqueous						
Date Sampled:	9/27/21						
Date Received:	9/29/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1.3	0.2	1	ug/L	10/5/21 14:52	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	10/5/21 14:52	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	10/5/21 14:52	8260B SIM	AM

#### EAI ID#: 232859

Client Sample ID:	GZ-PM-4L						
Lab Sample ID:	232859.07						
Matrix:	aqueous						
Date Sampled:	9/27/21						
Date Received:	9/29/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.69	0.2	1	ug/L	10/5/21 15:24	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	10/5/21 15:24	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	10/5/21 15:24	8260B SIM	AM

Client Sample ID:	GZ-PM-5L						
Lab Sample ID:	232859.08						
Matrix:	aqueous						
Date Sampled:	9/27/21						
Date Received:	9/29/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1.8	0.2	1	ug/L	10/5/21 15:55	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	10/5/21 15:55	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	10/5/21 15:55	8260B SIM	AM

Client Sample ID:	GZ-PM-6U						
Lab Sample ID:	232859.09						
Matrix:	aqueous						
Date Sampled:	9/27/21						
Date Received:	9/29/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	8.1	0.2	1	ug/L	10/5/21 16:26	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	10/5/21 16:26	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	10/5/21 16:26	8260B SIM	AM

#### EAI ID#: 232859

Client Sample ID:	GZ-PM-8L						
Lab Sample ID:	232859.1						
Matrix:	aqueous						
Date Sampled:	9/27/21						
Date Received:	9/29/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	Q.2	1	ug/L	10/5/21 16:57	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	10/5/21 16:57	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	10/5/21 16:57	8260B SIM	AM

Client Sample ID:	GZ-PM-9L						
Lab Sample ID:	232859.11						
Matrix:	aqueous						
Date Sampled:	9/27/21						
Date Received:	9/29/21						
			Dilution		Date / Time		
	Result	RL,	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	10/5/21 17:29	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	10/5/21 17:29	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	10/5/21 17:29	8260B SIM	AM

#### Batch ID: 637690-42299/A100521DIOX1

### 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	< 0.2	4.5 (90 %R)	4.5 (91 %R) (0 RPD	) 10/5/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	98 %R	98 %R	98 %F	R 10/5/2021	% Reç	70 - 130	50	8260B
Toluene-d8 (surr)	100 %R	100 %R	100 %F	R 10/5/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

age 1 of 2															^{For} 232859												
		Bo	LD F	IELDS	Requ	JIRED	). Pi		se Ci	RCLE	Re	QUE	STE	D AI	NAL	YSIS	5.		a in th		aria in					alter alter.	a an tr
	Sampling Date/Time	E BELOW)	OMPOSITE	VTICS	MAVPH	EDB DBCP	13	AEPH	CB 608 PCB 8082 TPU 1224	METALS		SO4 NO3NO2	NI NOS	HLORINE T. ALK.	TOC DOC	Fotal Sulfide	Reactive Sulfide	E. Coli	COUNT	Terrow)	Below)		2.15	IER			
SAMPLE I.D.	*If Composite, Indicate Both Start & Finish Date /Time	Matrix (se	Grab/*Cc 524.2	524.2 MTBE ONLY 8260 624 1.4 DIOXANE	8021 8015 GRO	8270 625 ABN PAH	TPH8100 LI	8015 DRO M	PEST 608 PC PEST 8081 PC	TCLP 1311 ABN	BOD CBOD	BR CI F NO ₂ NO ₃	TKN NH3 T. PHOS. 0. F	PH T. RES. CH SPEC. CON.	COD PHENOLS	TOTAL CYANIDE	Reactive Cyanide Flashpoint Ign	Total Colform Fecal Colform	ENTEROCOCCI Heterotrophic Plate	DISSOLVED METALS (1	TOTAL METALS (LIST				# OF CONTAINERS	<b>N</b> a MeOH	otes Vial #
GZ-PM-1L	1515 9/27/21	GW	G	X																					2		
52-PM-2U	1500 1		-	X																					2		
52- PM-2L	1455			X																				,	2		
62-PM-3U	1440			X																					1		
52-PM-3L	1445			Х														·					1		2		
52 - PM - 4U	1450			X																					2		
2-PM-4L	0905			X																					2		
72- PM - 5L	1510			X								1													2		
52-PM-60	0920			X							1														2		
72 - PM - 8L	1530	1J	1	X												_									2		-
rix: A-Air; S-Soil; GW-Ground Wa WW-Waste water eservative: H-HCL; N-HNO3; S-H2SO4	TER; SW-SURFACE WATER; DW-DR ; Na-NaOH; M-MEOH	INKING WA	TER;																								
OJECT MANAGER: IMPANY: <u>G2A</u> (200 Er	res Wieck hvironmental, In Duck N Suite	201			QA/	<b>QC R</b>	EPOR	TING		, Repor Prelim	ring s: Yes	OPTIC OR	<b>DNS</b> 10		Turn 24ł	<b>A</b> Re 11r* 3-4	оинд 4 Days*	Tim 8hr*	E	<b>Me</b> t Othe	<b>tals:</b> er Met	8 ALS:	RCRA	13 PI	2	e, Mn	Рв, С
: Bedford INE: (603) 232-8732 IAIL: james. Wieck @ : NAME: Rennie Farm	gza.com	ZIP: <u>0</u> Ext.:	3110	<u>}</u>	MA MCP Electronic Options 5 Day 7 Day   TEMP. 2.8 °C PDF Excel 10 Day   ICE? Yes No OTHER *Pre-approval Required								1 <b>PLES</b> ES: (IE: 1	FIELI Special	D FILT Detecti	ERED?	S, BILLIN	<b>] Yes</b> g Info, If	DIFFERENT								
JECT #: 04.0190030, E: NH MA ME JULATORY PROGRAM: NPDES: RU GWP, OIL FUND, BROV	.02   VT OTHER:   SAMPLER(S): E. Dyrness, E. Bennett     RGP POTW STORMWATER OR   SAMPLER(S): E. Dyrness, E. Bennett     OWNFIELD OR OTHER:   RELINQUISHED BY:   OATE:     PO #: 26225   Relinquished BY:   Date:   Time:     RECEIVED BY:   SITE HIS     SUBJECT   SUBJECT   SUBJECT										Histor ected (	Y: Contam	INATION:														
					RELIN	QUISHE	D BY:	:	Dat	E:		TIME:		RECE	EIVED E	3 <b>y</b> :			—	Field	READ	INGS:					

**Eastern Analytical, Inc.** professional laboratory and drilling services

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Page	_2	of	2
<u> </u>			

## CHAIN-OF-CUSTODY RECORD

## BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

age <u>2</u> of <u>2</u>		R.		<b>C</b>		C	HAI	IN-C	)F-(	ິບອ	5то - С	DY	Re	CO	RD		<b>a</b>		_					For		2	328	859	
					.LDS		QUI	RED.	SV					EQU	esti NO	ed <i>i</i> R <b>G</b>	ana Ani		s.	Mı	CRO	Me	TALS		ЭП	HER			
Sample I.D.	Sampling Date /Time *If Composite, Indicate Both Start & Finish Date /Time	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	524.2 524.2 MTBE ONLY	82.60 624 VTICs 7 4 DIOXANES	8021	8015 GRO MAVPH	8270 625 Abn Pah Edb dbcp	TPH8100 LI L2	8015 DRO MAEPH Dest Ang Der Ang	PEST 8081 PCB 8082	OIL & GREASE 1664 TPH 1664	VOC PEST HERB BOD CBOD	TS TSS TDS BA CI F SO4	NO2 NO3 NO3NO2 TKN NH3 TN TDUOC DUOC	L. FRUS. U. FRUS. PH T. RES. CHLORINE	SPEC. CUN. 1. ALK. COD PHEMOLS TOC DOC	Total Chanide Total Sulfide	Reactive Cyanide Reactive Sulfide Flashpoint Ignitability	Total Coliform E. Coli Fecal Coliform	ENTEROCOCCI Heterotrophic Plate Count	DISSOLVED METALS (LIST BELOW)	TOTAL MERALS (LIST BELOW)				# DE CONTAINERS	<b>N</b> MeOł	otes I Vial #
52- PM-96	1530 9/27/21	Gw	G		×																						2		
rix: A-Air; S-Soil; GW-Ground Water; WW-Waste water servative: H-HCL; N-HNO3; S-H2SO4; Na	SW-Surface Water; DW-Drini a-NaOH; M-MEOH	(ING W	ATER;			-																					-	-	
DJECT MANAGER: James 1PANY: GZA GeoEn FIG: 5 Commerce	Wieck vironmental, I Park N Svit	Enc				Q	<b>A/Q</b> (	C RE	PORT	ING		Repo Prei	<b>RTIN</b> ( IMS: )	G <b>Op</b> t	rions No		Tur 24	n Ar Ihr* 3-4	ound 4 Days*	Tim 8hr*	E	Met Othe	<b>TALS:</b> r Met/	8 ALS:	RCRA	13 P	P	Fe, Mn	Рв, Сі
Bedford VE: (603) 232 - 8732 VII: james. wieck( NAME: Rennic Far	gza.com	ZIP: <u>C</u> Ext.:	311	0		TI IC	► EMP E? (	1A M Z - YES	CP 8_0 ) No	c		Elect Pi othe	ronic DF Eq ?	Excr Excr	IONS		5 *Pre	Day 10 -appro	7 Day oval R	Day equire	ď	Sam Note	PLES S: (IE: S	FIEL	d <b>Fil</b> t Detect	ion Limit	S, BILLI	YES	DIFFERENT
ECT #: 04-01900 30.0	) 2. /T Other: POTW Stormwater or EED OR Other:					SAMP <u>Ea</u> Reli	LER(S)	E	. D.	yrni	255 9/2 Da	, E 28/2 11:	. B 1	enn 081j , TIME:	eH	F C	shee ECEIVED	4 S ,BY/	e-1	   									
Gwr, Oil runu, Dkownfi E #:	PO #: 26225	5				 Reli	<i>vs</i> NQUI	<i>lva</i> ished	BY:	Je	<u>ol</u> Da	/ TE:	<u>29</u> 6	<del>21</del> Time:	<u>ک</u> ן	7 <u>45</u> Re	ECEIVED	BY:	χů	hn		Site I Suspe	History cted C	r: Contam	INATION				<u></u>



Remedial System Monitoring Data and Selected Residential Samples



Groundwater Extraction Well Data



professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 232640 Client Identification: Rennie Farm | 04.0190030.02 Date Received: 9/24/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Conanie ashow

10.5.21

Lorraine Olashaw, Lab Director

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

Client Designation: Rennie Farm | 04.0190030.02

Temperate Acceptable to	ure upon receipt (°C): emperature range (°C): 0-6	0.8		F	leceived o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/" Samj	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
232640.01	GZ-47	9/24/21	9/23/21	14:00	aqueous		Adheres to Sample Acceptance Policy
232640.02	GZ-51	9/24/21	9/23/21	14:55	aqueous		Adheres to Sample Acceptance Policy
232640.03	GZ-52	9/24/21	9/23/21	14:55	aqueous		Adheres to Sample Acceptance Policy
232640.04	GZ-54U	9/24/21	9/23/21	13:50	aqueous		Adheres to Sample Acceptance Policy
232640.05	ORW-1	9/24/21	9/24/21	09:10	aqueous		Adheres to Sample Acceptance Policy
232640.06	ORW-2	9/24/21	9/24/21	09:15	aqueous		Adheres to Sample Acceptance Policy
232640.07	ORW-3	9/24/21	9/24/21	09:20	aqueous		Adheres to Sample Acceptance Policy
232640.08	ORW-4	9/24/21	9/24/21	09:25	aqueous		Adheres to Sample Acceptance Policy
232640.09	ORW-5	9/24/21	9/24/21	09:30	aqueous		Adheres to Sample Acceptance Policy
232640.1	ORW-6	9/24/21	9/24/21	09:35	aqueous		Adheres to Sample Acceptance Policy
232640.11	ORW-7	9/24/21	9/24/21	09:40	aqueous		Adheres to Sample Acceptance Policy
232640.12	ORW-8	9/24/21	9/24/21	09:45	aqueous		Adheres to Sample Acceptance Policy
232640.13	ORW-9	9/24/21	9/24/21	09:50	aqueous		Adheres to Sample Acceptance Policy
232640.14	ORW-10	9/24/21	9/24/21	09:55	aqueous		Adheres to Sample Acceptance Policy
232640.15	ORW-11	9/24/21	9/24/21	10:50	aqueous		Adheres to Sample Acceptance Policy
232640.16	ORW-12	9/24/21	9/24/21	10:30	aqueous		Adheres to Sample Acceptance Policy
232640.17	ORW-13	9/24/21	9/24/21	10:35	aqueous		Adheres to Sample Acceptance Policy
232640.18	ORW-14	9/24/21	9/24/21	10:40	aqueous		Adheres to Sample Acceptance Policy
232640.19	ORW-15	9/24/21	9/24/ <b>2</b> 1	10:45	aqueous		Adheres to Sample Acceptance Policy
232640.2	RW-13	9/24/21	9/24/21	11:05	aqueous		Adheres to Sample Acceptance Policy
232640.21	RW-14	9/24/21	9/24/21	11:10	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.

- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.

- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.

- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

#### EAI ID#: 232640

Client Sample ID:	GZ-47						
Lab Sample ID:	232640.01						
Matrix:	aqueous						
Date Sampled:	9/23/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	97	20	100	ug/L	9/28/21 15:45	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	9/28/21 15:45	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	9/28/21 15:45	8260B SIM	AM

Client Sample ID:	GZ-51						
Lab Sample ID:	232640.02						
Matrix:	aqueous						
Date Sampled:	9/23/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	9.8	0.2	1	ug/L	9/28/21 14:42	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	9/28/21 14:42	8260B SIM	AM
Toluene-d8 (surr)	103 %R			%	9/28/21 14:42	8260B SIM	AM

Client Sample ID:	GZ-52						
Lab Sample ID:	232640.03						
Matrix:	aqueous						
Date Sampled:	9/23/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	5.2	0.2	1	ug/L	9/28/21 15:14	8260B SIM	AM
4-Bromofiuorobenzene (surr)	101 %R			%	9/28/21 15:14	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	9/28/21 15:14	8260B SIM	AM
Client Sample ID:	GZ-54U						
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Lab Sample ID:	232640.04						
Matrix:	aqueous						
Date Sampled:	9/23/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	72	10	50	ug/L	9/28/21 16:16	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	9/28/21 16:16	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	9/28/21 16:16	8260B SIM	AM

Client Sample ID:	ORW-1						
Lab Sample ID:	232640.05						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	19	2	10	ug/L	9/28/21 16:47	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	9/28/21 16:47	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	9/28/21 16:47	8260B SIM	AM

Client Sample ID:	ORW-2						
Lab Sample ID:	232640.06						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	38	2	10	ug/L	9/28/21 17:19	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	9/28/21 17:19	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	9/28/21 17:19	8260B SIM	AM

#### EAI ID#: 232640

Client Sample ID:	ORW-3						
Lab Sample ID:	232640.07						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	29	20	100	ug/L	9/28/21 17:50	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	9/28/21 17:50	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	9/28/21 17:50	8260B SIM	AM

Client Sample ID:	ORW-4						
Lab Sample ID:	232640.08						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	29	10	50	ug/L	9/28/21 18:21	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	9/28/21 18:21	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	9/28/21 18:21	8260B SIM	AM

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#### EAI ID#: 232640

Client Sample ID:	ORW-6						
Lab Sample ID:	232640.1						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	100	10	50	ug/L	9/28/21 19:23	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	9/28/21 19:23	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	9/28/21 19:23	8260B SIM	AM

ORW-7						
232640.11						
aqueous						
9/24/21						
9/24/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
110	20	100	ug/L	9/28/21 19:54	8260B SIM	AM
100 %R			%	9/28/21 19:54	8260B SIM	AM
102 %R			%	9/28/21 19:54	8260B SIM	AM
	ORW-7 232640.11 aqueous 9/24/21 9/24/21 Result 110 100 %R 102 %R	ORW-7 232640.11 aqueous 9/24/21 9/24/21 <b>Result RL</b> 110 20 100 %R 102 %R	ORW-7 232640.11 aqueous 9/24/21 9/24/21 <b>Dilution</b> <b>Result RL Factor</b> 110 20 100 100 %R 102 %R	ORW-7 232640.11 aqueous 9/24/21 9/24/21 <u>Dilution</u> <u>Result</u> <u>RL</u> <u>Factor</u> <u>Units</u> 110 20 100 ug/L 100 %R % 102 %R %	ORW-7 232640.11 aqueous 9/24/21 9/24/21 <u>Dilution Date / Time</u> Result RL Factor Units Analyzed 110 20 100 ug/L 9/28/21 19:54 100 %R % 9/28/21 19:54	ORW-7         232640.11         aqueous         9/24/21         9/24/21         9/24/21         Result       RL         Factor       Units         Analyzed       Method         110       20       100       ug/L       9/28/21       19:54       8260B SIM         100 %R       %       9/28/21       19:54       8260B SIM         102 %R       %       9/28/21       19:54       8260B SIM

ORW-8						
232640.12						
aqueous						
9/24/21						
9/24/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
190	20	100	ug/L	9/28/21 20:25	8260B SIM	AM
99 %R			%	9/28/21 20:25	8260B SIM	AM
101 %R			%	9/28/21 20:25	8260B SIM	AM
	ORW-8 232640.12 aqueous 9/24/21 9/24/21 Result 190 99 %R 101 %R	ORW-8 232640.12 aqueous 9/24/21 9/24/21 Result RL 190 20 99 %R 101 %R	ORW-8 232640.12 aqueous 9/24/21 9/24/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>190</b> 20 100 99 % R 101 % R	ORW-8 232640.12 aqueous 9/24/21 9/24/21 <u>9/24/21</u> <u>19/24/21</u> <u>190</u> 20 100 ug/L 99 %R %	ORW-8         232640.12         aqueous         9/24/21         9/24/21         9/24/21         P/24/21         Bilution         Dilution         Date / Time         Analyzed         190       20         100       ug/L         9/28/21       20:25         99 % R       %         %       9/28/21         201 % R       %	ORW-8       Image: Second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second

#### EAI ID#: 232640

Client Sample ID:	ORW-9						
Lab Sample ID:	232640.13						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	230	20	100	ug/L	9/28/21 20:57	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	9/28/21 20:57	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	9/28/21 20:57	8260B SIM	AM

Client Sample ID:	ORW-10						
Lab Sample ID:	232640.14						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	280	20	100	ug/L	9/29/21 22:18	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	9/29/21 22:18	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	9/29/21 22:18	8260B SIM	AM

Client Sample ID:	ORW-11						
Lab Sample ID:	232640.15						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	490	20	100	ug/L	9/29/21 22:49	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	9/29/21 22:49	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	9/29/21 22:49	8260B SIM	AM

#### EAI ID#: 232640

Client Sample ID:	ORW-12						
Lab Sample ID:	232640.16						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1 4-Dioxane	190	20	100	ug/L	9/29/21 23:21	8260B SIM	AM
A-Bromofluorobenzene (surr)	98 %R			%	9/29/21 23:21	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	9/29/21 23:21	8260B SIM	AM

Client Sample ID:	ORW-13						
Lab Sample ID:	232640.17						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1 4-Dioxane	180	20	100	ug/L	9/29/21 23:52	8260B SIM	AM
4 Bromofluorobenzene (surr)	98 %R			%	9/29/21 23:52	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	9/29/21 23:52	8260B SIM	AM

Client Sample ID:	ORW-14						
Lab Sample ID:	232640.18						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1 4-Dioxane	170	20	100	ug/L	9/30/21 0:23	8260B SIM	AM
A-Bromofluorobenzene (surr)	98 %R			%	9/30/21 0:23	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	9/30/21 0:23	8260B SIM	AM

#### EAI ID#: 232640

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

Client Sample ID:	ORW-15						
Lab Sample ID:	232640.19						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	47	20	100	ug/L	9/30/21 0:54	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	9/30/21 0:54	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	9/30/21 0:54	8260B SIM	AM

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Client Sample ID:	RW-13						
Lab Sample ID:	232640.2						
Matrix:	aqueous						
Date Sampled:	9/24/21						
Date Received:	9/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1.6	0.2	1	ug/L	9/29/21 17:05	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	9/29/21 17:05	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	9/29/21 17:05	8260B SIM	AM

RW-14						
232640.21						
aqueous						
9/24/21						
9/24/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
5.9	0.2	1	ug/L	9/30/21 1:26	8260B SIM	AM
99 %R			%	9/30/21 1:26	8260B SIM	AM
101 %R			%	9/30/21 1:26	8260B SIM	AM
	RW-14 232640.21 aqueous 9/24/21 9/24/21 Result 5.9 99 %R 101 %R	RW-14 232640.21 aqueous 9/24/21 9/24/21 Result RL 5.9 0.2 99 %R 101 %R	RW-14 232640.21 aqueous 9/24/21 9/24/21 <b>Dilution</b> Result RL Factor 5.9 0.2 1 99 %R 101 %R	RW-14 232640.21 aqueous 9/24/21 9/24/21 <u>Dilution</u> Result RL Factor Units 5.9 0.2 1 ug/L 99 %R % 101 %R %	RW-14         232640.21         aqueous         9/24/21         9/24/21         9/24/21         5.9       0.2         1       ug/L       9/30/21         99 %R       %       9/30/21         101 %R       %       9/30/21	RW-14       232640.21         aqueous       9/24/21         9/24/21       Julition         Dilution       Date / Time         Result       RL       Factor       Units         5.9       0.2       1       ug/L       9/30/21 1:26       8260B SIM         99 %R       %       9/30/21 1:26       8260B SIM         101 %R       %       9/30/21 1:26       8260B SIM

#### EAI ID#: 232640

#### Batch ID: 637684-45013/A092821DIOX1

#### 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	< 0.2	4.2 (84 %R)	4.4 (87 %R) (4 RPD	) 9/28/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	100 %R	100 %R	102 %F	R 9/28/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	102 %R	102 %R	103 %F	R 9/28/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

#### EAI ID#: 232640

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

Batch ID: 637684-45166/A092921DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.3 (85 %R)	4.4 (87 %R) (2 RPD	) 9/29/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	98 %R	99 %R	99 %F	R 9/29/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	101 %R	101 %R	101 %F	R 9/29/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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		Bo	OLD		s Re	QUI	RED.	. Pi		se ( Y <b>ch</b>		CLE	Re(	QUE	STE	DA	ANA ANI		s.	M	CBC	M	TALS		011	LE:		Sec. 5		12
Sample I.D.	Sampling Date /Time *If Composite, Indicate Both Start & Finish Date /Time	Matrix (see below)	GRAB/*COMPOSITE	524.2 524.2 MTBE ONLY 8260 624 VTICS	8021	8015 GRO MAVPH	8270 625 Abn Pah Edb dbcp	TPH8100 L1 L2	8015 DRO MAEPH	PEST 608 PCB 608 PEST 8081 PCB 8082	01L & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	BOD CBOD TS TSS TDS	Br CI F 504 NO2 NO3 NO3NO2	TKN NH3 TN T. PHOS. O. PHOS.	PH T. RES. CHLORINE	COD PHENOLS TOC DOC	TOTAL CYANIDE TOTAL SULFIDE	REACTIVE CYANIDE REACTIVE SULFIDE	TOTAL COLIFORM E. COLI	ENTEROCOCCI Heffentrophic Plate Count	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)					# of Containers	<b>Notes</b> MeOH Vial #	Pade
GZ-47	1400 9/23/21	Geu	6	X																			1.1					7		
GZ-51	1455 9/23/21			X	3																							7		
62-52	1455 9/23/21	Charles and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s		X	r																							Z		
GZ-54U	1350 9/23/21	Contraction of the local data	Trois Barrer	X	'																							2		
oru-1	0910 9/24/21	on the second second		X																								Z		
ORW-Z	0915 9/24/21		Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina and Cardina an	X																								2,		
ORW-3	0920 9/24/21			Х																								ζ		
ORW-4	0925 9/24/21			$ \lambda $																								ζ	m	
ORW-5	0930 9/24/21	14111111111		X																								2		
ORW-G Matrix: A-Air; S-Soil; GW-Ground Wate WW-Waste water Preservative: H-HCL; N-HNO3; S-H2SO4;	0935 9/29/21 r; SW-Surface Water; DW-Drink Na-NaOH; M-MEOH	ING W	ATER;	λ																								Z		
PROJECT MANAGER: Jim COMPANY: 624 GeoEn ADDRESS: J Commerce	Witck Vormental Park N.				Q	<b>A/Q</b> A	C RI	C	TING		Re P	PORT PRELIMS	ing : Yes	OPTI OR	ons No		Tur 2	м Ан 4hr* 3-4	Day:	d <b>Ti</b> r 48hr* 5*	IE	<b>М</b> е Отн	TALS: er Met	8 [ALS:	RCRA	13	PP	FE,	MN PB, C	-
CITY: <u>Beelfad</u> PHONE: <u>GOJ-ZJZ</u> E-MAIL: <u>james. wiec</u>	Section STATE: NH IP: 03/10 GC3-232-8732 EXT: james. wieck Ogza. com					Г Гемр. <u>(</u> СЕ? (		B No	°C		ELI 01	ectro PDF ther _	nic ( Equis	Opti Excel	ONS		5 *Pre	Day I( -appr	) Day oval i	7 Day Requir	eđ	SAI Not	MPLES ES: (IE:	SPECIA	LD FII	TTION LI	D? Mits, B	LLING I	YES NO. IF DIFFERENT	
SITE NAME: <u>Remmie Pe</u> PROJECT #: 04.019003 STATE: NH MA ME REGULATORY PROGRAM: NPDES: RGF GWP, OIL FUND, BROWN	AME:       Rennie       Farm         T #:       04.0190030:02         (NH)       MA       ME       VT       OTHER:         ATORY PROGRAM:       NPDES:       RGP       POTW       Stormwater or         GWP,       Oil FUND,       BROWNFIELD OR       OTHER:							D BY:		ne	<u>9/2</u> Date:	42/	1	Be Pog Ime:		, III Re	t CEIVED	S. J. BY:		i es U	4	-	11.0-0-0							
QUOTE #:	PO #: ZGZZ	ZS			REL	.INQU	ISHE	D BY:	:		DATE:		1	IME:		Re	CEIVED	By:				SUSP	HISTOP	ry: Contap	MINATIO	N:				
	PO #: 2022 >						ISHEI	) By		[	DATE:		1	IME:		Re	CEIVED	BY:				FIEL	d Read	INGS: _						

**Eastern Analytical, Inc.** professional laboratory and drilling services 51 Antrim Avenue | Concord, NH 03301 | Tel: 603.228.0525 | 1.800.287.0525 | E-Mail: CustomerService@EasternAnalytical.com | www.EasternAnalytical.com



#### CHAIN-OF-CUSTODY RECORD

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

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	Sampling Date / Time *If Composite,	(SEE BELOW)	COMPOSITE	T T T		МАУРН	5 EDB DBCP	n n	MAEPH	PCB 608 PCB 8082	564 TPH 1664	<u>BN METALS</u> Herb	TDS	F 50, N03N02	IN D. PHOS.	. CHLORINE T. ALK.	TOC DOC	TOTAL SULFIDE	REACTIVE SULFIDE IGNITABILITY	E. Cou	ATE COURT	(LIST BELOW)	ST BELOW)							Pag
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PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; Na	a-NaOH; M-MEOH	1403-0 (234 <b>1</b>																												
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(ITY: <u>Bealtan</u>	STATE: 264 Z	IP:	23	<u>110</u>	-	۲ 		۱C۲ 			Ele	CTROP PDF	uc O E	PTIO X(FI	NS		5 Da	ay	7	Day		SAM	PLES	FIELD	FILT	ERED?	2	<u> </u>	ES ZNO	۱ -
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**Eastern Analytical, Inc.** professional laboratory and drilling services 51 Antrim Avenue | CONCORD. NH 03301 | TEL: 603.228.0525 | 1.800.287.0525 | E-MAIL: CUSTOMERSERVICE@EASTERNANALYTICAL.COM | WWW.EASTERNANALYTICAL.COM

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PROJECT MANAGER: Jim C COMPANY: C24 Geo En- ADDRESS: J Commune (ITY: Beckfad PHONE: GOJ - 232- E-MAIL: James. wiech SITE NAME: Remite Fai PROJECT #: O4.0190030 STATE: NH MA ME N REGULATORY PROGRAM: NPDES: RGP GWP, OIL FUND, BROWMENE	10	TE IC SAMPI	A/Q( A MP. <u>(</u> E? ( E? ( C) ( C) ( C) ( C) ( C) ( C) ( C) ( C)	E REE	C ICP No D D No	ring rc 7	<u>n</u> e D	Ref Pl Ele 011 55 7/2/ 7/2/	PORTI RELIHS: CTRON PDF I HER <u>C</u>	NG O Yes IC O E QUIS	PPTIO OR N PTIO XCEL	NS D NS <i>execcent</i>	++++++++++++++++++++++++++++++++++++++	URN 24hr 3 5 Da Pre-ap	Arou * 3-4 D: y 10 D pprova	481 481 ays* 7 [ 1 2 4 5 4 6 6 6 6 6 7 1 6 7 1 7 1 7 1 7 1 7 1 7 1	Time hr [*] Day uuired		Met Othe Sam Note	ALS: n Meta PLES X (IE: S	8 LLS: FIELD PECIAL	RCRA D FILI DETECT	13 TERED	PP 72 1175, Bi	Fe,	Mn Es Ê Fo, lf Dif	PB, CU			
Quore #:	AV PROGRAM: NPDES: RGP POTW STORHWATER OR GWP, Oil Fund, Brownfield or Other: PO #:PO #:							BY: BY:		D	VATE: VATE:		Ter Ter	IE: IE:		RECEN	TED BY: TED BY:					site H Suspec Field	listory cted Ci Readin	: Ontami Igs:	NATION	••••••••••••••••••••••••••••••••••••••				

we Eastern Analytical, Inc. professional laboratory and drilling services 51 Antrim Avenue CONCORD. NH 03301 TEL: 603.228.0525 1.800.287.0525 E-Mail: CUSTOMERSERVICE@EASTERNANALYTICAL.COM WWW.EASTERNANALYTICAL.COM

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professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 236937 Client Identification: Rennie Farm | 04.0190030.02 Date Received: 12/17/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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#: 236937

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

Client Designation: Rennie Farm | 04.0190030.02

Temperat Acceptable t	ure upon receipt (°C): emperature range (°C): 0-6	5.3	İ	Received o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
236937.01	GZ-37D	12/17/21	12/17/21 09:05	aqueous		Adheres to Sample Acceptance Policy
236937,02	GZ-51	12/17/21	12/17/21 13:15	aqueous		Adheres to Sample Acceptance Policy
236937.03	GZ-52	12/17/21	12/17/21 13:20	aqueous		Adheres to Sample Acceptance Policy
236937.04	RW-13	12/17/21	12/17/21 13:45	aqueous		Adheres to Sample Acceptance Policy
236937.05	RW-14	12/17/21	12/17/21 13:50	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

#### EAI ID#: 236937

Client Sample ID:	GZ-37D						
Lab Sample ID:	236937.01						
Matrix:	aqueous						
Date Sampled:	12/17/21						
Date Received:	12/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.29	0.2	1	ug/L	12/23/21 13:16	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	12/23/21 13:16	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/23/21 13:16	8260B SIM	AM

Client Sample ID:	GZ-51						
Lab Sample ID:	236937.02						
Matrix:	aqueous						
Date Sampled:	12/17/21						
Date Received:	12/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	10	0.2	1	ug/L	12/23/21 21:41	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	12/23/21 21:41	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/23/21 21:41	8260B SIM	AM

Client Sample ID:	GZ-52						
Lab Sample ID:	236937.03						
Matrix:	aqueous						
Date Sampled:	12/17/21						
Date Received:	12/17/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	3.6	0.2	1	ug/L	12/23/21 13:47	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	12/23/21 13:47	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	12/23/21 13:47	8260B SIM	AM

#### EAI ID#: 236937

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

Client Sample ID:	RW-13						
Lab Sample ID:	236937.04						
Matrix:	aqueous						
Date Sampled:	12/17/21						
Date Received:	12/17/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1.3	0.2	1	ug/L	12/23/21 14:19	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	12/23/21 14:19	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/23/21 14:19	8260B SIM	AM

Client Sample ID:	RW-14						
Lab Sample ID:	236937.05						
Matrix:	aqueous						
Date Sampled:	12/17/21						
Date Received:	12/17/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	5.6	0.2	1	ug/L	12/23/21 14:50	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	12/23/21 14:50	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/23/21 14:50	8260B SIM	AM

Eastern Analytical, Inc.

#### EAI ID#: 236937

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

Batch ID: 637758-64484/A122321DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.9 (98 %R)	5.1 (101 %R) (3 RPD	) 12/23/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	103 %R	100 %R	102 %F	R 12/23/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	101 %R	101 %R	100 %F	R 12/23/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Page <u>1</u> of <u>1</u>			n		<b>F</b>	C	HAI	IN-(	OF-(	Cu	STO	D	r R	EC	ORE	)	~ ^			<b>-</b>				ļ	For Lab	iller On	" 236	937			6 of 6
		19 Alexandre	B	OLD	FIEL		EQUI	RED.	. P			лкс	TCLP				(CA		CS	s.	Mi	CRO	ME	TALS			1911				ge
SAMPLE I.D.	Samp Date / *If Com Indicati Start & Date /	LING Time iposite, e Both Finish (Time	MATRIX (SEE BELOW)	GRAB/*COMPOSITE	524.2 524.2 MTBE ONLY 00260	47 4 DIOXAMED 47	8015 GRO MAVPH	8270 625 ABN PAH EDB DBCP	TPH8100 LI L2	8015 DRO MAEPH	PEST 608 PCB 608 PEST 8081 PCB 8082	OIL & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	BOD CBOD TS TSS TDS	Br Cl F 504 NO ₂ NO ₃ NO ₃ NO ₂	TKKN NH3 TN T. PHOS. O. PHOS.	PH T. RES. CHLORINE SPEC. CON. T. ALK.	COD PHENOLS TOC DOC	TOTAL CYANIDE TOTAL SULFIDE	REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	Total Coliform E. Coli Fecal Coliform	ENTEROCOCCI HETEROTROPHIC PLATE COUNT	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)				# OF CONTAINERS	No MeOH	<b>tes</b> Vial #	Ра
62-370	12/17/21	0905	GW	6		X																						2	ļ		
GZ-51	12/17/21	1315	Charles and the second second	, 1		X																						2			
62 - 52	12/17/21	1320	A CANADA SA CANADA SA CANADA SA CANADA SA CANADA SA CANADA SA CANADA SA CANADA SA CANADA SA CANADA SA CANADA SA			X																						2			
RW-13	12/17/21	1345				X																						2	<u> </u>		
RW-14	12/17/21	1350	Ł	-		X																						2			
Matrix: A-Air; S-Soil; GW-Ground Wate WW-Waste water Preservative: H-HCL; N-HNO3; S-H2SO4;	R; SW-Surface Wa Na-NaOH; M-MEO	iter; DW-Drin H	KING V	VATER;																											
PROJECT MANAGER: Jim COMPANY: GZA Geol ADDRESS: <u>5 Commerce</u> CITY: <u>Bedford</u>	Wieck Environme Park M	untal V Sviti NH	е 2 ZIP:_	.01 031	10		QA/Q	DCR A B MAI	EPOR 3 C MCP	TING		Re P Eu	PORT PRELIMS PRELIMS PDF	ing ( : Yes nic (	OPTIO OR 1 OPTIO EXCEL	ons No Dns		Tur 2 5	4hr* 3-4 Day	Days	5 <b>TIM</b> 18hr* * 7 Day	IE	ME Oth SAI	ETALS: IER MET MPLES TES: (IE:	8 TALS: SPECIAL	RCRA D FILT DETECT	I3 F FERED? TON LIMI	P	Fe, Mn <b>] Yes</b> Ig Info, If	Pb, Ci	, , ,
PHONE: <u>(003)</u> <u>232</u> <u>0132</u> E-MAIL: <u>james</u> . <u>wieck@</u> SITE NAME: <u>Rennie Farz</u> PROJECT #: <u>04.0190030</u> . STATE: <u>NH</u> MA ME REGULATORY PROGRAM: NPDES: RGF	gza.com n oZ VT Other: P PÓTW Stormw.	ATER OR	EXI.: .				TEMP. ICE? IMPLER( IMPLER( ELINQ	S): UISHE		°C 0 Dyr met	nee	0 5 5 12/17 Date:	THER _ E /21	Equis . B 15	en: :32	nei	++ Ri	*Pr	e-appi	oval F	lequir	ed									
GWP, OIL FUND, BROWN Quote #:	AFIELD OR UTHER:					R	ELINQ	UISHE	D BI	۲: ۲:		DATE: Date:		1	ÎME: ÎME:		RE	ECEIVE	d By: d By:				SITE Susi Fiel	: Histoi pected d Read	RY: Contam dings: _	INATION	l:				-

**Eastern Analytical, Inc.** professional laboratory and drilling services 51 Antrim Avenue Concord, NH 03301 Tel: 603.228.0525 1.800.287.0525 E-Mail: CustomerService@EasternAnalytical.com www.EasternAnalytical.com



Treatment System Data



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: 221158 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 1/13/2021

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.easternanalytical.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), Vermont (VT1012) and New York (12072).

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,

ourillashen

Lorraine Olashaw, Lab Director

( ·22. 2{ Date



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EAI ID#: 221158

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Temperat Acceptable f	ture upon receipt (°C): temperature range (°C): 0-6	2.7		R	eceived o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/ Samj	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
221158.01	System Influent	1/13/21	1/13/21	13:30	aqueous		Adheres to Sample Acceptance Policy
221158.02	System Effluent	1/13/21	1/13/21	13:45	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, 21st, 22nd & 23rd Edition or noted Revision year.

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

4) Hach Water Analysis Handbook, 4th edition, 1992

Eastern Analytical, Inc. www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com

EAI ID#: 221158

Client Sample ID: Lab Sample ID: Matrix:	System Influent 221158.01 aqueous				Date of Prepara Met Ana	ation: thod: alvst:	624.1 SG			
Nation.	1/13/21					nits:	ug/L			
Date Sampled:	1/13/21					11100	ug, E			
Date Received:	1/13/21		Dilution	Date					Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyzed
Chloromethane	< 2	2	1	1/13/21	4-Bromofluorobenzene (surr)	105	%R			1/13/21
Vinvl chloride	< 1	1	1	1/13/21	1.2-Dichlorobenzene-d4	100	%R			1/13/21
Bromomethane	< 2	2	1	1/13/21	Toluene-d8 (surr)	97	%R			1/13/21
Chloroethane	< 2	2	1	1/13/21						
Trichlorofluoromethane	< 2	2	1	1/13/21						
Acrolein	< 50	50	1	1/13/21						
Acetone	< 10	10	1	1/13/21						
1 1-Dichloroethene	< 0.5	05	1	1/13/21						
Mothylono chlorido	< 0.5	0.5	1	1/13/21						
	< 50	50	1	1/13/21						
Mothul t butul othor/MTP	< 50 => < 1		1	1/13/21						
trana 1.2 Diablara athana	=) <1	1	1	1/13/21						
Vinul agetete	< 10	10	1	1/13/21						
	< 10	10	1	1/12/21						
	<	1	1	1/10/21						
cis-1,2-Dicnioroetnene	< 1	1	1	1/13/21						
2-Butanone(IVIEK)	< 10	10	1	1/13/21						
Chloroform	< 1	1	1	1/13/21						
1,1,1-Irichloroethane	< 1	1	1	1/13/21						
Carbon tetrachloride	< 1	1	1	1/13/21						
Benzene	< 1	1	1	1/13/21						
1,2-Dichloroethane	<1	1	1	1/13/21						
Trichloroethene	< 1	1	1	1/13/21						
1,2-Dichloropropane	< 1	1	1	1/13/21						
Bromodichloromethane	< 0.5	0.5	1	1/13/21						
2-Chloroethylvinylether	< 2	2	1	1/13/21						
4-Methyl-2-pentanone(MI	BK) < 10	10	1	1/13/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	1/13/21						
Toluene	< 1	1	1	1/13/21						
trans-1,3-Dichloropropene	e < 0.5	0.5	1	1/13/21						
1,1,2-Trichloroethane	< 1	1	1	1/13/21						
2-Hexanone	< 10	10	1	1/13/21						
Tetrachloroethene	< 1	1	1	1/13/21						
Dibromochloromethane	< 1	1	1	1/13/21						
Chlorobenzene	< 1	1	1	1/13/21						
Ethylbenzene	< 1	1	1	1/13/21						
mp-Xylene	< 1	1	1	1/13/21						
o-Xylene	< 1	1	1	1/13/21						
Styrene	< 1	1	1	1/13/21						
Bromoform	< 2	2	1	1/13/21						
1,1,2,2-Tetrachloroethane	e <1	1	1	1/13/21						
1,3-Dichlorobenzene	< 1	1	1	1/13/21						
1,4-Dichlorobenzene	< 1	1	1	1/13/21						
1,2-Dichlorobenzene	< 1	1	1	1/13/21						

EAI ID#: 221158

Client Sample ID:	System Effluent 221158.02				Date of Prepara Me	ation: thod:	624.1			
Matrix:					An	alvst:	SG			
Dete Semulad	1/13/21				1	Inite'	ua/l			
Date Sampled:	1/10/21					/111.3.	ugit			
Date Received:	1/13/21		Dilution	Date					Dilution	Date
	Result	RL	Factor	Analyzed		Res	sult	RL	Factor	Analyzed
Chloromethane	< 2	2	1	1/13/21	4-Bromofluorobenzene (surr)	105	%R			1/13/21
Vinvl chloride	< 1	1	1	1/13/21	1.2-Dichlorobenzene-d4	98	%R			1/13/21
Bromomethane	< 2	2	1	1/13/21	Toluene-d8 (surr)	98	%R			1/13/21
Chloroethane	< 2	2	1	1/13/21						
Trichlorofluoromethane	< 2	2	1	1/13/21						
Acrolein	< 50	50	1	1/13/21						
	< 10	10	1	1/13/21						
1 1-Dichloroethene	< 0.5	05	1	1/13/21						
Methylene chloride	< 0.0	0.0	1	1/13/21						
	< 50	50	1	1/13/21						
Mothyl t bytyl othor/MTRE	$\sim$ $\sim$ 1	1	1	1/13/21						
trang 1.2 Disblargethone	.) ~1	1	1	1/13/21						
Vinul apoteto	< 10	10	1	1/13/21						
1 1 Dichlereethene	< 10	10	1	1/13/21						
	<	1	1	1/13/21						
	<	1	1	1/10/21						
2-Butanone(IMEK)	< 10	10	1	1/13/21						
	< 1	1	1	1/13/21						
1,1,1-Irichloroethane	< 1	1	1	1/13/21						
Carbon tetrachloride	< 1	1	1	1/13/21						
Benzene	< 1	1	1	1/13/21						
1,2-Dichloroethane	< 1	1	1	1/13/21						
Trichloroethene	< 1	1	1	1/13/21						
1,2-Dichloropropane	< 1	1	1	1/13/21						
Bromodichloromethane	< 0.5	0.5	1	1/13/21						
2-Chloroethylvinylether	< 2	2	1	1/13/21						
4-Methyl-2-pentanone(MI	3K) < 10	10	1	1/13/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	1/13/21						
Toluene	< 1	1	1	1/13/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	1/13/21						
1,1,2-Trichloroethane	< 1	1	1	1/13/21						
2-Hexanone	< 10	10	1	1/13/21						
Tetrachloroethene	< 1	1	1	1/13/21						
Dibromochloromethane	< 1	1	1	1/13/21						
Chlorobenzene	< 1	1	1	1/13/21						
Ethylbenzene	< 1	1	1	1/13/21						
mp-Xylene	< 1	1	1	1/13/21						
o-Xylene	< 1	1	1	1/13/21						
Styrene	< 1	1	1	1/13/21						
Bromoform	< 2	2	1	1/13/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	1/13/21						
1,3-Dichlorobenzene	< 1	1	1	1/13/21						
1,4-Dichlorobenzene	< 1	1	1	1/13/21						
1,2-Dichlorobenzene	< 1	1	1	1/13/21						

QC REPORT

#### EAI ID#: 221158

Batch ID:

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	< .876	18 (92 %R)	19 (95 %R) (3 RPI	0) 1/13/2021	ug/L	1 - 205	60	624.1
Vinyl chloride	< 1	< .953	19 (94 %R)	19 (97 %R) (3 RPI	0) 1/13/2021	ug/L	5 - 195	66	624.1
Bromomethane	< 2	< .554	16 (79 %R)	19 (95 %R) (17 RPI	0) 1/13/2021	ug/L	15 - 185	61	624.1
Chloroethane	< 2	< .503	18 (92 %R)	19 (94 %R) (2 RPI	) 1/13/2021	ug/L	40 - 160	78	624.1
Trichlorofluoromethane	< 2	< .375	18 (90 %R)	18 (91 %R) (1 RPI	) 1/13/2021	ug/L	50 - 150	84	624.1
Acrolein	< 50	< 5.45	< 50 (104 %R)	< 50 (108 %R) (4 RPI	) 1/13/2021	ug/L	60 - 140	60	624.1
Acetone	< 10	< 5.73	19 (94 %R)	20 (99 %R) (5 RPI	0) 1/13/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethene	< 0.5	< .37	19 (93 %R)	19 (94 %R) (1 RPI	0) 1/13/2021	ug/L	50 - 150	32	624.1
Methylene chloride	< 1	< 1.4	18 (90 %R)	19 (93 %R) (3 RPI	0) 1/13/2021	ug/L	60 - 140	28	624.1
Acrylonitrile	< 50	< .705	< 50 (98 %R)	< 50 (106 %R) (8 RPI	0) 1/13/2021	ug/L	60 - 140	60	624.1
Methyl-t-butyl ether(MTBE)	< 1	< .519	18 (92 %R)	19 (97 %R) (5 RPI	0) 1/13/2021	ug/L	70 - 130	20	624.1
trans-1,2-Dichloroethene	< 1	< .298	19 (94 %R)	19 (95 %R) (1 RPI	0) 1/13/2021	ug/L	70 - 130	45	624.1
Vinyl acetate	< 10	< .557	22 (110 %R)	24 (118 %R) (8 RPI	0) 1/13/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethane	< 1	< .274	19 (93 %R)	19 (96 %R) (3 RPI	0) 1/13/2021	ug/L	70 - 130	40	624.1
cis-1,2-Dichloroethene	< 1	< .238	19 (95 %R)	19 (97 %R) (2 RPI	0) 1/13/2021	ug/L	70 - 130	20	624.1
2-Butanone(MEK)	< 10	< 2.642	19 (96 %R)	21 (104 %R) (9 RPI	0) 1/13/2021	ug/L	40 - 160	20	624.1
Chloroform	< 1	< .155	17 (87 %R)	18 (88 %R) (2 RPI	0) 1/13/2021	ug/L	70 - 135	54	624.1
1,1,1-Trichloroethane	< 1	< .227	19 (97 %R)	19 (97 %R) (0 RPI	0) 1/13/2021	ug/L	70 - 130	36	624.1
Carbon tetrachloride	< 1	< .564	19 (96 %R)	19 (95 %R) (1 RPI	0) 1/13/2021	ug/L	70 - 130	41	624.1
Benzene	< 1	< .312	19 (95 %R)	19 (97 %R) (2 RPI	0) 1/13/2021	ug/L	65 - 135	61	624.1
1,2-Dichloroethane	< 1	< .21	19 (93 %R)	19 (97 %R) (5 RPI	0) 1/13/2021	ug/L	70 - 130	49	624.1
Trichloroethene	< 1	< .359	19 (95 %R)	19 (96 %R) (2 RPI	0) 1/13/2021	ug/L	65 - 135	48	624.1
1,2-Dichloropropane	< 1	< .285	19 (96 %R)	20 (100 %R) (4 RPI	0) 1/13/2021	ug/L	35 - 165	55	624.1
Bromodichloromethane	< 0.5	< .345	20 (99 %R)	20 (102 %R) (3 RPI	0) 1/13/2021	ug/L	65 - 135	56	624.1
2-Chloroethylvinylether	< 2	< .493	21 (106 %R)	23 (114 %R) (8 RPI	0) 1/13/2021	ug/L	1 - 225	71	624.1
4-Methyl-2-pentanone(MIBK)	< 10	< 5.64	20 (99 %R)	21 (106 %R) (8 RPI	0) 1/13/2021	ug/L	40 - 160	20	624.1
cis-1,3-Dichloropropene	< 0.5	< .409	19 (96 %R)	20 (99 %R) (3 RPI	0) 1/13/2021	ug/L	25 - 175	58	624.1
Toluene	< 1	< .399	18 (90 %R)	18 (90 %R) (0 RPI	0) 1/13/2021	ug/L	70 - 130	41	624.1
trans-1,3-Dichloropropene	< 0.5	< .207	19 (95 %R)	19 (97 %R) (2 RPI	0) 1/13/2021	ug/L	50 - 150	86	624.1
1,1,2-Trichloroethane	< 1	< .203	18 (92 %R)	19 (94 %R) (3 RPI	0) 1/13/2021	ug/L	70 - 130	45	624.1
2-Hexanone	< 10	< 5.335	19 (94 %R)	20 (100 %R) (7 RPI	0) 1/13/2021	ug/L	40 - 160	20	624.1
Tetrachloroethene	< 1	< .371	18 (90 %R)	18 (89 %R) (1 RPI	0) 1/13/2021	ug/L	70 - 130	39	624.1
Dibromochloromethane	< 1	< .468	18 (92 %R)	19 (93 %R) (0 RPI	0) 1/13/2021	ug/L	70 - 135	50	624.1
Chlorobenzene	< 1	< .247	18 (92 %R)	19 (93 %R) (0 RPI	0) 1/13/2021	ug/L	65 - 135	53	624.1
Ethylbenzene	< 1	< .475	19 (93 %R)	19 (93 %R) (0 RPI	0) 1/13/2021	ug/L	60 - 140	63	624.1
mp-Xylene	< 1	< .476	36 (91 %R)	36 (91 %R) (0 RPI	0) 1/13/2021	ug/L	70 - 130	20	624.1
o-Xylene	< 1	< .298	18 (91 %R)	18 (91 %R) (0 RPI	D) 1/13/2021	ug/L	70 - 130	20	624.1
Styrene	< 1	< .278	19 (97 %R)	19 (97 %R) (1 RPI	0) 1/13/2021	ug/L	70 - 130	20	624.1
Bromoform	< 2	< 1.014	19 (97 %R)	19 (96 %R) (1 RPI	0) 1/13/2021	ug/L	70 - 130	42	624.1
1,1,2,2-Tetrachloroethane	< 1	< .381	18 (88 %R)	18 (88 %R) (1 RPI	0) 1/13/2021	ug/L	60 - 140	61	624.1
1,3-Dichlorobenzene	< 1	< .426	18 (90 %R)	18 (89 %R) (1 RPI	0) 1/13/2021	ug/L	70 - 130	43	624.1
1,4-Dichlorobenzene	< 1	< .375	18 (88 %R)	17 (87 %R) (1 RPI	0) 1/13/2021	ug/L	65 - 135	57	624.1
1,2-Dichlorobenzene	< 1	< .218	18 (88 %R)	18 (88 %R) (0 RPI	0) 1/13/2021	ug/L	65 - 135	57	624.1
4-Bromofluorobenzene (surr)	105 %R		104 %R	106 %	R 1/13/2021	% Rec	70 - 130		624.1
1,2-Dichlorobenzene-d4 (surr)	100 %R		100 %R	100 %	R 1/13/2021	% Rec	70 - 130		624.1
Toluene-d8 (surr)	96 %R		97 %R	96 %	R 1/13/2021	% Rec	70 - 130		624.1

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EAI ID#: 221158

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

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD Method
	····							

Batch ID:

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 on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

#### EAI ID#: 221158

Client Sample ID:	System Influent						
Lab Sample ID:	221158.01						
Matrix:	aqueous						
Date Sampled:	1/13/21						
Date Received:	1/13/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
Phenol	< 1	1	1	ug/L	1/15/21 18:53	625.1	JMR
2-Fluorophenol (surr)	36 %R			%	1/15/21 18:53	625.1	JMR
Phenol-d6 (surr)	24 %R			%	1/15/21 18:53	625.1	JMR
2,4,6-Tribromophenol (surr)	72 %R			%	1/15/21 18:53	625.1	JMR

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LABORATORY REPORT

EAI ID#: 221158

Client Sample ID:	System Effluent							
Lab Sample ID:	221158.02							
Matrix:	aqueous							
Date Sampled:	1/13/21							
Date Received:	1/13/21							
	Result	RL	Dilution Factor	Units	Date / Time Analyzed		Method	Analyst
Phenol	< 1	1	1	ug/L	1/15/21	19:15	625.1	JMR
2-Fluorophenol (surr)	35 %R			%	1/15/21	19:15	625.1	JMR
Phenol-d6 (surr)	23 %B			%	1/15/21	19:15	625.1	JMR
	20 /010							0

# QC REPORT

#### EAI ID#: 221158

Batch ID: 637462-94163/A011521E6251

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
alpha-Terpineol	< 5	< .17	18 (72 %R)	19 (76 %R) (5 RPI	) 1/15/2021	ug/L	40 - 140	20	625.1
Phenol	< 1	< .12	14 (28 %R)	14 (29 %R) (4 RPI	) 1/15/2021	ug/L	5 - 120	64	625.1
2-Chlorophenol	< 1	< .2	29 (58 %R)	31 (62 %R) (7 RPI	0) 1/15/2021	ug/L	23 - 134	61	625.1
2,4-Dichlorophenol	< 1	< .31	32 (64 %R)	34 (68 %R) (7 RPI	) 1/15/2021	ug/L	39 - 135	50	625.1
2,4,5-Trichlorophenol	< 1	< .33	34 (68 %R)	36 (72 %R) (6 RPI	) 1/15/2021	ug/L	30 - 130	20	625.1
2,4,6-Trichlorophenol	< 1	< .48	34 (68 %R)	36 (72 %R) (7 RPI	) 1/15/2021	ug/L	. 37 - 144	58	625.1
Pentachlorophenol	< 5	< 1.1	38 (75 %R)	40 (80 %R) (5 RPI	) 1/15/2021	ug/L	. 14 - 176	86	625.1
2-Nitrophenol	< 5	< .44	34 (67 %R)	36 (72 %R) (7 RPI	) 1/15/2021	ug/L	. 29 - 182	55	625.1
4-Nitrophenol	< 5	< .22	17 (34 %R)	18 (35 %R) (2 RPI	) 1/15/2021	ug/L	. 1 - 132	131	625.1
2,4-Dinitrophenol	< 10	< 1.5	39 (79 %R)	42 (85 %R) (7 RPI	) 1/15/2021	ug/L	. 1 - 191	132	625.1
2-Methylphenol	< 1	< .4	28 (56 %R)	30 (60 %R) (6 RPI	0) 1/15/2021	ug/L	. 30 - 130	20	625.1
3/4-Methylphenol	< 1	< .42	27 (54 %R)	28 (57 %R) (6 RPI	0) 1/15/2021	ug/L	. 30 - 130	20	625.1
2,4-Dimethylphenol	< 5	< 1.4	31 (62 %R)	33 (66 %R) (6 RPI	0) 1/15/2021	ug/L	. 32 - 120	58	625.1
4-Chloro-3-methylphenol	< 1	< .26	33 (67 %R)	35 (70 %R) (6 RPI	) 1/15/2021	ug/L	. 22 - 147	73	625.1
4,6-Dinitro-2-methylphenol	< 5	< 3.3	43 (86 %R)	46 (92 %R) (7 RPI	0) 1/15/2021	ug/L	. 1 - 181	203	625.1
Benzoic Acid	< 50	< 5.7	< 50 (19 %R)	< 50 (21 %R) (8 RPI	D) 1/15/2021	ug/L	. 15 <b>-</b> 130	50	625.1
N-Nitrosodimethylamine	< 1	< .11	11 (43 %R)	11 (44 %R) (3 RPI	) 1/15/2021	ug/L	. 15 - 140	20	625.1
n-Nitroso-di-n-propylamine	< 0.5	< .22	16 (66 %R)	18 (70 %R) (6 RPI	0) 1/15/2021	ug/L	. 1 - 230	87	625.1
n-Nitrosodiphenylamine	< 1	< .068	19 (76 %R)	20 (81 %R) (6 RPI	) 1/15/2021	ug/L	. 40 - 140	20	625.1
bis(2-Chloroethyl)ether	< 1	< .11	16 (63 %R)	17 (67 %R) (5 RPI	D) 1/15/2021	ug/L	. 12 - 158	108	625.1
bis(2-chloroisopropyl)ether	< 1	< .13	16 (64 %R)	17 (68 %R) (6 RPI	0) 1/15/2021	ug/L	. 36 - 166	76	625.1
bis(2-Chloroethoxy)methane	< 1	< .2	17 (67 %R)	18 (71 %R) (7 RPI	D) 1/15/2021	ug/L	. 33 - 184	54	625.1
1,3-Dichlorobenzene	< 1	< .15	14 (55 %R)	14 (57 %R) (5 RPI	D) 1/15/2021	ug/L	40 - 140	20	625.1
Acetophenone	< 10	< 8.8	16 (66 %R)	17 (69 %R) (5 RPI	D) 1/15/2021	ug/L	40 - 140	20	625.1
1,4-Dichlorobenzene	< 1	< .11	14 (55 %R)	15 (58 %R) (5 RPI	D) 1/15/2021	ug/L	40 - 140	20	625.1
1,2-Dichlorobenzene	< 1	< .13	14 (57 %R)	15 (60 %R) (5 RPI	) 1/15/2021	ug/L	40 - 140	20	625.1
1,2,4-Trichlorobenzene	< 1	< .09	15 (59 %R)	16 (64 %R) (7 RPI	D) 1/15/2021	ug/L	. 44 - 142	50	625.1
2-Chloronaphthalene	< 1	< .11	17 (67 %R)	18 (71 %R) (6 RPI	) 1/15/2021	ug/L	60 - 120	24	625,1
4-Chlorophenyl-phenylether	< 1	< .059	18 (70 %R)	18 (74 %R) (5 RPI	D) 1/15/2021	ug/L	. 25 - 158	61	625.1
4-Bromophenyl-phenylether	< 1	< .14	19 (75 %R)	20 (79 %R) (6 RPI	D) 1/15/2021	ug/L	53 - 127	43	625.1
Hexachloroethane	< 1	< .15	14 (55 %R)	15 (59 %R) (6 RPI	D) 1/15/2021	ug/L	40 - 120	52	625.1
Hexachlorobutadiene	< 1	< .073	14 (58 %R)	16 (62 %R) (7 RPI	D) 1/15/2021	ug/L	24 - 120	62	. 625.1
Hexachlorocyclopentadiene	< 5	< .21	14 (57 %R)	15 (61 %R) (7 RPI	D) 1/15/2021	ug/L	_ 15 - 140	20	625.1
Hexachlorobenzene	< 1	< .12	19 (76 %R)	20 (80 %R) (5 RPI	D) 1/15/2021	ug/L	_ 1 - 152	55	.625.1
4-Chloroaniline	< 1	< .13	17 (69 %R)	18 (73 %R) (6 RPI	D) 1/15/2021	ug/L	_ 15 - 140	20	625.1
2,3-Dichloroaniline	< 1	< .11	17 (68 %R)	18 (73 %R) (6 RPI	0) 1/15/2021	ug/L	40 - 140	20	625.1
2-Nitroaniline	< 5	< .18	20 (80 %R)	21 (85 %R) (6 RPI	D) 1/15/2021	ug/L	- 40 - 140	20	625.1
3-Nitroaniline	< 5	< .13	19 (78 %R)	20 (82 %R) (5 RPI	D) 1/15/2021	ug/L	_ 40 - 140	20	625.1
4-Nitroaniline	< 5	< .23	19 (78 %R)	20 (81 %R) (4 RPI	D) 1/15/2021	ug/L	_ 40 - 140	20	) 625.1
Aniline	< 1	< .13	15 (61 %R)	16 (64 %R) (5 RPI	D) 1/15/2021	ug/L	_ 40 - 140	20	) 625.1
Benzyl alcohol	< 10	< .35	16 (64 %R)	17 (67 %R) (5 RP)	D) 1/15/2021	ug/L	_ 40 - 140	20	) 625.1
Nitrobenzene	< 1	< .21	17 (68 %R)	18 (72 %R) (6 RP	D) 1/15/2021	ug/L	_ 35 - 180	62	. 625.1
Isophorone	< 1	< .16	18 (72 %R)	19 (76 %R) (5 RP	D) 1/15/2021	ug/l	_ 21 - 196	93	625.1
2,4-Dinitrotoluene	< 2	< .14	20 (81 %R)	22 (86 %R) (6 RP	D) 1/15/2021	ug/L	_ 39 - 139	42	625.1
2,6-Dinitrotoluene	< 2	< .14	19 (77 %R)	20 (82 %R) (6 RP	D) 1/15/2021	ug/l	50 - 158	48	625.1
Benzidine (estimated)	< 5	< .41	17 (66 %R)	18 (72 %R) (9 RP	D) 1/15/2021	ug/l	1 - 200	) 50	) 625.1

Eastern Analytical, Inc.

QC REPORT

#### EAI ID#: 221158

Batch ID: 637462-94163/A011521E6251

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
3,3'-Dichlorobenzidine	< 1	< .27	19 (77 %R)	20 (81 %R) (5 RPD	) 1/15/2021	ug/L	1 - 262	108	625.1
Pyridine	< 5	< .18	10 (41 %R)	11 (42 %R) (3 RPD	) 1/15/2021	ug/L	15 - 140	20	625.1
Azobenzene	< 1	< .14	20 (80 %R)	21 (85 %R) (6 RPD	) 1/15/2021	ug/L	40 - 140	20	625.1
Carbazole	< 1	< .12	20 (78 %R)	20 (82 %R) (4 RPD	) 1/15/2021	ug/L	40 - 140	20	625.1
Dimethylphthalate	< 1	< .11	18 (74 %R)	19 (77 %R) (5 RPD	) 1/15/2021	ug/L	1 - 120	183	625.1
Diethylphthalate	< 5	< .11	20 (80 %R)	21 (84 %R) (4 RPD	) 1/15/2021	ug/L	1 - 120	100	625.1
Di-n-butylphthalate	< 5	< .64	22 (88 %R)	22 (88 %R) (0 RPD	) 1/15/2021	ug/L	1 - 120	47	625.1
Butylbenzylphthalate	< 5	< .14	22 (86 %R)	22 (89 %R) (3 RPD	) 1/15/2021	ug/L	1 - 152	60	625.1
bis(2-Ethylhexyl)phthalate	< 5	< .27	21 (84 %R)	22 (87 %R) (3 RPD	) 1/15/2021	ug/L	8 - 158	82	625.1
Di-n-octylphthalate	< 5	< .2	20 (80 %R)	21 (83 %R) (4 RPD	) 1/15/2021	ug/L	4 - 146	69	625.1
Dibenzofuran	< 1	< .11	17 (69 %R)	18 (73 %R) (6 RPD	) 1/15/2021	ug/L	40 - 140	20	625.1
Naphthalene	< 1	< .088	15 (60 %R)	16 (64 %R) (6 RPD	) 1/15/2021	ug/L	21 - 133	65	625.1
2-Methylnaphthalene	< 1	< .11	16 (63 %R)	17 (67 %R) (6 RPD	) 1/15/2021	ug/L	40 - 140	65	625.1
1-Methylnaphthalene	< 1	< .12	16 (63 %R)	17 (67 %R) (6 RPD	) 1/15/2021	ug/L	40 - 140	65	625.1
Acenaphthylene	< 1	< .11	16 (66 %R)	18 (70 %R) (7 RPD	) 1/15/2021	ug/L	33 - 145	74	625.1
Acenaphthene	< 1	< .11	18 (72 %R)	19 (77 %R) (6 RPD	) 1/15/2021	ug/L	47 - 145	48	625.1
Fluorene	< 1	< .093	17 (66 %R)	17 (70 %R) (5 RPD	) 1/15/2021	ug/L	59 - 121	38	625.1
Phenanthrene	< 1	< .11	18 (71 %R)	19 (74 %R) (5 RPD	) 1/15/2021	ug/L	54 - 120	39	625.1
Anthracene	< 1	< .13	18 (71 %R)	19 (75 %R) (5 RPD	) 1/15/2021	ug/L	27 - 133	66	625.1
Fluoranthene	< 1	< .12	18 (70 %R)	18 (74 %R) (4 RPD	) 1/15/2021	ug/L	26 - 137	66	625.1
Pyrene	< 1	< .11	18 (70 %R)	18 (73 %R) (4 RPD	) 1/15/2021	ug/L	52 - 120	49	625.1
Benzo[a]anthracene	< 1	< .17	18 (70 %R)	18 (73 %R) (4 RPD	) 1/15/2021	ug/L	33 - 143	53	625.1
Chrysene	< 1	< .14	18 (71 %R)	18 (74 %R) (4 RPD	) 1/15/2021	ug/L	17 - 168	87	625.1
Benzo[b]fluoranthene	< 1	< .095	18 (72 %R)	18 (72 %R) (1 RPD	) 1/15/2021	ug/L	24 - 159	71	625.1
Benzo[k]fluoranthene	< 1	< .14	17 (69 %R)	18 (73 %R) (5 RPD	) 1/15/2021	ug/L	11 - 162	63	625.1
Benzo[a]pyrene	< 1	< .058	17 (66 %R)	17 (69 %R) (4 RPD	) 1/15/2021	ug/L	17 - 163	72	625.1
Indeno[1,2,3-cd]pyrene	< 1	< .13	18 (73 %R)	19 (75 %R) (3 RPD	) 1/15/2021	ug/L	1 <b>- 1</b> 71	99	625.1
Dibenz[a,h]anthracene	< 1	< .16	19 (74 %R)	19 (77 %R) (4 RPD	) 1/15/2021	ug/L	1 - 227	126	625.1
Benzo[g,h,i]perylene	< 1	< .14	17 (68 %R)	18 (71 %R) (4 RPD	) 1/15/2021	ug/L	<b>1 -</b> 219	97	625.1
n-Decane	< 5	< .16	13 (51 %R)	13 (53 %R) (4 RPD	) 1/15/2021	ug/L	40 - 140	20	625.1
n-Octadecane	< 5	< .5	21 (83 %R)	22 (88 %R) (5 RPD	) 1/15/2021	ug/L	40 - 140	20	625.1
2-Fluorophenol (surr)	38 %R		36 %R	38 %F	R 1/15/2021	% Rec	15 - 110		625.1
Phenol-d6 (surr)	27 %R		26 %R	27 %	R 1/15/2021	% Rec	15 - 110		625.1
2,4,6-Tribromophenol (surr)	74 %R		76 %R	81 %F	R 1/15/2021	% Rec	15 - 110		625.1
Nitrobenzene-D5 (surr)	75 %R		69 %R	73 %	R 1/15/2021	% Rec	30 - 130		625.1
2-Fluorobiphenyl (surr)	75 %R		66 %R	70 %	R 1/15/2021	% Rec	30 - 130		625.1
p-Terphenyi-D14 (surr)	79 %R		80 %R	82 %F	R 1/15/2021	% Rec	30 - 130		625.1

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 on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

# M

### LABORATORY REPORT

EAI ID#: 221158

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	221158.01	221158.02						
Matrix:	aqueous	aqueous						
Date Sampled:	1/13/21	1/13/21			Ana	alysis		
Date Received:	1/13/21	1/13/21	RL	Units	Date	Time	Method	Analyst
Solids Suspended	< 5	< 5	5	mg/L	1/15/21	15:10	2540D-11	KJD
Chloride	3100	2900	1000	ug/L	1/14/21	9:53	4500CIE-1	1 ATA
Cyanide Total	< 5	< 5	5	ug/L	1/20/21	10:18	ASTM D7511	-09 KD
Cyanide Free	< 5	< 5	5	ug/L	1/15/21	13:31	OIA-1677-0	9 KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	1/19/21	10:27	TM NH3-00	1 SEL

#### EAI ID#: 221158

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

Client Designation: Rennie Farm RGP / 04.0190030.02

	Date of					
Parameter Name Blank LCS LCSD Ur	nits Analysis	Limits RPD	Method			
Solids Suspended < 5 940 (99 %R) 930 (98 %R) (1 RPD) r	mg/L 1/15/21	90 - 110 20	2540D-11			
Chloride < 1000 24 (97 %R) 25 (98 %R) (2 RPD)	ug/L 1/14/21	90 - 110 20	4500CIE-11			
Cyanide Total < 5 0.11 (105 %R) 0.11 (111 %R) (5 RPD)	ug/L 1/20/21	84 - 116 20	ASTM D7511-09			
Cyanide Free < 5 0.23 (93 %R) 0.23 (91 %R) (2 RPD)	ug/L 1/15/21	82 - 132 20	OIA-1677-09			
Ammonia-N < 0.05 1.8 (92 %R) 1.8 (89 %R) (3 RPD) r	mg/L 1/19/21	87 - 104 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.

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Sample ID:	System Influent	System Effluent					
Lab Sample ID:	221158.01	221158.02					
Matrix:	aqueous	aqueous					
Date Sampled:	1/13/21	1/13/21		Applytics	1	Analysis	
Date Received:	1/13/21	1/13/21	RL	Matrix	Units	Date	Method Analyst
Chromium (VI)	< 10	< 10	10	AqTot	ug/L	1/13/21	7196A HEH
Antimony	< 0.5	< 0.5	0.5	AqTot	ug/L	1/14/21	200.8 HEH
Arsenic	< 0.5	< 0.5	0.5	AqTot	ug/L	1/14/21	200.8 HEH
Cadmium	< 0.1	< 0.1	0.1	AqTot	ug/L	1/14/21	200.8 HEH
Chromium	< 0.5	< 0.5	0.5	AqTot	ug/L	1/14/21	200.8 HEH
Chromium (III)	< 10	< 10	10	AqTot	ug/L	1/14/21	200.8 HEH
Copper	1.1	< 0.1	0.1	AqTot	ug/L	1/14/21	200.8 HEH
Iron	770	< 50	50	AqTot	ug/L	1/14/21	200.8 HEH
Lead	< 0.1	< 0.1	0.1	AqTot	ug/L	1/14/21	200.8 HEH
Mercury	< 0.1	< 0.1	0.1	AqTot	ug/L	1/14/21	200.8 HEH
Nickel	1.0	0.98	0.1	AqTot	ug/L	1/14/21	200.8 HEH
Selenium	< 0.5	< 0.5	0.5	AqTot	ug/L	1/14/21	200.8 HEH
Silver	< 0.1	< 0.1	0.1	AqTot	ug/L	1/14/21	200.8 HEH
Zinc	2.1	2.8	1	AgTot	ug/L	1/14/21	200.8 HEH

#### EAI ID#: 221158

#### 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	< 0.0005	1.1 (110 %R)	1	NA	mg/L 1/14/21	85 - 115	20	200.8	
Arsenic	< 0.001	1.1 (105 %R)	1	NA	mg/L 1/14/21	85 - 115	20	200.8	
Cadmium	< 0.0001	1.0 (103 %R)	1	NA	mg/L 1/14/21	85 - 115	20	200.8	
Chromium	< 0.001	1.0 (103 %R)	1	NA	mg/L 1/14/21	85 - 115	20	200.8	
Copper	< 0.0001	1.0 (103 %R)	1	NA	mg/L 1/14/21	85 - 115	20	200.8	
Iron	< 0.05	11 (99 %R)	t	NA	mg/L 1/14/21	85 - 115	20	200.8	
Lead	< 0.0001	1.1 (107 %R)	1	NA	mg/L 1/14/21	85 - 115	20	200.8	
Mercury	< 0.0001	0.0011 (106 %R)	1	NA	mg/L 1/14/21	85 - 115	20	200.8	
Nickel	< 0.0001	1.0 (103 %R)	1	NA	mg/L 1/14/21	85 - 115	20	200.8	
Selenium	< 0.001	0.99 (99 %R)	I	NA	mg/L 1/14/21	85 - 115	20	200.8	
Silver	< 0.0001	10 (105 %R)	I	NA	mg/L 1/14/21	85 - 115	20	200.8	
Zinc	< 0.001	1.0 (105 %R)	I	NA	mg/L 1/14/21	85 - 115	20	200.8	
Chromium (VI)	< 0.01	0.33 (95 %R)	I	NA	mg/L 1/13/21	85 - 115	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.

Eastern Analytical, Inc.



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

January 21, 2021

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

RE: Project: 221158 1/13 Pace Project No.: 70159568

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on January 15, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures



#### **REPORT OF LABORATORY ANALYSIS**

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Page 1 of 9



#### CERTIFICATIONS

 Project:
 221158 1/13

 Pace Project No.:
 70159568

#### Pace Analytical Services Long Island

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:
 221158 1/13

 Pace Project No.:
 70159568

Sample: SYSTEM INFLUENT	Lab ID: 701	59568001	Collected: 01/13/2	1 13:30	Received: 0	1/15/21 09:50 N	/latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Met Pace Analytica	hod: EPA 16 al Services -	324B Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		01/18/21 17:50	67-6 <b>4-</b> 1	
1,2-Dichloroethane-d4 (S)	103	%	78-114	1		01/18/21 17:50	17060-07-0	
4-Bromofluorobenzene (S)	102	%	83-111	1		01/18/21 17:50	460-00-4	
Toluene-d8 (S)	110	%	80-131	1		01/18/21 17:50	2037-26-5	

#### **REPORT OF LABORATORY ANALYSIS**

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#### ANALYTICAL RESULTS

 Project:
 221158 1/13

 Pace Project No.:
 70159568

Sample: SYSTEM EFFLUENT	Lab ID: 70	59568002	Collected: 01/13/2	1 13:45	Received: (	01/15/21 09:50 N	/latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Met Pace Analytic	hod: EPA 16 al Services -	624B Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		01/18/21 17:29	67-64-1	
1,2-Dichloroethane-d4 (S)	103	%	78-114	1		01/18/21 17:29	17060-07-0	
4-Bromofluorobenzene (S)	97	%	83-111	1		01/18/21 17:29	460-00-4	
Toluene-d8 (S)	113	%	80-131	1		01/18/21 17:29	2037-26-5	

#### REPORT OF LABORATORY ANALYSIS


#### QUALITY CONTROL DATA

Project: 221158 1/13								
Pace Project No.: 70159568								
QC Batch: 193467		Analysis N	/lethod:	EP	A 1624B			
QC Batch Method: EPA 1624B		Analysis E	Description:	162	24B MSV			
		Laborator	y:	Pa	ce Analytical	Services - Mel	ville	
Associated Lab Samples: 7015956	8001, 70159568002							
METHOD BLANK: 949030	<u> </u>	Matr	ix: Water				·	_
Associated Lab Samples: 7015956	8001, 70159568002							
		Blank	Reportin	g				
Parameter	Units	Result	Limit		Analyzeo	Qualif	iers	
Acetone	mg/L	<0.01	10 0.	010	01/18/21 16	5:45		
1,2-Dichloroethane-d4 (S)	%	10	00 78-	-114	01/18/21 16	5:45		
4-Bromofluorobenzene (S)	%	10	)1 83-	-111	01/18/21 16	6:45		
Toluene-d8 (S)	%	11	15 80-	131	01/18/21 16	5:45		
LABORATORY CONTROL SAMPLE:	949031							
		Spike	LCS		LCS	% Rec		
Parameter	Units	Conc.	Result	9	6 Rec	Limits	Qualifiers	
Acetone	mg/L	0.05	0.045		90	20-200		
1,2-Dichloroethane-d4 (S)	%				98	78-114		
4-Bromofluorobenzene (S)	%				106	83-111		
Toluene-d8 (S)	%				112	80-131		

#### SAMPLE DUPLICATE: 949032

Parameter	Units	70159552001 Result	Dup Result	RPD	Qualifiers
Acetone	mg/L	7240 ug/L	7.2	1	
1,2-Dichloroethane-d4 (S)	%	102	95		
4-Bromofluorobenzene (S)	%	102	109		
Toluene-d8 (S)	%	116	118		

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:
 221158 1/13

 Pace Project No.:
 70159568

#### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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:
 221158 1/13

 Pace Project No.:
 70159568

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70159568001 70159568002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	193467 193467		

#### REPORT OF LABORATORY ANALYSIS

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

# CHAIN-OF-CUSTODY RECORD

professional laboratory and drilling services

Eastern Analytical, Inc.

EALID# 221158

Page 1

 
 Sample ID
 Date Sampled
 Matrix
 a Parameters
 Sample Notes

 System Influent
 1/13/2021 13:30
 aqueous
 Subcontract - EPA Method 1624 Isotope Dilution
 WO#: 70159568

 System Effluent
 1/13/2021 13:45
 aqueous
 Subcontract - EPA Method 1624 Isotope Dilution
 WO#: 70159568

EAI ID#	221158	Project State: NH	Results Needed: Preferred Date: Standard RUSH Due Date:	PO #:54156	EALID# 221158
		Project ID: 4965	<u>QC Deliverables</u> Па Па+ 🛛 в Пв+ Пс Пмамсе	Data Deliverable (c	circle)
Compan	y PACE AI	NALYTICAL	Notes about project:	EXCEL NH EMD	
Addres	s 575 BRC	AD HOLLOW ROAD	Email login confirmation, pdf of results and	Call prior to analyz	ing, if RUSH charges will be applied.
Addres	s MELVILL	E, NY 11747	1624 Acetone Only	Samples Collected	the that is the
Account	#	-		Relinquished by	Data/Time Perceived by
Phone	# (631)694	-3040		i maniquisited by	Ilister 09:50 Currendingadi
Pag				Relinquished by	Date/Time Received by
Easte	rn Analytical, Ir	nc. 25 Chenell Dr. Concord,	NH 03301 Phone: (603)228-0525 1-800-2	87-0525 custome	rservice@easternanalytical.com

As 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 arking 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

67		Sampl	e Condit	ion Upo	n Receir	nt	an and any second second second second second second second second second second second second second second s
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	2000 march 1					PM: KMM D	ua Date: VI/22/21
	nt ⊡Con	mercial	Pace []]0)	her oo		CLIENT: EASTA	
Iracking # $2 \times 462$	299 1	<u>ai 9</u>	024 0	1006			
Custody Seal on Cooler/Box Present:	Yes 🗆 M	Vo Seals	s intact: 🗆 Y	′es[] No		Temperature Blank	Present: Vesiz No
Packing Material: Buble Wrap [] Bubl	ole Bags	🗆 Ziploc	None	Other		Type of Ice: (WEF)	Blue None
Thermometer Used: TH091	Corre	ection Fac	tor: 🚬 💳 🕻	<u>) - Z</u>	~ <i>~</i>	Samples on ice, cool	ing process has begun
Cooler lemperature[°C]:	Coole	r Temper	ature Correc	ted[°C]: z	$\leq \circ \bigcirc$	Date/Time 5035A ki	ts placed in freezer
lemp should be above freezing to 6.0°C							a cittle the
USDA Regulated Soil ( 🗀 N/A, water samp	ile)			Date and	Initials of p	erson examining cont	ents: CH //14/21_
Did samples originate in a quarantine zone	within the	e United St	ates: AL, AR, (	CA, FL, GA, ID,	LA, MS, NC,	Did samples orignate	e from a foreign source
NM, NY, OK, OR, SC, TN, TX, or VA (check map	)? 🛄 Y	Yes 🗆 No				including Hawaii and	Puerto Rico]? 🛛 Yes 🏹 No
If Yes to either question, fill out a Regula	ted Soil	Checklist	(F-LI-C-010)	and include	with SCUR/	COC paperwork.	- 
						COMMENTS:	
Chain of Custody Present:	Difes			1.			The second second second second second second second second second second second second second second second s
Chain of Custody Filled Out:	<u> </u>	⊡No		2.			
Chain of Custody Relinquished:	ZYes	CNO		3.	in the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of th		
Sampler Name & Signature on COC:	-Elles			4	· · · · · · · · · · · · · · · · · · ·		ill most a second second second second second second second second second second second second second second s
Samples Arrived within Hold Time:	<b>Eves</b>			5.	and the second second		Managar
Short Hold Time Analysis (<72hr):	⊡Yes	<u>jano</u>		6.	·····	Cotto Productional	na an an an an an an an an an an an an a
Rush Turn Around Time Requested:	□Yes.	No		7.			
Sufficient Volume: (Triple volume provided fo	or, OYes	DNo		8,			
Correct Containers Used:	⊠Yes	⊡No	·······	9.		State and States	
-Pace Containers Used:	<u>_Elles</u>		<u>ىسېرە مېنگىرى مىلىمى بىرى مىسى</u>	<u></u>	·····	A CONTRACTOR OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OWNER OF THE OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNE OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNE OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNER OWNE	
Containers Intact:	. Edles					*	
Hitered volume received for Dissolved tests	<u> DYes</u>			<u>. Ju:</u>	Note if sedi	ment is visible in the dis	solved container.
Sample Labels match CUC:	ElYes	⊡No		12.			
-includes date/ime/ill, Matrix: SL W/							
an containers needing preservation have bee	en⊡Yes		EN/A	15.	LI HNU ₃	$\Box$ H _z SO ₄ $\Box$ NaOH	⊡ HCI
DH naner Lot #			.3	1			
All containers needing preservation are from	d to he			Sample #			
in compliance with method recommendation	17			1			
[HNO3, H2SO4, HCI, NaOH>9 Sulfide.	⊡Yes	ΠNο	12N/A				
NAOH>12 Cyanide)			1 and a second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s				
Exceptions: VOA, Coliform, TOC/DOC, Oil and G	Frease,		¥				
DR0/8015 (water).	·			Initial when	n completed:	Lot # of added	Date/Time preservative
Per Method, VOA pH is checked after analysis		و ور ور ا				preservative;	added:
Samples checked for dechlorination:	⊡Yes	⊡No	ZIN/A	14.			
KI starch test strips Lot #							
Residual chlorine strips Lot #				P.	ositive for Re	s. Chlorine? Y N	and the second second second second second second second second second second second second second second second
SM 4500 CN samples checked for sulfide?	⊡Yes	⊡No	ÆN/A	15.		<u> </u>	an an an an an an an an an an an an an a
Lead Acetate Strips Lot #	-		· · ·		······		17 15 15 19 19 19 19 19 19 19 19 19 19 19 19 19
Headspace in VOA Vials ( >6mm):	DYes	<u>E</u> Nio	EN/A	16.			
Trip Blank Present-	⊡Yes	No	EIN/A	17.	· · · · · · · · · · · · · · · · · · ·		·····
Prop Blank Custody Seals Present	⊡Yes	ΠNο	DAN/A	2			
Pace inp Blank Lot # lif applicables	د. بر بینانی اسی بر از این		<u>Lington and an an an an an an an an an an an an an </u>				
Client Notification/ Resolution:	*' ''		· ·	Field Data F	Required?	Ý 7 N	
Person Contacted:					Date/Time:		an a share a saint a san an
comments/ Resolution:		- <u> </u>					and a second second second second second second second second second second second second second second second
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• PM (Project Manager) review is documented electronically in LIMS.

<u>,</u>

ENV-FRM-MELV-0024 00

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Thursday, January 21, 2021

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

 Project ID:
 221158

 SDG ID:
 GCH46530

 Sample ID#s:
 CH46530 - CH46531

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Stille

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 UT Lab Registration #CT00007 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

# Sample Id Cross Reference

January 21, 2021

SDG I.D.: GCH46530

Project ID: 221158

Client Id	Lab Id	Matrix	
SYSTEM INFLUENT	CH46530	WATER	
SYSTEM EFFLUENT	CH46531	WATER	





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

FOR:

Attn: Front Office Eastern Analytical

January	y 21, 2021			28 C	5 Chenell Drive oncord, NH 033	801			
Sample Inform	nation		Custody Information			Date	<u>9</u>	<u>Time</u>	
Matrix:	WATER	WATER		by:		01/13	3/21	13:30	
Location Code:	EASTANAL-NH		Received	by: C	P	01/14	4/21	15:52	
Rush Request:	Standard		Analyzed	by: s	ee "By" below				
P.O.#:	P.O.#: 54157			Laboratory Data			SDG ID: GCH46530 Phoenix ID: CH46530		
Project ID: Client ID:	221158 SYSTEM INF	LUENT							
Parameter		Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
<u>1,4-dioxane</u>									
1,4-dioxane		8.3	0.20	ug/l	1	01/19/21	AW	EPA522	
QA/QC Surrogates% 1,4-dioxane-d880Extraction for 1,4-DioxaneCompleted			%	1	01/19/21 01/15/21	AW G/G	70 - 130 % EPA522		

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:**

Analysis Report

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director January 21, 2021 Reviewed and Released by: Rashmi Makol, Project Manager



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



Time 13:45

15:52

Analysis Report January 21, 2021		FOR:	Attn: Front Office Eastern Analytical 25 Chenell Drive Concord, NH 03301	11			
Sample Information		Custody Inform	<u>Date</u>				
Matrix:	WATER	Collected by:		01/13/21			
Location Code:	EASTANAL-NH	Received by:	CP	01/14/21			
Rush Request:	Standard	Analyzed by:	see "By" below				
P.O.#:	54157		-				

# Laboratory Data

DI I

SDG ID: GCH46530 Phoenix ID: CH46531

Project ID:	221158
Client ID:	SYSTEM EFFLUENT

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference	
1,4-dioxane								
1,4-dioxane	ND	0.20	ug/l	1	01/19/21	AW	EPA522	
QA/QC Surrogates								
% 1,4-dioxane-d8	82		%	1	01/19/21	AW	70 - 130 %	
Extraction for 1,4-Dioxane	Completed				01/15/21	G/G	EPA522	

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

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

#### Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director January 21, 2021 Reviewed and Released by: Rashmi Makol, Project Manager





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

January 21, 2021

# QA/QC Data

SDG I.D.: GCH46530

Parameter	Blank	Blk RL	LCS %	LCSD	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 560036 (ug	g/l), QC Sample	No: CH45742 (C	CH46530, CH46531)	-						
1,4dioxane - Water										
1,4-dioxane	ND	0.20	74	75	1.3	76			70 - 130	20
% 1,4-dioxane-d8	78	%	85	90	5.7	86			70 - 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 January 21, 2021

Thursday, January 21, 202	1	Sample Criteria Ex	ample Criteria Exceedances Report						
Criteria: None		GCH46530 - F	ASTANAI -NH					2	
State: NH						RI	Analysis		
SampNo Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria	Units		
								•	

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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

January 21, 2021

SDG I.D.: GCH46530

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

ample ID	Date Sam	pled Matrix	aParameters	۶ F.	Sample Note	es
≽ystem Influe	ent   1/13/202   13:30	1 aqueous	Subcontract - 1,4 Dioxane EPA Method 522 $44530$	¥	2	
System Efflue	ent   1/13/202   13:45	21 aqueous	Subcontract - 1,4 Dioxane EPA Method 522 4053	ł	k	

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

# CHAIN-OF-CUSTODY RECORD

221158

31

	Date/Time Composites need start			
Sample IDs	and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
System Influent	1-13-21	aqueous Grabor Comp	AqTot/V624R/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets. Se.Ag.Zn/Cr6/Cr3/CyanFree	Sb.As.Cd.Cr.Cu.Fe.Hg.Pb.Ni.
Sampler confi	ms ID and parameters	s are accurate	Circle preservative/s:HCU HNOUH,SO, NaOH MEOH Na,S,O, (ICE)	Dissolved Sample Field Filtered
System Effluent	1-13-21	aqueous Gran or Comp	AqTot/V624R/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets. Se.Ag.Zn/Cr6/Cr3/CyanFree	.Sb.As.Cd.Cr.Cu.Fe.Hg.Pb.Ni.
Sampler confi	ms ID and parameters	s are accurate	Circle preservative/s:HCL HNO, H, SO, NaOH MEOH Na, S, O3 (ICE)	Dissolved Sample Field Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

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EAI Project ID 4965	Results Needed by: Preferred date	ReportingOptions
Project Name Rennie Farm RGP / 04.0190030.02	Notes:	HC INO FAX PO# verbal
State NH	1624 Acotone Only	Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system
Client (Pro Mgr) Jim Wieck	1024 Acetone Only	PDF prelim, NO FAX LI EQUIS
Customer GZA GeoEnvironmental, Inc. (NH)		Image: Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second Second
Address 5 Commerce Park North, Suite 201		Samples Collected by: <u>AV</u>
City Bedford NH 03110		al pacolsen/1-13-21 FAI tridge
Phone 623-3600 Fax 624-9463 (37)	QC deliverables	Relinguished by Date/Time Received by 522
Email: James.Wieck@gza.com	□а □а+ ⊠в □в+ □с □мамср	Relinquished by Date/Time Received by
Direct 232-8732		



Jim Wieck GZA GeoEnvironmental, Inc. (NH) 5 Commerce Park North, Suite 201 Bedford NH 03110 Subject: Laboratory Report Eastern Analytical, Inc. ID: 221320 Client Identification: Rennie / 04.0190030.02 (22/1) Date Received: 1/19/2021 Report revision/reissue: Revision, replaces report dated 1/26/2021

Revision information: Sample IDs revised, per customers request.

#### 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,

Louenne Rashenv

Lorraine Olashaw, Lab Director

<u>|·27·2(</u> Date



IN ACCO

# of pages (excluding cover letter)

#### EAI ID#: 221320

## Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie / 04.0190030.02 (22/1)

Temperat Acceptable t	ture upon receipt (°C): temperature range (°C): 0-6	2.9	Received on ice or cold packs (Yes/No):				
Lab ID	Sample ID	Date Received	Date/T Samp	ime led	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
221320.01	MIDFLUENT	1/19/21	1/18/21	9:00	aqueous		Adheres to Sample Acceptance Policy
221320.02	INFLUENT	1/19/21	1/18/21	9:10	aqueous		Adheres to Sample Acceptance Policy
221320.03	ORW 7	1/19/21	1/18/21	13:50	aqu <b>e</b> ous		Adheres to Sample Acceptance Policy
221320.04	ORW 14	1/19/21	1/18/21	13:55	aqueous		Adheres to Sample Acceptance Policy
221320.05	ORW 5	1/19/21	1/18/21	13:45	aqueous		Adheres to Sample Acceptance Policy
221320.06	ORW 12	1/19/21	1/18/21	14:00	aqueous		Adheres to Sample Acceptance Policy
221320.07	LGAC IN (Inf)	1/19/21	1/19/21	9:35	aqueous		Adheres to Sample Acceptance Policy
221320.08	LGAC Mid	1/19/21	1/19/21	9:30	aqueous		Adheres to Sample Acceptance Policy
221320.09	LGAC OUT (Eff)	1/19/21	1/19/21	9:25	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, 21st, 22nd & 23rd Edition or noted Revision year.

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

4) Hach Water Analysis Handbook, 4th edition, 1992

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## EAI ID#: 221320

## Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie / 04.0190030.02 (22/1)

Client Sample ID:	MIDFLUENT						
Lab Sample ID:	221320.01						
Matrix:	aqueous						
Date Sampled:	1/18/21						
Date Received:	1/19/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	1/21/21 18:00	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	1/21/21 18:00	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	1/21/21 18:00	8260B SIM	AM

Client Sample ID:	INFLUENT						
Lab Sample ID:	221320.02						
Matrix:	aqueous						
Date Sampled:	1/18/21						
Date Received:	1/19/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	8.5	2	10	ug/L	1/21/21 19:01	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	1/21/21 19:01	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	1/21/21 19:01	8260B SIM	AM

Eastern Analytical, Inc.

#### EAI ID#: 221320

## Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie / 04.0190030.02 (22/1)

Client Sample ID:	ORW 7						
Lab Sample ID:	221320.03						
Matrix:	aqueous						
Date Sampled:	1/18/21						
Date Received:	1/19/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	140	40	200	ug/L	1/22/21 15:30	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	1/22/21 15:30	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	1/22/21 15:30	8260B SIM	AM

Client Sample ID:	ORW 14						
Lab Sample ID:	221320.04						
Matrix:	aqueous						
Date Sampled:	1/18/21						
Date Received:	1/19/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	170	40	200	ug/L	1/22/21 16:01	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	1/22/21 16:01	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	1/22/21 16:01	8260B SIM	AM

EAI ID#: 221320

## Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie / 04.0190030.02 (22/1)

Client Sample ID:	ORW 5						
Lab Sample ID:	221320.05						
Matrix:	aqueous						
Date Sampled:	1/18/21						
Date Received:	1/19/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	56	10	50	ug/L	1/22/21 14:59	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	1/22/21 14:59	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	1/22/21 14:59	8260B SIM	AM

Client Sample ID:	ORW 12						
Lab Sample ID:	221320.06						
Matrix:	aqueous						
Date Sampled:	1/18/21						
Date Received:	1/19/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	260	40	200	ug/L	1/22/21 16:32	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	1/22/21 16:32	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	1/22/21 16:32	8260B SIM	AM

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# LABORATORY REPORT

EAI ID#: 221320

## Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie / 04.0190030.02 (22/1)

Client Sample ID:	LGAC IN (Inf)						
Lab Sample ID:	221320.07						
Matrix:	aqueous						
Date Sampled:	1/19/21						
Date Received:	1/19/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1000	20	100	ug/L	1/21/21 20:03	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	1/21/21 20:03	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	1/21/21 20:03	8260B SIM	AM

LGAC Mid						
221320.08						
aqueous						
1/19/21						
1/19/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
< 0.2	0.2	1	ug/L	1/22/21 14:28	8260B SIM	AM
98 %R			%	1/22/21 14:28	8260B SIM	AM
100 %R			%	1/22/21 14:28	8260B SIM	AM
	LGAC Mid 221320.08 aqueous 1/19/21 1/19/21 <b>Result</b> < 0.2 <b>98 %R</b> <b>100 %R</b>	LGAC Mid 221320.08 aqueous 1/19/21 1/19/21 <b>Result RL</b> < 0.2 0.2 98 %R 100 %R	LGAC Mid 221320.08 aqueous 1/19/21 1/19/21 <b>Dilution</b> <b>Result</b> < 0.2 0.2 1 98 %R 100 %R	LGAC Mid 221320.08 aqueous 1/19/21 1/19/21 <b>Dilution</b> <b>Result RL Factor Units</b> < 0.2 0.2 1 ug/L 98 %R % 100 %R %	LGAC Mid 221320.08 aqueous 1/19/21 1/19/21 <b>Dilution</b> Date / Time Result RL Factor Units Analyzed < 0.2 0.2 1 ug/L 1/22/21 14:28 98 %R % 1/22/21 14:28 100 %R % 1/22/21 14:28	LGAC Mid 221320.08 aqueous 1/19/21 1/19/21 <b>Dilution</b> Date / Time Result RL Factor Units Analyzed Method < 0.2 0.2 1 ug/L 1/22/21 14:28 8260B SIM 98 %R % 1/22/21 14:28 8260B SIM 100 %R % 1/22/21 14:28 8260B SIM

Client Sample ID:	LGAC OUT (Eff)						
Lab Sample ID:	221320.09						
Matrix:	aqueous						
Date Sampled:	1/19/21						
Date Received:	1/19 <b>/</b> 21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.33	0.2	1	ug/L	1/21/21 18:31	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	1/21/21 18:31	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	1/21/21 18:31	8260B SIM	AM

### EAI ID#: 221320

#### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie / 04.0190030.02 (22/1)

Batch ID: 637468-27199/A012121DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.5 (89 %R)	4.9 (98 %R) (9 RPD	) 1/21/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	97 %R	98 %R	99 %F	R 1/21/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	100 %R	100 %R	100 %F	R 1/21/2021	% Rec	70 - 130	50	8260B

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 on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

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## EAI ID#: 221320

## Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie / 04.0190030.02 (22/1)

Batch ID: 637469-17905/A012221DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.3 (85 %R)	4.4 (89 %R) (4 RPD	) 1/22/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	98 %R	97 %R	99 %F	R 1/22/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	100 %R	100 %R	100 %F	R 1/22/2021	% Rec	70 - 130	50	8260B

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.

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Eastern Analytical, Inc.

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					V	C			S	VC	C	: : .	TCLP	ME	TALS			NO	RG	AN	lic	S		Μ	ICRO		THE	R		
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	8260 624 VTICS 11, 4 Dioxane	8021 BTEX HALOS	8015 GRO MAVPH	8270 625 SVTICs EDB DBCP Abn a bn Pah	TPH8100 LI L2	8015 DRO MAEPH	PEST 608 PCB 608 PEST 8081 PCB 8082	OIL & GREASE 1664 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)	TS TSS TDS SPEC. CON.	BR CI F 504 NO ₂ NO ₃ NO ₃ NO ₂	BOD CBOD T. ALK.	TKN NH3 T. PHOS. O. PHOS.	pH T. Res. CHLORINE	COD PHENOLS TOC DOC	Total Cvanide Total Sulfide	REACTIVE CYANIDE REACTIVE SULFIDE Fi achpoint lightarn ity	TOTAL COLFORM E. COLI	ENTEROCOCCI ENTEROCOCCI ULTEROCOCCI	1.4 dr Icies Court		# OF CONTRINEESC	MI	Notes eOH Vial #
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INFLUENT	1/18/210910	Pq	6																							X		2	_	
ORW 2	1/18/21 1350	Gin	G																							4		2		
ORW14	1/18/21 BS5	GW	G																							$\geq$		2	'	
ORW 4	1/18/21 1345	GW	G																							X		2		
ORW 12	1/18/21 1400	GW	G																							X		2		
LGAC INGAR)	1-19-21 9:35	Fh	G																							r		2		
LGAC Mid	[-19-2] 9:30	6h	G																							X		2		
LGAC OUT(A)	1-19-21 9:25	Gr	10																							X		2	2	
Matrix: A-Air; S-Soile GW-Ground Water WW-Waste Water Preservative: H-HCL; N-HNO3; S-H2SO4; N	; SW-Surface Water; DW-Drini a-NaOH; M-MEOH	UNG V	VATER;																											
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(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: 221937 Client Identification: 04.0190030.02 / Rennie Date Received: 2/4/2021

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.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

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

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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)

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

Client Designation: 04.0190030.02 / Rennie

Temperat	ure upon receipt (°C): 2 emperature range (°C): 0-6	.9	Received on ice or cold packs (Yes/No): Y									
Lab ID	Sample ID	Date Received	Date/] Samp	ime oled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)					
221937.01	INFLUENT	2/4/21	2/3/21	11:55	aqueous		Adheres to Sample Acceptance Policy					
221937.02	MIDFLUENT	2/4/21	2/3/21	11:50	aqueous		Adheres to Sample Acceptance Policy					
221937.03	LGAC INFLUENT	2/4/21	2/4/21	9:45	aqueous		Adheres to Sample Acceptance Policy					
221937.04	LGAC MID	2/4/21	2/4/21	9:50	aqueous		Adheres to Sample Acceptance Policy					
221937.05	LGAC EFFLUENT	2/4/21	2/4/21	9:55	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, 21st, 22nd & 23rd Edition or noted Revision year.

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

4) Hach Water Analysis Handbook, 4th edition, 1992

Eastern Analytical, Inc.

1

EAI ID#: 221937

# Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: 04.0190030.02 / Rennie

Client Sample ID:	INFLUENT						
Lab Sample ID:	221937.01						
Matrix:	aqueous						
Date Sampled:	2/3/21						
Date Received:	2/4/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	17	2	10	ug/L	2/5/21 19:32	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	2/5/21 19:32	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	2/5/21 19:32	8260B SIM	AM

Client Sample ID:	MIDFLUENT						
Lab Sample ID:	221937.02						
Matrix:	aqueous						
Date Sampled:	2/3/21						
Date Received:	2/4/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	2/5/21 17:59	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	2/5/21 17:59	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	2/5/21 17:59	8260B SIM	AM

### EAI ID#: 221937

## Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: 04.0190030.02 / Rennie

Client Sample ID:	LGAC INFLUENT						
Lab Sample ID:	221937.03						
Matrix:	aqueous						
Date Sampled:	2/4/21						
Date Received:	2/4/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	910	20	100	ug/L	2/5/21 20:03	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	2/5/21 20:03	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	2/5/21 20:03	8260B SIM	AM

Client Sample ID:	LGAC MID						
Lab Sample ID:	221937.04						
Matrix:	aqueous						
Date Sampled:	2/4/21						
Date Received:	2/4/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	2/5/21 19:01	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	2/5/21 19:01	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	2/5/21 19:01	8260B SIM	AM

Client Sample ID:	LGAC EFFLUENT						
Lab Sample ID:	221937.05						
Matrix:	aqueous						
Date Sampled:	2/4/21						
Date Received:	2/4/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	2/5/21 18:30	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	2/5/21 18:30	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	2/5/21 18:30	8260B SIM	AM

## EAI ID#: 221937

Batch ID: 637481-37428/A020521DIOX1

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

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	5.3 (107 %R)	5.4 (108 %R) (2 RPD	) 2/5/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	98 %R	100 %R	99 %F	R 2/5/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	100 %R	101 %R	100 %F	R 2/5/2021	% Rec	70 - 130	50	8260B

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 on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

Eastern Analytical, Inc.

Page of					C	HAI	IN-(	OF-	Cu	STO	oo	y R	EC	ORI	)								Ĩ				-	~ —
		Bo	DLD	FIELDS	Re	QUI	RED	. P	LEA	SE C	Circ	CLE	Req	QUES	STEL	A	NAL	rsis								22	19;	37 _
SAMPLE I.D. TNFLUENT MIDFLUENT LGAC INFLUENT LGAC MID LGAC EFFLUENT	SAMPLING DATE / TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE / TIME 2/3/21 11:55 2/3/21 11:55 2/3/21 11:50 2/4/21 9:50 2/4/21 9:55	C C C C MATRIX (SEE BELOW)	XX X A X GRAJ/*COMPOSITE	574.7 574.2 BTEX 574.2 MTBE OKUY 8260B 624 VTICS 1, 4 D0x3ME	8021B BTEX HALOS	8015B GRO MAYPH	82700 625 SVTICS EDB DBCP ABN A BN PAH	LEPH8100 L1 L2	8015B DRO MAEPH	PEST 608 PCB 608 O	OIL & GREASE 1664 TPH 1664	TCLP 1311 ABW MEALS	DISSOLVED METALS (LLST BELOW)	TALS (MOTAL MENNE (TRUE DETOM)	TS TSS TDS SPEC. Coll.	BR CI F 504 NO ₂ NO ₃ NO ₂	BOD CBOD T. AIK	C PHOK O. PHOK	pH I. RE. CHORNE	COD PHENOLS TOC DOC	TOTAL CYANDE TOTAL SUFFIDE REACTIVE CONNUE REACTIVE SULFIDE	FLAGRADIAT GAURABULTY		ON HEIROTADHIC PLATE COUNT	X X X X X II4 digreene		222 # of CONTINERS	Notes MeOH Vial #
HATRIX: A-AIR; S-SOIL; GW-GROUND WATER; WW-WASTE WATER PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; N:	; SW-Surface Water; DW-Drini a-NaOH; M-MEOH	L King W	ATER;																						JR JR			· · · ·
PRESERVATIVE: H-HUL; N-HNUS; S-H2SUG; Na-NAOH; M-MEOH PROJECT MANAGER: Jîm Wieck COMPANY: 62A ADDRESS: 5 COMMENCE PAYL WORTH SUITE 201 CITY: BED FORD STATE: NH ZIP: 03/10 PHONE: 603-493-2874 EXT.: -MAIL: GE JOIMES, WIECK OG20,000 HTE NAME:			0/ /10 1	DATE NEEDED:								°C No	METALS: 8 RCRA 13 PP FE, MN PB, CU OTHER METALS:															
ROJECT #: <u>04.019039</u> TATE: NH MA ME VT OTHEN EGULATORY PROGRAM: NPDES: RGP GWP, OIL FUND, BROWNFII INOTE #:	© 202 / Ren POTW STORMWATER OR ELD OR OTHER: PO #:		<u>ر ک</u>		REL REL REL	INQU INQU INQU INQU	IISHEI IISHEI	D BY:			DATE: -4 DATE: DATE:	<u>ere</u> 1/20 -31	<u>221</u> <u>1</u> 1 TI	۱ <u>۶</u> ۱۳۵: ۱۳۵: ۱۳۵: ۱۳۵:	30	RECI RECI RECI	AT EIVED B	FO	da		- Sn Su Fit	te His spect ild R	story: <u>-</u> ed Coi eading	NTAMI) 55:	NATION: _			

professional laboratory and drilling services

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)



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



Subject: Laboratory Report

Bedford, NH 03110

Eastern Analytical, Inc. ID: 222172 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 2/10/2021

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.easternanalytical.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), Vermont (VT1012) and New York (12072).

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

2.19.21 Date



# SAMPLE CONDITIONS PAGE

EAI ID#: 222172

1

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

Temperate Acceptable to	ure upon receipt (°C): 0 emperature range (°C): 0-6			R	eceived o	on ice or cold packs (Yes/No): Υ					
Lab ID Sample ID		Date Received	Date/1 Samp	lime Died	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)				
222172.01	System Influent	2/10/21	2/10/21	12:40	aqueous		Adheres to Sample Acceptance Policy				
222172.02	System Effluent	2/10/21	2/10/21	12:55	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, 21st, 22nd & 23rd Edition or noted Revision year.

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

4) Hach Water Analysis Handbook, 4th edition, 1992

Eastern Analytical, Inc. www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com

EAI ID#: 222172

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Client Sample ID:	System Influent				Date of Prepara	ation:	604 4			
Lab Sample ID:	222172.01					thoa:	624.1			
Matrix:	aqueous				An	alyst:	SG			
Date Sampled:	2/10/21				l	Inits:	ug/L			
Date Received:	2/10/21									
			Dilution	Date		_		-	Dilution	Date
	Result	RL	Factor	Analyzed		Res	sult	RL	Factor	Analyze
Chloromethane	< 2	2	1	2/11/21	4-Bromofluorobenzene (surr)	82	%R			2/11/21
Vinyl chloride	< 1	1	1	2/11/21	1,2-Dichlorobenzene-d4	96	%R			2/11/21
Bromomethane	< 2	2	1	2/11/21	Toluene-d8 (surr)	105	%R			2/11/21
Chloroethane	< 2	2	1	2/11/21						
Trichlorofluoromethane	< 2	2	1	2/11/21						
Acrolein	< 50	50	1	2/11/21						
Acetone	< 10	10	1	2/11/21						
1,1-Dichloroethene	< 0.5	0.5	1	2/11/21						
Methylene chloride	< 1	1	1	2/11/21						
Acrylonitrile	< 50	50	1	2/11/21						
Methyl-t-butyl ether(MTBE	) <1	1	1	2/11/21						
trans-1,2-Dichloroethene	< 1	1	1	2/11/21						
Vinyl acetate	< 10	10	1	2/11/21						
1,1-Dichloroethane	< 1	1	1	2/11/21						
cis-1,2-Dichloroethene	< 1	1	1	2/11/21						
2-Butanone(MEK)	< 10	10	1	2/11/21						
Chloroform	< 1	1	1	2/11/21						
1,1,1-Trichloroethane	< 1	1	1	2/11/21						
Carbon tetrachloride	< 1	1	1	2/11/21						
Benzene	< 1	1	1	2/11/21						
1,2-Dichloroethane	< 1	1	1	2/11/21						
Trichloroethene	< 1	1	1	2/11/21						
1,2-Dichloropropane	< 1	1	1	2/11/21						
Bromodichloromethane	< 0.5	0.5	1	2/11/21						
2-Chloroethylvinylether	< 2	2	1	2/11/21						
4-Methyl-2-pentanone(MIE	3K) < 10	10	1	2/11/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	2/11/21						
Toluene	< 1	1	1	2/11/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	2/11/21						
1,1,2-Trichloroethane	< 1	1	1	2/11/21						
2-Hexanone	< 10	10	1	2/11/21						
Tetrachloroethene	< 1	1	1	2/11/21						
Dibromochloromethane	< 1	1	1	2/11/21						
Chlorobenzene	< 1	1	1	2/11/21						
Ethylbenzene	< 1	1	1	2/11/21						
mp-Xylene	< 1	1	1	2/11/21						
o-Xylene	< 1	1	1	2/11/21						
Styrene	< 1	1	1	2/11/21						
Bromoform	< 2	2	1	2/12/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	2/11/21						
1,3-Dichlorobenzene	< 1	1	1	2/11/21						
1,4-Dichlorobenzene	< 1	1	1	2/11/21						
1,2-Dichlorobenzene	< 1	1	1	2/11/21						

Eastern Analytical, Inc.

EAI ID#: 222172

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

Client Sample ID:	System Effluent 222172.02				Date of Prepara Met	tion: hod:	624.1			
Matrix:	aueous				Ana	lvst:	SG			
Date Sampled:	2/10/21					nits	ua/l			
Date Sampleu.	2/10/21				5	11103.	ugit			
Date Received:	2/10/21		Dilution	Date					Dilution	Date
	Result	RL	Factor	Analyzed		Res	sult	RL	Factor	Analyzed
Chloromethane	< 2	2	1	2/11/21	4-Bromofluorobenzene (surr)	81	%R			2/11/21
Vinvl chloride	< 1	1	1	2/11/21	1 2-Dichlorobenzene-d4	96	%R			2/11/21
Bromomethane	< 2	2	1	2/11/21	Toluene-d8 (surr)	105	%R			2/11/21
Chloroethane	< 2	2	1	2/11/21						
Trichlorofluoromethane	< 2	2	1	2/11/21						
Acrolein	- < 50	- 50	1	2/11/21						
Acetone	< 10	10	1	2/11/21						
1.1-Dichloroethene	< 0.5	0.5	1	2/11/21						
Methvlene chloride	< 1	1	1	2/11/21						
Acrvlonitrile	< 50	50	1	2/11/21						
Methvl-t-butvl ether(MTBE	) <1	1	1	2/11/21						
trans-1.2-Dichloroethene	, <1	1	1	2/11/21						
Vinyl acetate	< 10	10	1	2/11/21						
1,1-Dichloroethane	< 1	1	1	2/11/21						
cis-1,2-Dichloroethene	< 1	1	1	2/11/21						
2-Butanone(MEK)	< 10	10	1	2/11/21						
Chloroform	< 1	1	1	2/11/21						
1,1,1-Trichloroethane	< 1	1	1	2/11/21						
Carbon tetrachloride	< 1	1	1	2/11/21						
Benzene	< 1	1	1	2/11/21						
1,2-Dichloroethane	< 1	1	1	2/11/21						
Trichloroethene	< 1	1	1	2/11/21						
1,2-Dichloropropane	< 1	1	1	2/11/21						
Bromodichloromethane	< 0.5	0.5	1	2/11/21						
2-Chloroethylvinylether	< 2	2	1	2/11/21						
4-Methyl-2-pentanone(MIE	3K) < 10	10	1	2/11/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	2/11/21						
Toluene	< 1	1	1	2/11/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	2/11/21						
1,1,2-Trichloroethane	< 1	1	1	2/11/21						
2-Hexanone	< 10	10	1	2/11/21						
Tetrachloroethene	< 1	1	1	2/11/21						
Dibromochloromethane	< 1	1	1	2/11/21						
Chlorobenzene	< 1	1	1	2/11/21						
Ethylbenzene	< 1	1	1	2/11/21						
mp-Xylene	< 1	1	1	2/11/21						
o-Xylene	< 1	1	1	2/11/21						
Styrene	< 1	1	1	2/11/21						
Bromoform	< 2	2	1	2/12/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	2/11/21						
1,3-Dichlorobenzene	< 1	1	1	2/11/21						
1,4-Dichlorobenzene	< 1	1	1	2/11/21						
1,2-Dichlorobenzene	< 1	1	1	2/11/21						

QC REPORT

#### EAI ID#: 222172

#### Batch ID: 637486-59969/A021121V6241

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Jlank Blank (RL) (MDL) LCS		LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	< .876	18 (90 %R)	18 (92 %R) (3 RPD	) 2/11/2021	ug/L	1 - 205	60	624.1
Vinyl chloride	< 1	< .953	27 (133 %R)	27 (135 %R) (1 RPC	) 2/11/2021	ug/L	5 - 195	66	624.1
Bromomethane	< 2	< .554	20 (102 %R)	21 (106 %R) (4 RPC	) 2/11/2021	ug/L	15 - 185	61	624.1
Chloroethane	< 2	< .503	17 (85 %R)	17 (87 %R) (3 RPC	) 2/11/2021	ug/L	40 - 160	78	624.1
Trichlorofluoromethane	< 2	< .375	22 (110 %R)	23 (114 %R) (4 RPD	) 2/11/2021	ug/L	50 - 150	84	624.1
Acrolein	< 50	< 5.45	< 50 (114 %R)	< 50 (117 %R) (3 RPC	) 2/11/2021	ug/L	60 - 140	60	624.1
Acetone	< 10	< 5.73	16 (79 %R)	17 (85 %R) (7 RPE	) 2/11/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethene	< 0.5	< .37	21 (103 %R)	22 (109 %R) (5 RPE	) 2/11/2021	ug/L	50 - 150	32	624.1
Methylene chloride	< 1	< 1.4	20 (102 %R)	21 (107 %R) (5 RPE	) 2/11/2021	ug/L	60 - 140	28	624.1
Acrylonitrile	< 50	< .705	< 50 (95 %R)	< 50 (96 %R) (1 RPE	) 2/11/2021	ug/L	60 - 140	60	624.1
Methyl-t-butyl ether(MTBE)	< 1	< .519	21 (104 %R)	18 (90 %R) (15 RPE	) 2/11/2021	ug/L	70 - 130	20	624.1
trans-1,2-Dichloroethene	< 1	< .298	18 (91 %R)	18 (92 %R) (1 RPE	) 2/11/2021	ug/L	70 - 130	45	624.1
Vinyl acetate	< 10	< .557	17 (84 %R)	17 (85 %R) (1 RPE	) 2/11/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethane	< 1	< .274	18 (88 %R)	18 (91 %R) (3 RPE	) 2/11/2021	ug/L	70 - 130	40	624.1
cis-1,2-Dichloroethene	< 1	< .238	18 (88 %R)	18 (91 %R) (4 RPE	) 2/11/2021	ug/L	70 - 130	20	624.1
2-Butanone(MEK)	< 10	< 2.642	16 (79 %R)	17 (83 %R) (5 RPE	) 2/11/2021	ug/L	40 - 160	20	624.1
Chloroform	< 1	.155	18 (89 %R)	18 (92 %R) (3 RPE	) 2/11/2021	ug/L	70 - 135	54	624.1
1,1,1-Trichloroethane	< 1	< .227	18 (89 %R)	18 (92 %R) (3 RPE	) 2/11/2021	ug/L	70 - 130	36	624.1
Carbon tetrachloride	< 1	< .564	17 (84 %R)	17 (86 %R) (3 RPE	) 2/11/2021	ug/L	70 - 130	41	624.1
Benzene	< 1	< .312	19 (93 %R)	19 (97 %R) (4 RPE	) 2/11/2021	ug/L	65 - 135	61	624.1
1,2-Dichloroethane	< 1	< .21	17 (86 %R)	18 (88 %R) (3 RPE	) 2/11/2021	ug/L	70 - 130	49	624.1
Trichloroethene	< 1	< .359	18 (91 %R)	19 (94 %R) (4 RPE	) 2/11/2021	ug/L	65 - 135	48	624.1
1,2-Dichloropropane	< 1	< .285	17 (85 %R)	18 (88 %R) (3 RPE	) 2/11/2021	ug/L	35 - 165	55	624.1
Bromodichloromethane	< 0.5	< .345	16 (82 %R)	17 (85 %R) (3 RPE	) 2/11/2021	ug/L	65 - 135	56	624.1
2-Chloroethylvinylether	< 2	< .493	18 (92 %R)	19 (94 %R) (2 RPE	) 2/11/2021	ug/L	1 - 225	71	<b>624</b> .1
4-Methyl-2-pentanone(MIBK)	< 10	< 5.64	16 (81 %R)	17 (83 %R) (3 RPE	) 2/11/2021	ug/L	40 - 160	20	624.1
cis-1,3-Dichloropropene	< 0.5	< .409	16 (79 %R)	16 (82 %R) (4 RPE	) 2/11/2021	ug/L	. 25 - 175	58	624.1
Toluene	< 1	< .399	20 (98 %R)	20 (101 %R) (3 RPE	) 2/11/2021	ug/L	70 - 130	41	624.1
trans-1,3-Dichloropropene	< 0.5	< .207	17 (84 %R)	17 (87 %R) (3 RPE	) 2/11/2021	ug/L	. 50 - 150	86	624.1
1,1,2-Trichloroethane	< 1	< .203	19 (93 %R)	19 (97 %R) (4 RPE	) 2/11/2021	ug/L	. 70 - 130	45	624.1
2-Hexanone	< 10	< 5.335	16 (81 %R)	17 (84 %R) (3 RPE	) 2/11/2021	ug/L	40 - 160	20	624.1
Tetrachloroethene	< 1	< .371	17 (83 %R)	17 (86 %R) (3 RPI	) 2/11/2021	ug/L	. 70 - 130	39	624.1
Dibromochloromethane	< 1	< .468	15 (75 %R)	16 (78 %R) (4 RPE	) 2/11/2021	ug/L	. 70 - 135	50	624.1
Chlorobenzene	< 1	< .247	19 (94 %R)	19 (97 %R) (3 RPI	) 2/11/2021	ug/L	. 65 - 135	53	624.1
Ethylbenzene	< 1	< .475	19 (97 %R)	20 (100 %R) (3 RPI	) 2/11/2021	ug/L	. 60 - 140	63	624.1
mp-Xylene	< 1	< .476	37 (93 %R)	38 (96 %R) (3 RPI	) 2/11/2021	ug/L	. 70 - 130	20	624.1
o-Xylene	< 1	< .298	19 (94 %R)	19 (97 %R) (3 RPI	) 2/11/2021	ug/L	. 70 - 130	20	624.1
Styrene	< 1	< .278	19 (93 %R)	19 (96 %R) (3 RPE	) 2/11/2021	ug/L	. 70 - 130	20	624.1
Bromoform	< 2	< 1.014	* 13 (63 %R)	* 13 (66 %R) (4 RPI	) 2/11/2021	ug/L	. 70 - 130	42	624.1
1,1,2,2-Tetrachloroethane	< 1	< .381	19 (97 %R)	21 (103 %R) (6 RPI	) 2/11/2021	ug/L	. 60 - 140	61	624.1
1,3-Dichlorobenzene	< 1	< .426	18 (92 %R)	19 (97 %R) (5 RPI	) 2/11/2021	ug/L	. 70 - 130	) 43	624.1
1,4-Dichlorobenzene	< 1	< .375	18 (91 %R)	19 (96 %R) (5 RPI	) 2/11/2021	ug/L	. 65 - 135	5 57	624.1
1,2-Dichlorobenzene	< 1	< .218	18 (92 %R)	19 (96 %R) (5 RPI	) 2/11/2021	ug/L	. 65 - 135	5 57	624.1
4-Bromofluorobenzene (surr)	82 %R		87 %R	86 %	R 2/11/2021	% Rec	; 70 - 130	)	624.1
1,2-Dichlorobenzene-d4 (surr)	100 %R		112 %R	114 %	R 2/11/2021	% Rec	c 70 - 130	)	624.1
Toluene-d8 (surr)	105 %R		104 %R	104 %	R 2/11/2021	% Rec	70 - 130	)	624.1

Eastern Analytical, Inc.

# 

EAI ID#: 222172

Batch ID: 637486-59969/A021121V6241

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

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD Method
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Samples were extracted and analyzed within holding time limits.

Instrumentation was calibrated in accordance with the method requirements.

The method blanks were free of contamination at the reporting limits.

Sample surrogate recoveries met the above stated criteria.

The associated matrix spikes and/or Laboratory Control Samples met acceptance criteria.

There were no exceptions in the analyses, unless noted.

*/!Flagged analyte recoveries deviated from the QA/QC limits. Unless noted on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

#### EAI ID#: 222172

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

Client Sample ID:	System Influent							
Lab Sample ID:	222172.01							
Matrix:	aqueous							
Date Sampled:	2/10/21							
Date Received:	2/10/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
Phenol	< 1	1	1	ug/L	2/11/21	14:23	625.1	JMR
2-Fluorophenol (surr)	40 %R			%	2/11/21	14:23	625.1	JMR
Phenol-d6 (surr)	26 %R			%	2/11/21	14:23	625.1	JMR
2,4,6-Tribromophenol (surr)	74 %R			%	2/11/21	14:23	625.1	JMR
### LABORATORY REPORT

EAI ID#: 222172

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

Client Sample ID:	System Effluent						
Lab Sample ID:	222172.02						
Matrix:	aqueous						
Date Sampled:	2/10/21						
Date Received:	2/10/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
Phenol	< 1	1	1	ug/L	2/11/21 14:46	625.1	JMR
2-Fluorophenol (surr)	41 %R			%	2/11/21 14:46	625.1	JMR
Phenol-d6 (surr)	27 %R			%	2/11/21 14:46	625.1	JMR
2,4,6-Tribromophenol (surr)	75 %R			%	2/11/21 14:46	625.1	JMR

Eastern Analytical, Inc.

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

EAI ID#: 222172

Batch ID: 637486-44790/A021121E6251

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
alpha-Terpineol	< 5	< .17	19 (77 %R)	18 (73 %R) (6 RPE	) 2/11/2021	ug/L	40 - 140	20	625.1
Phenol	< 1	< .12	15 (31 %R)	14 (29 %R) (6 RPE	) 2/11/2021	ug/L	5 - 120	64	625.1
2-Chlorophenol	< 1	< .2	34 (67 %R)	31 (61 %R) (9 RPE	) 2/11/2021	ug/L	23 - 134	61	625.1
2,4-Dichlorophenol	< 1	< .31	37 (74 %R)	35 (70 %R) (5 RPE	) 2/11/2021	ug/L	39 - 135	50	625.1
2,4,5-Trichlorophenol	< 1	< .33	38 (76 %R)	38 (75 %R) (2 RPE	) 2/11/2021	ug/L	30 - 130	20	625.1
2,4,6-Trichlorophenol	< 1	< .48	39 (77 %R)	37 (74 %R) (4 RPE	) 2/11/2021	ug/L	37 - 144	58	625.1
Pentachlorophenol	< 5	< 1.1	37 (74 %R)	39 (78 %R) (5 RPE	) 2/11/2021	ug/L	14 - 176	86	625.1
2-Nitrophenol	< 5	< .44	40 (79 %R)	37 (73 %R) (8 RPE	) 2/11/2021	ug/L	29 - 182	55	625.1
4-Nitrophenol	< 5	< .22	14 (28 %R)	16 (32 %R) (11 RPE	) 2/11/2021	ug/L	1 - 132	131	625.1
2,4-Dinitrophenoi	< 10	< 1.5	32 (64 %R)	41 (81 %R) (23 RPE	) 2/11/2021	ug/L	1 - 191	132	625.1
2-Methylphenol	< 1	< .4	32 (64 %R)	30 (59 %R) (7 RPE	) 2/11/2021	ug/L	30 - 130	20	625.1
3/4-Methyiphenol	< 1	< ,42	31 (62 %R)	29 (58 %R) (6 RPI	) 2/11/2021	ug/L	30 - 130	20	625.1
2,4-Dimethylphenol	< 5	< 1.4	35 (70 %R)	33 (67 %R) (5 RPI	) 2/11/2021	ug/L	32 - 120	58	625.1
4-Chloro-3-methylphenol	< 1	< .26	38 (75 %R)	36 (73 %R) (4 RPI	) 2/11/2021	ug/L	22 - 147	73	625.1
4,6-Dinitro-2-methylphenol	< 5	< 3.3	43 (87 %R)	47 (95 %R) (9 RPI	) 2/11/2021	ug/L	. 1 - 181	203	625.1
Benzoic Acid	< 50	< 5.7	* < 50 (4 %R)	< 50 (17 %R) (125 RPI	) 2/11/2021	ug/L	. 15 - 130	50	625.1
N-Nitrosodimethylamine	< 1	< .11	12 (48 %R)	11 (46 %R) (4 RPI	) 2/11/2021	ug/L	. 15 - 140	20	625.1
n-Nitroso-di-n-propylamine	< 0.5	< .22	19 (76 %R)	18 (70 %R) (8 RPE	) 2/11/2021	ug/L	. 1 - 230	87	625.1
n-Nitrosodiphenylamine	< 1	< .068	21 (85 %R)	20 (82 %R) (4 RPI	) 2/11/2021	ug/L	. 40 - 140	20	625.1
bis(2-Chloroethyl)ether	< 1	< .11	18 (73 %R)	17 (66 %R) (9 RPI	) 2/11/2021	ug/L	. 12 - 158	108	625.1
bis(2-chloroisopropyl)ether	< 1	< .13	17 (68 %R)	16 (62 %R) (10 RPI	) 2/11/2021	ug/L	. 36 - 166	76	625.1
bis(2-Chloroethoxy)methane	< 1	< .2	20 (80 %R)	18 (72 %R) (11 RPI	) 2/11/2021	ug/L	. 33 - 184	54	625.1
1,3-Dichlorobenzene	< 1	< .15	16 (64 %R)	14 (57 %R) (12 RPI	) 2/11/2021	ug/L	. 40 - 140	20	625.1
Acetophenone	< 10	< 8.8	19 (76 %R)	18 (70 %R) (8 RPI	) 2/11/2021	ug/L	. 40 - 140	20	625.1
1,4-Dichlorobenzene	< 1	< .11	16 (65 %R)	14 (58 %R) (13 RPI	) 2/11/2021	ug/L	40 - 140	20	625.1
1,2-Dichlorobenzene	< 1	< .13	17 (67 %R)	15 (59 %R) (12 RPI	) 2/11/2021	ug/L	. 40 - 140	20	625.1
1,2,4-Trichlorobenzene	< 1	< .09	18 (71 %R)	16 (64 %R) (11 RPI	)) 2/11/2021	ug/L	. 44 - 142	50	625.1
2-Chloronaphthalene	< 1	< .11	20 (79 %R)	18 (73 %R) (8 RPI	) 2/11/2021	ug/L	. 60 - 120	24	625.1
4-Chlorophenyl-phenylether	< 1	< .059	21 (82 %R)	20 (79 %R) (4 RPI	) 2/11/2021	ug/L	. 25 - 158	61	625.1
4-Bromophenyl-phenylether	< 1	< .14	21 (85 %R)	20 (81 %R) (5 RPI	) 2/11/2021	ug/L	. 53 - 127	43	625,1
Hexachloroethane	< 1	< .15	15 (62 %R)	14 (54 %R) (13 RPI	) 2/11/2021	ug/L	. 40 - 120	52	625.1
Hexachlorobutadiene	< 1	< .073	17 (69 %R)	15 (62 %R) (11 RPI	) 2/11/2021	ug/L	. 24 - 120	62	625.1
Hexachlorocyclopentadiene	< 5	< .21	16 (65 %R)	14 (57 %R) (12 RPI	) 2/11/2021	ug/L	. 15 - 140	20	625.1
Hexachlorobenzene	< 1	< .12	21 (83 %R)	20 (80 %R) (4 RPI	) 2/11/2021	ug/L	. 1 - 152	55	625.1
4-Chloroaniline	< 1	< .13	19 (76 %R)	19 (75 %R) (2 RPI	) 2/11/2021	ug/L	15 - 140	20	625.1
2,3-Dichloroaniline	< 1	< .11	20 (80 %R)	19 (76 %R) (5 RPI	) 2/11/2021	ug/L	. 40 - 140	20	625.1
2-Nitroaniline	< 5	< .18	21 (84 %R)	20 (81 %R) (3 RPI	) 2/11/2021	ug/L	40 - 140	20	625.1
3-Nitroaniline	< 5	< .13	21 (85 %R)	21 (84 %R) (0 RPI	) 2/11/2021	ug/L	40 - 140	20	625.1
4-Nitroaniline	< 5	< .23	21 (85 %R)	21 (83 %R) (2 RPI	) 2/11/2021	ug/L	40 - 140	20	625.1
Aniline	< 1	< .13	16 (65 %R)	16 (64 %R) (1 RPI	) 2/11/2021	ug/L	40 - 140	20	625.1
Benzyl alcohol	< 10	< .35	17 (69 %R)	17 (67 %R) (4 RPI	) 2/11/2021	ug/L	40 - 140	20	625.1
Nitrobenzene	< 1	< .21	19 (74 %R)	17 (69 %R) (8 RPI	D) 2/11/2021	ug/L	35 - 180	62	. 625.1
Isophorone	< 1	< .16	20 (81 %R)	19 (76 %R) (6 RPI	0) 2/11/2021	ug/L	_ 21 - 196	93	625.1
2,4-Dinitrotoluene	< 2	< .14	23 (94 %R)	23 (91 %R) (3 RPI	D) 2/11/2021	ug/L	_ 39 - 139	42	. 625.1
2,6-Dinitrotoluene	< 2	< .14	23 (91 %R)	22 (88 %R) (3 RPI	D) 2/11/2021	ug/l	_ 50 - 158	48	625.1
Benzidine (estimated)	< 5	< .41	16 (65 %R)	17 (68 %R) (4 RPI	0) 2/11/2021	ug/l	_ 1 - 200	50	) 625.1



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QC REPORT

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
3,3'-Dichlorobenzidine	< 1	< .27	21 (82 %R)	20 (80 %R) (2 RPD	) 2/11/2021	ug/L	1 - 262	108	625.1
Pyridine	< 5	< .18	10 (41 %R)	10 (41 %R) (0 RPD	) 2/11/2021	ug/L	15 - 140	20	625.1
Azobenzene	< 1	< .14	20 (81 %R)	19 (78 %R) (5 RPD	) 2/11/2021	ug/L	40 - 140	20	625.1
Carbazole	< 1	< .12	21 (86 %R)	21 (82 %R) (4 RPD	) 2/11/2021	ug/L	40 - 140	20	625.1
Dimethylphthalate	< 1	< .11	21 (84 %R)	20 (82 %R) (3 RPE	) 2/11/2021	ug/L	1 - 120	183	625.1
Diethylphthalate	< 5	< .11	22 (90 %R)	22 (87 %R) (3 RPE	) 2/11/2021	ug/L	1 - 120	100	625.1
Di-n-butylphthalate	< 5	< .64	23 (92 %R)	22 (88 %R) (5 RPE	) 2/11/2021	ug/L	1 - 120	47	625.1
Butylbenzylphthalate	< 5	< .14	23 (94 %R)	22 (89 %R) (5 RPE	) 2/11/2021	ug/L	1 - 152	60	625.1
bis(2-Ethylhexyl)phthalate	< 5	< .27	24 (95 %R)	22 (89 %R) (7 RPI	) 2/11/2021	ug/L	8 - 158	82	625.1
Di-n-octylphthalate	< 5	< .2	24 (97 %R)	23 (90 %R) (7 RPE	) 2/11/2021	ug/L	4 - 146	69	625.1
Dibenzofuran	< 1	< .11	20 (81 %R)	19 (77 %R) (5 RPE	) 2/11/2021	ug/L	40 - 140	20	625,1
Naphthalene	< 1	< .088	18 (70 %R)	16 (64 %R) (9 RPI	) 2/11/2021	ug/L	. 21 - 133	65	625.1
2-Methylnaphthalene	< 1	< .11	19 (75 %R)	17 (69 %R) (8 RPI	) 2/11/2021	ug/L	40 - 140	65	625.1
1-Methylnaphthalene	< 1	< .12	19 (75 %R)	17 (69 %R) (8 RPI	) 2/11/2021	ug/L	40 - 140	65	625.1
Acenaphthylene	< 1	< .11	19 (78 %R)	18 (73 %R) (6 RPI	0) 2/11/2021	ug/L	. 33 - 145	74	625.1
Acenaphthene	< 1	< .11	21 (83 %R)	20 (81 %R) (3 RPE	) 2/11/2021	ug/L	47 - 145	48	625.1
Fluorene	< 1	< .093	19 (78 %R)	19 (74 %R) (5 RPI	0) 2/11/2021	ug/L	. 59 - 121	38	625.1
Phenanthrene	< 1	< .11	20 (79 %R)	19 (75 %R) (5 RPI	0) 2/11/2021	ug/L	. 54 - 120	39	625.1
Anthracene	< 1	< .13	20 (79 %R)	19 (76 %R) (4 RPI	0) 2/11/2021	ug/L	. 27 - 133	66	625.1
Fluoranthene	< 1	< .12	20 (79 %R)	19 (75 %R) (5 RPI	0) 2/11/2021	ug/L	. 26 - 137	66	625.1
Pyrene	< 1	< .11	19 (76 %R)	18 (74 %R) (3 RPI	0) 2/11/2021	ug/L	. 52 - 120	49	625.1
Benzo[a]anthracene	< 1	< .17	19 (77 %R)	19 (74 %R) (3 RPI	0) 2/11/2021	ug/L	. 33 - 143	53	625.1
Chrysene	< 1	< .14	20 (78 %R)	19 (75 %R) (5 RPI	0) 2/11/2021	ug/L	. 17 - 168	87	625.1
Benzo[b]fluoranthene	< 1	< .095	20 (78 %R)	19 (77 %R) (1 RPI	0) 2/11/2021	ug/L	. 24 - 159	71	625.1
Benzo[k]fluoranthene	< 1	< .14	20 (78 %R)	19 (74 %R) (5 RPI	0) 2/11/2021	ug/L	. 11 - 162	63	625.1
Benzo[a]pyrene	< 1	< .058	18 (72 %R)	17 (70 %R) (3 RPI	D) 2/11/2021	ug/L	. 17 - 163	72	. 625.1
Indeno[1,2,3-cd]pyrene	< 1	< .13	19 (77 %R)	19 (76 %R) (2 RPI	D) 2/11/2021	ug/L	1 - 171	99	625.1
Dibenz[a,h]anthracene	< 1	< .16	19 (78 %R)	19 (76 %R) (2 RPI	D) 2/11/2021	ug/L	1 - 227	126	625.1
Benzo[g,h,i]perylene	< 1	< .14	18 (73 %R)	18 (72 %R) (2 RPI	D) 2/11/2021	ug/L	. 1-219	97	625.1
n-Decane	< 5	< .16	14 (57 %Ŕ)	12 (50 %R) (14 RPI	0) 2/11/2021	ug/L	40 - 140	20	625.1
n-Octadecane	< 5	< .5	22 (88 %R)	21 (82 %R) (7 RPI	0) 2/11/2021	ug/L	_ 4Ö - 140	20	625.1
2-Fluorophenol (surr)	40 %R		40 %R	37 %	R 2/11/2021	% Red	5 - 15 - 110		625.1
Phenol-d6 (surr)	28 %R		29 %R	27 %	R 2/11/2021	% Red	5 15 - 110		625.1
2,4,6-Tribromophenol (surr)	79 %R		82 %R	81 %	R 2/11/2021	% Red	5 15 - 110		625.1
Nitrobenzene-D5 (surr)	75 %R		76 %R	70 %	R 2/11/2021	% Red	30 - 130	I.	625.1
2-Fluorobiphenyl (surr)	80 %R		80 %R	74 %	R 2/11/2021	% Red	30 - 130	I	625.1
p-Terphenyl-D14 (surr)	88 %R		89 %R	87 %	R 2/11/2021	% Red	30 - 130	1	625.1

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 on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

EAI ID#: 222172

Batch ID: 637486-44790/A021121E6251

### LABORATORY REPORT

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

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	222172.01	222172.02						
Matrix:	aqueous	aqueous						
Date Sampled:	2/10/21	2/10/21			Ana	alysis		
Date Received:	2/10/21	2/10/21	RL	Units	Date	Time	Method	Analyst
Solids Suspended	< 5	< 5	5	mg/L	2/11/21	11:20	2540D-11	KJD
Chloride	2400	2300	1000	ug/L	2/11/21	10:10	4500CIE-11	KJD
Cyanide Total	< 5	< 5	5	ug/L	2/12/21	9:45	ASTM D7511-	-09 ATA
Cyanide Free	< 5	< 5	5	ug/L	2/16/21	10:10	OIA-1677-09	9 KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	2/11/21	14:04	TM NH3-001	1 SEL

### EAI ID#: 222172

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Units Analys	or sis Lir	nits I	RPD	Method
Solids Suspended	< 5	860 (91 %R)	860 (90 %R) (0 RPD)	mg/L 2/11/	21 90	- 110	20	2540D-11
Chloride	< 1000	25000 (100 %R)	26000 (103 %R) (3 RPD)	ug/L 2/11/	21 90	- 110	20	4500CIE-11
Cyanide Total	< 5	91 (91 %R)	97 (97 %R) (6 RPD)	ug/L 2/12/	21 84	- 116	20	ASTM D7511-09
Cyanide Free	< 5	240 (96 %R)	260 (102 %R) (6 RPD)	ug/L 2/16/	21 82	- 132	20	OIA-1677-09
Ammonia-N	< 0.05	2.0 (98 %R)	1.9 (96 %R) (2 RPD)	mg/L 2/11/	21 87	- 104	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.

# M

### LABORATORY REPORT

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Sample ID:	System influent	System Effluent							
			· .						
· .									
Lab Sample ID:	222172.01	222172.02							
Matrix:	aqueous	aqueous							
Date Sampled:	2/10/21	2/10/21			A	,	A		
Date Received:	2/10/21	2/10/21		RL	Matrix	l Units	Date	Method A	nalyst
Chromium (VI)	< 10	< 10		10	AqTot	ug/L	2/11/21	7196A	RJ
Antimony	< 0.5	< 0.5		0.5	AqTot	ug/L	2/11/21	200.8	DS
Arsenic	< 0.5	< 0.5		0.5	AqTot	ug/L	2/11/21	200.8	DS
Cadmium	< 0.1	< 0.1		0.1	AqTot	ug/L	2/11/21	200.8	DS
Chromium	< 0.5	< 0.5		0.5	AqTot	ug/L	2/11/21	200.8	DS
Copper	1.0	< 0.1		0.1	AqTot	ug/L	2/11/21	200.8	DS
Iron	610	< 50		50	AqTot	ug/L	2/11/21	200.8	DS
Lead	< 0.1	< 0.1		0.1	AqTot	ug/L	2/11/21	200.8	DS
Mercury	< 0.1	< 0.1		0.1	AqTot	ug/L	2/11/21	200.8	DS
Nickel	0.84	0.79		0.1	AqTot	ug/L	2/11/21	200.8	DS
Selenium	< 0.5	< 0.5		0.5	AqTot	ug/L	2/11/21	200.8	DS
Silver	< 0.1	< 0.1		0.1	AqTot	ug/L	2/11/21	200.8	DS
Zinc	1.8	1.2		1	AqTot	ug/L	2/11/21	200.8	DS
Chromium (III)	< 10	< 10		10	AqTot	ug/L	2/11/21	200.8	DS

#### EAI ID#: 222172

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

Client Designation: Rennie Farm RGP / 04.0190030.02

					Date o	f		
Parameter Name	Blank	LCS	LCSD	l	Units Analysis	Limits	RPD	Method
Antimony	< 0.0005	1.1 (114 %R)	Ν	JA	ma/L 2/11/21	85 - 115	20	200.8
Arsenic	< 0.0005	1.0 (102 %R)	Ν	JA	mg/L 2/11/21	85 - 115	20	200.8
Cadmium	< 0.0001	1.1 (107 %R)	Ν	A	mg/L 2/11/21	85 - 115	20	200.8
Chromium	< 0.0005	1.1 (106 %R)	Ν	ΙA	mg/L 2/11/21	85 - 115	20	200.8
Copper	< 0.0001	1.0 (105 %R)	N	A	mg/L 2/11/21	85 - 115	20	200.8
Iron	< 0.05	11 (97 %R)	Ň	ΝA	mg/L 2/11/21	85 - 115	20	200.8
Lead	< 0.0001	1.1 (114 %R)	Ν	ΝA	mg/L 2/11/21	85 - 115	20	200.8
Mercury	< 0.0001	0.0010 (102 %R)	N	ΝA	mg/L 2/11/21	85 - 115	20	200.8
Nickel	< 0.0001	1.0 (101 %R)	N	١A	mg/L 2/11/21	85 - 115	20	200.8
Selenium	< 0.0005	1.0 (101 %R)	Ν	ΝA	mg/L 2/11/21	85 - 115	20	200.8
Silver	< 0.0001	0.011 (105 %R)	Ν	<b>I</b> A	mg/L 2/11/21	85 - 115	20	200.8
Zinc	< 0.001	1.0 (103 %R)	N	ΝA	mg/L 2/11/21	85 - 115	20	200.8
Chromium (VI)	< 0.01	0.34 (97 %R)	١	٨	mg/L 2/11/21	85 - 115	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

February 18, 2021

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

RE: Project: 222172 2/10 Pace Project No.: 70162578

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on February 15, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures





#### CERTIFICATIONS

 Project:
 222172 2/10

 Pace Project No.:
 70162578

Pace Analytical Services Long Island Delaware Certification # NY10478 Virginia Certification # 460302 Delaware Certification # NY10478 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:
 222172 2/10

 Pace Project No.:
 70162578

Sample: SYSTEM INFLUENT	Lab ID:	70162578001	Collected: 02/10/2	21 12:40	Received:	02/15/21 10:30	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical I Pace Analy	Method: EPA 16 /tical Services -	24B Melville					
Acetone <i>Surrogates</i>	<0.010	) mg/L	0.010	1		02/17/21 15:24	67-64-1	
1,2-Dichloroethane-d4 (S)	96	\$%	78-114	1		02/17/21 15:24	17060-07-0	
4-Bromofluorobenzene (S)	92	2 %	83-111	1		02/17/21 15:24	460-00-4	
Toluene-d8 (S)	101	%	80-131	1		02/17/21 15:24	2037-26-5	



#### ANALYTICAL RESULTS

 Project:
 222172 2/10

 Pace Project No.:
 70162578

Sample: SYSTEM EFFLUENT	Lab ID:	70162578002	Collected: 02/10/2	21 12:55	Received:	02/15/21 10:30	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical I Pace Analy	Method: EPA 16 /tical Services -	24B Melville					
Acetone <i>Surrogates</i>	<0.010	) mg/L	0.010	1		02/17/21 15:02	2 67-64-1	
1,2-Dichloroethane-d4 (S)	97	7 %	78-114	1		02/17/21 15:02	17060-07-0	
4-Bromofluorobenzene (S)	101	%	83-111	1		02/17/21 15:02	460-00-4	
Toluene-d8 (S)	106	s %	80-131	1		02/17/21 15:02	2 2037-26-5	



### QUALITY CONTROL DATA

Project: 2	222172 2/10								
			. <u>.</u>					······	
QC Batch:	197049		Analysis	Method:	EF	PA 1624B			
QC Batch Method:	EPA 1624B		Analysis	Descriptior	n: 16	24B MSV			
			Laborato	ry:	Pa	ace Analytical	Services - Me	lville	
Associated Lab Samp	oles: 7016257800	1, 70162578002							
METHOD BLANK: 9	967581		Mai	trix: Water					
Associated Lab Samp	oles: 7016257800	1, 70162578002							
			Blank	Rep	ortina				
Parame	eter	Units	Result	Li	mit	Analyzed	d Quali	fiers	
Acetone		ma/L	<0.0	10	0.010	02/17/21 14	 l:18		
1,2-Dichloroethane-d4	4 (S)	%	1	03	78-114	02/17/21 14	1:18		
4-Bromofluorobenzen	e (S)	%		90	83-111	02/17/21 14	k:18		
Toluene-d8 (S)		%	1	08	80-131	02/17/21 14	1:18		
		67582	<u>.</u>						<u></u>
		01002	Snike	LCS		LCS	% Rec		
Parame	eter	Units	Conc.	Result	ç	% Rec	Limits	Qualifiers	
Acetone		mg/L	0.05	0.0	)50	99	20-200		
1,2-Dichloroethane-d4	1 (S)	%				94	78-114		
4-Bromofluorobenzen	e (S)	%				100	83-111		
Toluene-d8 (S)		%				98	80-131		
SAMPLE DUPLICATE	E: 967583						·v		

		70162338001	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Acetone	mg/L	 7600 ug/L	6.8	11	
1,2-Dichloroethane-d4 (S)	%	100	112		
4-Bromofluorobenzene (S)	%	94	94		
Toluene-d8 (S)	%	105	103		

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.



#### QUALIFIERS

Project:	222172 2/10
Pace Project No.:	70162578

#### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.



#### QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 222172 2/10

 Pace Project No.:
 70162578

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70162578001 70162578002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	197049 197049		

## **CHAIN-OF-CUSTODY RECORD**

professional laboratory and drilling services

Eastern Analytical, Inc.

EAI ID# 222172

Page 1

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
System Influent	2/10/2021 12:40	aqueous	Subcontract - EPA Method 1624 Isotope Dilution	
System Effluent	2/10/2021 12:55	aqueous	Subcontract - EPA Method 1624 Isotope Dilution	



EAI ID# <b>222172</b> Project State: NH Project ID: 4965	Results Needed: Preferred Date: Standard         RUSH Due Date:	PO #:54329 EAI ID# 222172 <u>Data Deliverable</u> (circle) Excel NH EMD EQUIS ME EGAD
Company PACE ANALYTICAL Address 575 BROAD HOLLOW ROAD Address MELVILLE, NY 11747 Account#	Notes about project: Email login confirmation, pdf of results and invoice to customerservice@easternanalytical.com. 1624 VOC Acetone Only	Call prior to analyzing, if RUSH charges will be applied. Samples Collected by:
Phone # (631)694-3040		Relinquished by Date/Time Received by

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

Phone: (603)228-0525

customerservice@easternanalytical.com

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 damage 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

<i>5</i>	Sa	ample	Conditi	on Upon	Rengint	#:70162	578							
Pace Analytical	Client N	ame			Proj <b>PM</b> :	KMM Due D	ate: 02/22/21							
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	$a \gamma \wedge b$													
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Dealing Material Duthle Wree C Duthle	S CINO	Julan C		ther		Type of Ice:	ue None							
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		ion Facio Facio			. L	Bata /Tima 50754 kita	placess has began							
Cooler lemperature(°C):	Copier I	emperati	The contect			Date/ Hine 5055A Kits								
lemp should be above freezing to 6.0°C USDA Regulated Soil ( 🗌 N/A, water sample	)			Date and Ir	nitials of pe	son examining content	15: NB 2/15/21							
Did samples originate in a quarantine zone wi	thin the U	Inited Stat	es: AL, AR, C	A, FL, GA, ID, LA	a, ms, nc,	Did samples orignate fr	om a foreign source							
NM NY OK OR SC TN TX or VA (check man)?	СYе	s 🗆 No		, .		including Hawaii and Pu	erto Rico)? 🗆 Yes🛛 No							
If Yes to either question fill out a Regulate	ad Soil Ct	necklist (F	-LI-C-010) a	and include v	with SCUR/C	OC paperwork.	а 							
						COMMENTS:								
Chain of Custoriv Present-	<b>E</b> Ves	ΠNO		1.	······································									
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Samples checked for decision hadon.	1162		gan A		w. ¹									
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* PM (Project Manager) review is documented electronically in LIMS.



Friday, February 19, 2021

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

Project ID: 222172 SDG ID: GCH61923 Sample ID#s: CH61923 - CH61924

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Stille

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 UT Lab Registration #CT00007 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

### Sample Id Cross Reference

February 19, 2021

SDG I.D.: GCH61923

Project ID: 222172

Client Id	Lab Id	Matrix
SYSTEM INFLUENT	CH61923	WATER
SYSTEM EFFLUENT	CH61924	WATER



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



February 19, 2021

222172

SYSTEM INFLUENT

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

Sample Information		Custody Inforn	<u>Date</u>	<u>Time</u>	
Matrix:	WATER	Collected by:		02/10/21	12:40
Location Code:	EASTANAL-NH	Received by:	CP	02/12/21	14:43
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	54328				

### Laboratory Data

SDG ID: GCH61923 Phoenix ID: CH61923

-									
Parameter		Result	PQL	Units	Dilution	Date/Time	Ву	Reference	
<u>1,4-dioxane</u>									
1,4-dioxane		12	0.20	ug/l	1	02/17/21	AW	EPA522	
<b>QA/QC</b> Surrogates									
% 1,4-dioxane-d8		75		%	1	02/17/21	AW	70 - 130 %	
Extraction for 1,4-Di	oxane	Completed				02/16/21	G/G	EPA522	

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:

Project ID:

Client ID:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director February 19, 2021 Reviewed and Released by: Rashmi Makol, Project Manager



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



Analysis Report February 19, 2021	FOR:	Attn: Front Office Eastern Analytical 25 Chenell Drive Concord, NH 03301
		Concora, NH 03301

Sample Information		Custody Inform	nation	<u>Date</u>	<u>Time</u>
Matrix:	WATER	Collected by:		02/10/21	12:55
Location Code:	EASTANAL-NH	Received by:	CP	02/12/21	14:43
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	54328	Laboratory	Data	SDG ID:	GCH619

Project ID:	222172
Client ID:	SYSTEM EFFLUENT

SDG ID: GCH61923 Phoenix ID: CH61924

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
<u>1,4-dioxane</u>							
1,4-dioxane	ND	0.20	ug/i	1	02/17/21	AW	EPA522
QA/QC Surrogates							
% 1,4-dioxane-d8	84		%	1	02/17/21	AW	70 - 130 %
Extraction for 1,4-Dioxane	Completed				02/16/21	G/G	EPA522

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

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

### **Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director February 19, 2021 Reviewed and Released by: Rashmi Makol, Project Manager





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

February 19, 2021

### QA/QC Data

SDG I.D.: GCH61923

Parameter	Blank	Bik RL	LCS %	LCSD	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 563601 (ug/l),	QC Sample	No: CH61708	(CH61923, CH61924)							
1,4dioxane - Water										
1,4-dioxane	ND	0.20	103	101	2.0	90			70 - 130	20
% 1,4-dioxane-d8	82	%	83	78	6.2	77			70 - 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 February 19, 2021

Friday, February 19, 2021		Sample Criteria I	Exceedances Report					8
Criteria: None		GCH61923	- EASTANAL-NH					2
State: NH						RL	Analysis	
SampNo Acode	Phoenix Analyte	Criteria	Re	esult R	L Criteria	Criteria	Units	

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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

February 19, 2021

SDG I.D.: GCH61923

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

#### M Eastern Analytical, Inc.[®] CHAIN-OF-CUSTODY RECORD professional laboratory and drilling services EAI ID# 222172 Page 1 Sample ID Date Sampled Matrix aParameters Sample Notes System Influent 2/10/2021 aqueous Subcontract - 1,4 Dioxane EPA Method 522 (d923 12:40 6924 System Effluent 2/10/2021 aqueous Subcontract - 1,4 Dioxane EPA Method 522 12:55 Results Needed: Preferred Date: Standard IPO #:54328 EAI ID# 222172 EAI ID# 222172 Project State: NH RUSH Due Date: QC Deliverables Data Deliverable (circle) Project ID: 4965 $\Box A \Box A + \Box B \Box B + \Box C \Box MA MCP$ Excel NH EMD EQuIS ME EGAD Company Phoenix Environmental Labs Notes about project: Call prior to analyzing, if RUSH charges will be applied Email login confirmation, pdf of results and 587 East Middle Turnpike Address 2-12-2021 invoice to customerservice@easternanalytical.com. Samples Collected by: Manchester, CT 06040 Address @ 1000 Account # elinoutshed Date/Time Received by Phone # (860) 645-1102 2-12-210 Relinguished by Date/Time Received by KNUSICI 1212 Jezz Hall Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525 1-800-287-0525 customerservice@easternanalytical.com

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

Page

80

### CHAIN-OF-CUSTODY RECORD

GEANN

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
System Influent	2-10-21 12:40	aqueous Grabor Comp	AqTot/V624R/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMete Se.Ag.Zn/Cr6/Cr3/CyanFree	s.Sb.As.Cd.Cr.Cu.Fe.Hg.Pb.Ni.
Sampler confirm	ns ID and parameters	are accurate	Circle preservative/sc HCQ HNOVH, SQ NaOH MEOH Na, S, O, (ICE)	Dissolved Sample Field Filtered
System Effluent	2-10-21 12:55	aqueous Grabor Comp	AqTot/V624R/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMete Se.Ag.Zn/Cr6/Cr3/CyanFree	s.Sb.As.Cd.Cr.Cu.Fe.Hg.Pb.Ni.
Sampler confirm	ns ID and parameters	are accurate	Circle preservative/s(HC)_(HNO),(H2SO, NaOH) MEOH_Na2S2O3 (ICE	Dissolved Sample Field Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 4965	Results Needed by: Preferred date 5 day	ReportingOptions	
Project Name Rennie Farm RGP / 04.0190030.02	Notes:	HC INO FAX PO# ve	rbal
		EDD PDF Partial FAX Quote#:	
State NH		EDD email DF Invoice	
Client (Pro Mgr) Jim Wieck	1624 Acetone Only	PDF prelim, NO FAX EQUIS	°C
		e-mail Login Confirmation	- •
Customer GZA GeoEnvironmental, Inc. (NH)	1		ίΩ.
Address 5 Commerce Park North, Suite 201		Samples Collected by: <u>A V J</u>	-
City Bedford NH 03110	1	al Jacobsen 2-10-21	_
		Relinquished by Date/Time Received b	y Y
Filone 623-3600 Fax 624-9463 (37)	QC deliverables	+0140 2/0/21 620 M Jeller	lan
Email: James.Wieck@gza.com		Relinguished by Date/Time Received b	- v
Direct 232-8732		, , , , , , , , , , , , , , , , , , , ,	,

222172

31



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



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 222441 Client Identification: Rennie | 04.019003.02 Date Received: 2/18/2021

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.easternanalytical.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), Vermont (VT1012) and New York (12072).

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

<u>2 · 24 · 24</u> Date



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

Client Designation: Rennie | 04.019003.02

Temperat Acceptable t	ure upon receipt (°C): 1 emperature range (°C): 0-6	.5		F	leceived o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/1 Samp	lime Died	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
222441.01	System INFLUENT	2/18/21	2/17/21	9:50	aqueous		Adheres to Sample Acceptance Policy
222441.02	System MID	2/18/21	2/17/21	10:00	aqueous		Adheres to Sample Acceptance Policy
222441.03	LGAC INFLUENT	2/18/21	2/18/21	10:05	aqueous		Adheres to Sample Acceptance Policy
222441.04	LGAC MID	2/18/21	2/18/21	10:00	aqueous		Adheres to Sample Acceptance Policy
222441.05	LGAC EFFLUENT	2/18/21	2/18/21	9:55	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, 21st, 22nd & 23rd Edition or noted Revision year.

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

4) Hach Water Analysis Handbook, 4th edition, 1992

Eastern Analytical, Inc.

### LABORATORY REPORT

### EAI ID#: 222441

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

Client Designation: Rennie | 04.019003.02

Client Sample ID:	System INFLUENT						
Lab Sample ID:	222441.01				·		
Matrix:	aqueous						
Date Sampled:	2/17/21						
Date Received:	2/18/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	20	2	10	ug/L	2/23/21 17:59	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	2/23/21 17:59	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	2/23/21 17:59	8260B SIM	AM

Client Sample ID:	System MID						
Lab Sample ID:	222441.02						
Matrix:	aqueous						
Date Sampled:	2/17/21						
Date Received:	2/18/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	2/23/21 16:26	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	2/23/21 16:26	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	2/23/21 16:26	8260B SIM	AM

# LABORATORY REPORT

### EAI ID#: 222441

### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie | 04.019003.02

Client Sample ID:	LGAC INFLUENT						
Lab Sample ID:	222441.03						
Matrix:	aqueous						
Date Sampled:	2/18/21						
Date Received:	2/18/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	740	20	100	ug/L	2/23/21 18:30	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	2/23/21 18:30	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	2/23/21 18:30	8260B SIM	AM

Client Sample ID:	LGAC MID						
Lab Sample ID:	222441.04						
Matrix:	aqueous						
Date Sampled:	2/18/21						
Date Received:	2/18/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	2/23/21 16:57	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	2/23/21 16:57	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	2/23/21 16:57	8260B SIM	AM

Client Sample ID:	LGAC EFFLUENT						
Lab Sample ID:	222441.05						
Matrix:	aqueous						
Date Sampled:	2/18/21						
Date Received:	2/18/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.23	0.2	1	ug/L	2/23/21 17:28	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	2/23/21 17:28	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	2/23/21 17:28	8260B SIM	AM

### EAI ID#: 222441

### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie | 04.019003.02

Batch ID: 637496-91161/A022321DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.4 (87 %R)	4.5 (90 %R) (3 RPD	) 2/23/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	100 %R	100 %R	100 %F	R 2/23/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	100 %R	101 %R	101 %F	R 2/23/2021	% Rec	70 - 130	50	8260B

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 on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

Page of		_			С	HA	N-0	OF-	Cu	ISTO	oD,	y R	ECO	ORE	>	_											<b>1</b> .14			_
		Bo	DLC	FIELDS	Re	QUI	RED	. P	LEA	se C	Circ	CLE	Req	QUES	STEI		NAĽ	YSIS	5.								227	244	1	
	· · · · · · · · · · · · · · · · · · ·				)C		4	S	Ve			TCLP	Met	ALS			NO	RC	AN	IC	S		Mı	CRO		μ <b>i</b>	IER			
SAMPLE I.D.	Sampling Date/Time *If Composite, Indicate Both Start & Finish Date/Time	MATRIX (SEE BELOW	GRAB/*COMPOSITE	524.2 BTEX 524.2 MTBE ONLY 524.2 BTEX 524.2 MTBE ONLY 8260B 624 VTEC5 1, 4 Dioxare	802IB BTEX HALOS	8015B GRO MAVPH	8270D 625 SVTICS EDB DBC ABN 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 TSS TDS SPEC. CON.	BR CI F 504 NO2 NO3 NO3NO2	BOD CBOD T. ALK.	TKN NH3 T. PHOS. O. PHO	p.H T. Res. Chlorine	COD PHENOLS TOC DOC	TOTAL CYANIDE TOTAL SULFIDE	REACTIVE CYANIOE REACTIVE SULFIDE FLASHPOINT IGNIJABILITY	TOTAL COLIFORM E. COLI FECAL COLIFORM	ENTEROCOCCI Heterotrophic Plate Count	1,4 dx low level			# OF CONTAINERS	<b>N</b> c MeOH	dial #
Sustem INFLU	ENT 2/17/21915	0	3																					ļ		-		2		
System MID	2/17/21 10:00	(2)	6																						X			2		
LGAC INFLUENT	2/18/21 10:05	(un)	6																						×			2		
LGAC MID	2/18/21 10:00	Cu	6																						X			2		
LGAC EFFLUENT	2/18/21 9:55	(20)	6					1																	X	:		2		
	:																													
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																										+			+	
Iatrix: A-Air; S-Soil GW-Ground Water WW-Waste water 'reservative: H-HCL: N-HNO3: S-H3SO4: N	I r; SW-Surface Water; DW-Drink Ia-NaOH: M-MEOH ()COC	l ing W	ATER;	· · · ·	-																							`c	•	
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GULATORY PROGRAM: NPDES: RGP	POTW STORMWATER OR					ĴP)	цэпс (ЛЛ		•	2/	IR	12	1	17	00			1. 1.	X	m	~	C	11.0-1							
GWP, OIL FUND, BROWNF	ield or Other:				RE	LINQ	IJSHE	D/By	:	1	DATE?	<u> </u>	Ti	ME:	- 0	REC	EIVED E	3K	1			SITE	HISTO	(Y:						
lote #:	PO #:				Pri	INO	licitr	D D			Date		τ.			n	-					SUSP	ECTED	LONTA	MINATI	ON:				
Eastern Analy	tical, Inc. 25	б Сне	NELL	Drive Co			1 033	01   1	- Fel: 6	03.228	8.052	5   1.	800.2	87.05	25	ikeci E-Mai	L: CUS	ы: 5томі	erServ	VICE@	 East	fiell ernA	, NALY	TICAL	.COM	wv	VW.EA	STERN	IANALYT	ICAL.CC

(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



Laboratory Report for:

Eastern Analytical, Inc. ID: 223237 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 3/11/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

arenne Kushun

Lorraine Olashaw, Lab Director





EAI ID#: 223237

### 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	1.1		Received o	Received on ice or cold packs (Yes/No): $\gamma$					
Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)				
223237.01	System Influent	3/11/21	3/11/21 11:1	0 aqueous		Adheres to Sample Acceptance Policy				
223237.02	System Effluent	3/11/21	3/11/21 11:2	5 aqueous		Adheres to Sample Acceptance Policy				

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc. www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com

### LABORATORY REPORT

EAI ID#: 223237

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

Client Sample ID: System Influent			Date of Preparation:									
Lab Sample ID:	223237.01				Ме	thod:	624.1					
Matrix: a	aqueous				An	alyst:	DGM					
Date Sampled:	3/11/21				ι	Jnits:	ug/L					
Date Paceived:	3/11/21											
Date Necelveu.			Dilution	Date					Dilution	Date		
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyze		
Chloromethane	< 2	2	1	3/11/21	4-Bromofluorobenzene (surr)	95	%R			3/11/21		
Vinyl chloride	< 1	1	1	3/11/21	1,2-Dichlorobenzene-d4	96	%R			3/11/21		
Bromomethane	< 2	2	1	3/11/21	Toluene-d8 (surr)	100	%R			3/11/21		
Chloroethane	< 2	2	1	3/11/21								
Trichlorofluoromethane	< 2	2	1	3/11/21								
Acrolein	< 50	50	1	3/11/21								
Acetone	< 10	10	1	3/11/21								
1,1-Dichloroethene	< 0.5	0.5	1	3/11/21								
Methylene chloride	< 1	1	1	3/11/21								
Acrylonitrile	< 50	50	1	3/11/21								
Methyl-t-butyl ether(MTBE	) <1	1	1	3/11/21								
trans-1,2-Dichloroethene	< 1	1	1	3/11/21								
Vinyl acetate	< 10	10	1	3/11/21								
1,1-Dichloroethane	< 1	1	1	3/11/21								
cis-1,2-Dichloroethene	< 1	1	1	3/11/21								
2-Butanone(MEK)	< 10	10	1	3/11/21								
Chloroform	< 1	1	1	3/11/21								
1,1,1-Trichloroethane	< 1	1	1	3/11/21								
Carbon tetrachloride	< 1	1	1	3/11/21								
Benzene	< 1	1	1	3/11/21								
1,2-Dichloroethane	< 1	1	1	3/11/21								
Trichloroethene	< 1	1	1	3/11/21								
1,2-Dichloropropane	< 1	1	1	3/11/21								
Bromodichloromethane	< 0.5	0.5	1	3/11/21								
2-Chloroethylvinylether	< 2	2	1	3/11/21								
4-Methyl-2-pentanone(MIB	3K) < 10	10	1	3/11/21								
cis-1,3-Dichloropropene	< 0.5	0.5	1	3/11/21								
Toluene	< 1	1	1	3/11/21								
trans-1,3-Dichloropropene	< 0.5	0.5	1	3/11/21								
1,1,2-Trichloroethane	< 1	1	1	3/11/21								
2-Hexanone	< 10	10	1	3/11/21								
Tetrachloroethene	< 1	1	1	3/11/21								
Dibromochloromethane	< 1	1	1	3/11/21								
Chlorobenzene	< 1	1	1	3/11/21								
Ethylbenzene	< 1	1	1	3/11/21								
mp-Xylene	< 1	1	1	3/11/21								
o-Xylene	< 1	1	1	3/11/21								
Styrene	< 1	1	1	3/11/21								
Bromoform	< 2	2	1	3/11/21								
1,1,2,2-Tetrachloroethane	< 1	1	1	3/11/21								
1,3-Dichlorobenzene	< 1	1	1	3/11/21								
1,4-Dichlorobenzene	< 1	1	1	3/11/21								
1,2-Dichlorobenzene	< 1	1	1	3/11/21								

### LABORATORY REPORT

EAI ID#: 223237

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

Client Designation: Rennie Farm RGP / 04.0190030.02

					· · · · · · · · · · · · · · · · · · ·					
Client Sample ID: System Effluent					Date of Prepara	ation:				
Lab Sample ID:	223237.02				Me	τησα:	624.1			
Matrix:	aqueous				Ana	alyst:	DGM			
Date Sampled:	3/11/21				L	Inits:	ug/L			
Date Received:	3/11/21									
			Dilution	Date					Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyze
Chloromethane	< 2	2	1	3/11/21	4-Bromofluorobenzene (surr)	96	%R			3/11/21
Vinyl chloride	< 1	1	1	3/11/21	1,2-Dichlorobenzene-d4	96	%R			3/11/21
Bromomethane	< 2	2	1	3/11/21	Toluene-d8 (surr)	99	%R			3/11/21
Chloroethane	< 2	2	1	3/11/21						
Trichlorofluoromethane	< 2	2	1	3/11/21						
Acrolein	< 50	50	1	3/11/21						
Acetone	< 10	10	1	3/11/21						
1,1-Dichloroethene	< 0.5	0.5	1	3/11/21						
Methylene chloride	< 1	1	1 ·	3/11/21						
Acrylonitrile	< 50	50	1	3/11/21						
Methyl-t-butyl ether(MTBE	) <1	1	1	3/11/21						
trans-1,2-Dichloroethene	< 1	1	1	3/11/21						
Vinyl acetate	< 10	10	1	3/11/21						
1,1-Dichloroethane	< 1	1	1	3/11/21						
cis-1,2-Dichloroethene	< 1	1	1	3/11/21						
2-Butanone(MEK)	< 10	10	1	3/11/21						
Chloroform	< 1	1	1	3/11/21						
1,1,1-Trichloroethane	< 1	1	1	3/11/21						
Carbon tetrachloride	< 1	1	1	3/11/21						
Benzene	< 1	1	1	3/11/21						
1,2-Dichloroethane	< 1	1	1	3/11/21						
Trichloroethene	< 1	1	1	3/11/21						
1,2-Dichloropropane	< 1	1	1	3/11/21						
Bromodichloromethane	< 0.5	0.5	1	3/11/21						
2-Chloroethylvinylether	< 2	2	1	3/11/21						
4-Methyl-2-pentanone(MIE	3K) < 10	10	1	3/11/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	3/11/21						
Toluene	< 1	1	1	3/11/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	3/11/21						
1,1,2-Trichloroethane	< 1	1	1	3/11/21						
2-Hexanone	< 10	10	1	3/11/21						
Tetrachloroethene	< 1	1	1	3/11/21						
Dibromochloromethane	< 1	1	1	3/11/21						
Chlorobenzene	< 1	1	1	3/11/21						
Ethylbenzene	< 1	1	1	3/11/21						
mp-Xylene	< 1	1	1	3/11/21						
o-Xylene	< 1	1	1	3/11/21						
Styrene	< 1	1	1	3/11/21						
Bromoform	< 2	2	1	3/11/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	3/11/21						
1,3-Dichlorobenzene	< 1	1	1	3/11/21						
1,4-Dichlorobenzene	< 1	1	1	3/11/21						
1.2-Dichlorobenzene	< 1	1	1	3/11/21						

### QC REPORT

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	< .876	18 (91 %R)	18 (89 %R) (2 RPD	) 3/11/2021	ug/L	1 - 205	60	624.1
Vinyl chloride	< 1	< .34	21 (105 %R)	20 (100 %R) (5 RPD	) 3/11/2021	ug/L	5 - 195	66	624.1
Bromomethane	< 2	< .554	20 (98 %R)	19 (93 %R) (6 RPD	) 3/11/2021	ug/L	15 - 185	61	624.1
Chloroethane	< 2	< .232	17 (84 %R)	16 (82 %R) (2 RPD	) 3/11/2021	ug/L	40 - 160	78	624.1
Trichlorofluoromethane	< 2	< .375	21 (107 %R)	20 (101 %R) (6 RPD	) 3/11/2021	ug/L	50 - 150	84	624.1
Acrolein	< 50	< .548	< 50 (87 %R)	< 50 (74 %R) (17 RPD	) 3/11/2021	ug/L	60 - 140	60	624.1
Acetone	< 10	< 2.387	20 (100 %R)	21 (105 %R) (4 RPD	) 3/11/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethene	< 0.5	< .37	19 (94 %R)	18 (88 %R) (7 RPD	) 3/11/2021	ug/L	50 - 150	32	624.1
Methylene chloride	< 1	< .545	18 (91 %R)	18 (89 %R) (2 RPD	) 3/11/2021	ug/L	60 - 140	28	624.1
Acrylonitrile	< 50	< .302	< 50 (94 %R)	< 50 (97 %R) (2 RPD	) 3/11/2021	ug/L	60 - 140	60	624.1
Methyl-t-butyl ether(MTBE)	< 1	< .519	20 (100 %R)	20 (98 %R) (3 RPD	) 3/11/2021	ug/L	70 - 130	20	624.1
trans-1,2-Dichloroethene	< 1	< .298	19 (96 %R)	19 (97 %R) (1 RPD	) 3/11/2021	ug/L	70 - 130	45	624.1
Vinyl acetate	< 10	< .557	16 (81 %R)	10 (52 %R) (45 RPD	) 3/11/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethane	< 1	< .085	20 (101 %R)	19 (97 %R) (5 RPD	) 3/11/2021	ug/L	70 - 130	40	624.1
cis-1,2-Dichloroethene	< 1	< .238	21 (103 %R)	20 (98 %R) (4 RPD	) 3/11/2021	ug/L	70 - 130	20	624.1
2-Butanone(MEK)	< 10	< .206	21 (106 %R)	22 (111 %R) (4 RPD	) 3/11/2021	ug/L	40 - 160	20	624.1
Chloroform	< 1	< .36	19 (93 %R)	18 (89 %R) (5 RPD	) 3/11/2021	ug/L	70 - 135	54	624.1
1,1,1-Trichloroethane	< 1	< .227	21 (104 %R)	20 (98 %R) (7 RPD	, ) 3/11/2021	ug/L	70 - 130	36	624.1
Carbon tetrachloride	< 1	< .261	20 (102 %R)	19 (96 %R) (7 RPD	, ) 3/11/2021	ua/L	70 - 130	41	624.1
Benzene	< 1	< .312	20 (101 %R)	19 (97 %R) (5 RPD	, ) 3/11/2021	ua/L	65 - 135	61	624.1
1,2-Dichloroethane	< 1	< .21	21 (103 %R)	20 (100 %R) (3 RPD	) 3/11/2021	ua/L	70 - 130	49	624.1
Trichloroethene	< 1	< .359	20 (101 %R)	19 (96 %R) (6 RPD	) 3/11/2021	ua/L	65 - 135	48	624.1
1,2-Dichloropropane	< 1	< .285	20 (101 %R)	19 (97 %R) (4 RPD	) 3/11/2021	ua/L	35 - 165	55	624.1
Bromodichloromethane	< 0.5	< .079	21 (107 %R)	21 (103 %R) (4 RPD	) 3/11/2021	ua/L	65 - 135	56	624.1
2-Chloroethylvinylether	< 2	< .493	20 (102 %R)	21 (103 %R) (1 RPD	) 3/11/2021	ua/L	1 - 225	71	624.1
4-Methyl-2-pentanone(MIBK)	< 10	< .411	22 (112 %R)	21 (106 %R) (6 RPD	) 3/11/2021	ua/L	40 - 160	20	624.1
cis-1,3-Dichloropropene	< 0.5	< .101	21 (105 %R)	20 (102 %R) (3 RPD	) 3/11/2021	ua/L	25 - 175	58	624.1
Toluene	< 1	< .19	21 (103 %R)	20 (98 %R) (6 RPD	) 3/11/2021	ua/L	70 - 130	41	624.1
trans-1,3-Dichloropropene	< 0.5	< .08	23 (113 %R)	22 (110 %R) (3 RPD	) 3/11/2021	ua/L	50 - 150	86	624.1
1,1,2-Trichloroethane	< 1	< .203	21 (104 %R)	20 (101 %R) (3 RPD	) 3/11/2021	ua/L	70 - 130	45	624.1
2-Hexanone	< 10	< .28	24 (120 %R)	22 (109 %R) (10 RPD	) 3/11/2021	ua/L	40 - 160	20	624.1
Tetrachloroethene	< 1	< .371	20 (101 %R)	19 (94 %R) (7 RPD	) 3/11/2021	ua/L	70 - 130	39	624.1
Dibromochloromethane	< 1	< .225	22 (109 %R)	21 (105 %R) (4 RPD	) 3/11/2021	ua/L	70 - 135	50	624.1
Chlorobenzene	< 1	< 247	21 (103 %R)	20 (98 %R) (4 RPD	) 3/11/2021	ua/L	65 - 135	53	624 1
Ethylbenzene	< 1	< .213	21 (105 %R)	20 (100 %R) (5 RPD	) 3/11/2021	ua/L	60 - 140	63	624.1
mp-Xylene	< 1	< .476	41 (103 %R)	40 (99 %R) (4 RPD	) 3/11/2021	ua/L	70 - 130	20	624.1
o-Xylene	< 1	< .298	21 (104 %R)	20 (101 %R) (3 RPD	) 3/11/2021	ua/L	70 - 130	20	624.1
Styrene	< 1	< .727	21 (106 %R)	21 (103 %R) (4 RPD	) 3/11/2021	ua/L	70 - 130	20	624 1
Bromoform	< 2	< .282	24 (120 %R)	24 (118 %R) (1 RPD	) 3/11/2021	ua/L	70 - 130	42	624.1
1,1,2,2-Tetrachloroethane	< 1	< .381	21 (105 %R)	21 (104 %R) (1 RPD	) 3/11/2021	ua/L	60 - 140	61	624.1
1.3-Dichlorobenzene	< 1	< 426	21 (104 %R)	20 (100 %R) (3 RPD	) 3/11/2021	ug/L	70 - 130	43	624.1
1.4-Dichlorobenzene	< 1	< 375	20 (102 %R)	20 (99 %R) (3 RPD	) 3/11/2021	ug/L	65 - 135	57	624.1
1.2-Dichlorobenzene	< 1	< 218	20 (101 %R)	20 (99 %R) (3 RPD	) 3/11/2021	ua/l	65 - 135	57	624 1
4-Bromofluorobenzene (surr)	96 %R	.,210	100 %R	101 %	3/11/2021	% Rec	70 - 130	07	624 1
1.2-Dichlorobenzene-d4 (surr)	96 %R		112 %P	110 %	3/11/2021 3/11/2021	% Rec	70 - 130		67 <u>4</u> 1
Toluene-d8 (surr)	99 %R		100 %R	100 %F	3/11/2021	% Rec	70 - 130		624.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Eastern Analytical, Inc.

EAI ID#: 223237

Batch ID:
# LABORATORY REPORT

### EAI ID#: 223237

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

Client Sample ID:	System Influent							
Lab Sample ID:	223237.01							
Matrix:	aqueous							
Date Sampled:	3/11/21							
Date Received:	3/11/21							
	Result	RL	Dilution Factor	Units	Date / ⁻ Analyz	Time zed	Method	Analyst
Phenol	< 1	1	1	ug/L	3/17/21	20:13	625.1	JMR
2-Fluorophenol (surr)	37 %R			%	3/17/21	20:13	625.1	JMR
Phenol-d6 (surr)	25 %R			%	3/17/21	20:13	625.1	JMR

# LABORATORY REPORT

EAI ID#: 223237

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

Client Sample ID:	System Effluent							
Lab Sample ID:	223237.02							
Matrix:	aqueous							
Date Sampled:	3/11/21							
Date Received:	3/11/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
Phenol	< 1	1	1	ug/L	3/17/21	20:35	625.1	JMR
2-Fluorophenol (surr)	42 %R			%	3/17/21	20:35	625.1	JMR
Phenol-d6 (surr)	29 %R			%	3/17/21	20:35	625.1	JMR
0.4.C. Tribus and an al (a) and				07	0147104	20.25	625 1	IMR

QC REPORT

### EAI ID#: 223237

Batch ID: 637515-63430/A031721E6251

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

Blank Blank **Parameter Name** LCS LCSD **RPD** Method Analysis Date Units Limits (RL) (MDL) alpha-Terpineol 3/17/2021 40 - 140 625.1 < 5 < .17 20 (81 %R) 19 (75 %R) (7 RPD) ug/L 20 Phenol < 1 < .12 16 (32 %R) 15 (30 %R) (7 RPD) 3/17/2021 ug/L 5 - 120 64 625.1 2-Chlorophenol < 1 < .2 34 (69 %R) 31 (63 %R) (9 RPD) 3/17/2021 ug/L 23 - 134 61 625.1 2,4-Dichlorophenol < 1 < .31 3/17/2021 39 - 135 50 625.1 39 (77 %R) 36 (72 %R) (7 RPD) ug/L 2,4,5-Trichlorophenol < 1 < .33 41 (82 %R) (2 RPD) 3/17/2021 ug/L 30 - 130 20 625.1 42 (84 %R) 2,4,6-Trichlorophenol < 1 < .48 42 (84 %R) 41 (81 %R) (4 RPD) 3/17/2021 ug/L 37 - 144 58 625.1 Pentachlorophenol < 5 14 - 176 86 625.1 < 1.1 46 (92 %R) 47 (95 %R) (3 RPD) 3/17/2021 ug/L 2-Nitrophenol < 5 < .44 38 (76 %R) (9 RPD) 3/17/2021 ug/L 29 - 182 55 625.1 42 (84 %R) 4-Nitrophenol < 5 < .22 19 (39 %R) 20 (39 %R) (2 RPD) 3/17/2021 ug/L 1 - 132 131 625.1 2,4-Dinitrophenol < 10 1 - 191 132 < 1.5 50 (99 %R) 52 (103 %R) (4 RPD) 3/17/2021 ug/L 625.1 2-Methylphenol < 1 < .4 31 (62 %R) (8 RPD) 3/17/2021 ug/L 30 - 130 20 625.1 33 (67 %R) 3/4-Methylphenol 20 < 1 < .42 32 (64 %R) 30 (60 %R) (6 RPD) 3/17/2021 ug/L 30 - 130 625.1 2,4-Dimethylphenol < 5 < 1.4 3/17/2021 32 - 120 58 37 (73 %R) 34 (68 %R) (7 RPD) ug/L 625.1 4-Chloro-3-methylphenol < 1 < .26 22 - 147 73 39 (78 %R) 38 (76 %R) (2 RPD) 3/17/2021 ug/L 625.1 4,6-Dinitro-2-methylphenol < 5 3/17/2021 1 - 181 203 < 3.3 51 (103 %R) 53 (106 %R) (3 RPD) ug/L 625.1 Benzoic Acid < 50 < 5.7 < 50 (32 %R) (3 RPD) 3/17/2021 ug/L 15 - 130 50 625.1 < 50 (33 %R) 20 N-Nitrosodimethylamine < 1 < .11 12 (49 %R) 11 (46 %R) (7 RPD) 3/17/2021 ug/L 15 - 140 625.1 n-Nitroso-di-n-propylamine < 0.5 < .22 3/17/2021 ug/L 1 - 230 87 625.1 19 (76 %R) 18 (70 %R) (8 RPD) 20 n-Nitrosodiphenylamine < 1 < .068 20 (82 %R) 21 (83 %R) (2 RPD) 3/17/2021 ug/L 40 - 140 625.1 bis(2-Chloroethyl)ether < 1 < ,11 18 (73 %R) 17 (66 %R) (10 RPD) 3/17/2021 ug/L 12 - 158 108 625.1 76 bis(2-chloroisopropyl)ether < 1 ug/L 36 - 166 625.1 < .13 18 (71 %R) 16 (65 %R) (9 RPD) 3/17/2021 bis(2-Chloroethoxy)methane < 1 < .2 19 (77 %R) 18 (71 %R) (8 RPD) 3/17/2021 ug/L 33 - 184 54 625.1 40 - 140 20 625.1 1,3-Dichlorobenzene < 1 < .15 3/17/2021 ug/L 15 (60 %R) 14 (56 %R) (8 RPD) ug/L 20 Acetophenone < 10 3/17/2021 40 - 140 625.1 < 8.8 19 (76 %R) 17 (70 %R) (9 RPD) 40 - 140 20 625.1 1.4-Dichlorobenzene < 1 15 (62 %R) 14 (57 %R) (9 RPD) 3/17/2021 ug/L < .11 20 3/17/2021 ug/L 40 - 140 625.1 1,2-Dichlorobenzene < 1 < .13 16 (64 %R) 15 (58 %R) (9 RPD) 1,2,4-Trichlorobenzene < 1 < .09 15 (62 %R) (8 RPD) 3/17/2021 ug/L 44 - 142 50 625.1 17 (67 %R) 24 ug/L 60 - 120 625.1 2-Chloronaphthalene < 1 < .11 19 (78 %R) 18 (74 %R) (6 RPD) 3/17/2021 25 - 158 61 625.1 4-Chlorophenyl-phenylether < 1 < .059 21 (83 %R) 21 (82 %R) (1 RPD) 3/17/2021 ug/L 53 - 127 43 625.1 3/17/2021 ug/L 4-Bromophenyl-phenylether < 1 21 (83 %R) (1 RPD) < .14 21 (82 %R) < 1 ug/L 40 - 120 52 625.1 Hexachloroethane < .15 15 (61 %R) 14 (56 %R) (9 RPD) 3/17/2021 < 1 3/17/2021 ug/L 24 - 120 62 625.1 Hexachlorobutadiene < .073 16 (65 %R) 15 (60 %R) (9 RPD) ug/L 15 - 140 20 625.1 Hexachlorocyclopentadiene < 5 < .21 18 (71 %R) 16 (63 %R) (11 RPD) 3/17/2021 625.1 Hexachlorobenzene 21 (84 %R) (1 RPD) 3/17/2021 ug/L 1 - 152 55 < 1 < .12 21 (83 %R) 20 625.1 ug/L 15 - 140 4-Chloroaniline < 1 < .13 20 (80 %R) 19 (75 %R) (6 RPD) 3/17/2021 ug/L 20 40 - 140 625.1 2,3-Dichloroaniline < 1 < .11 20 (82 %R) 20 (78 %R) (4 RPD) 3/17/2021 ug/L 40 - 140 20 625.1 < .18 3/17/2021 2-Nitroaniline < 5 23 (92 %R) 23 (91 %R) (1 RPD) 23 (91 %R) (2 RPD) 3/17/2021 ug/L 40 - 140 20 625.1 3-Nitroaniline < 5 22 (90 %R) < .13 20 4-Nitroaniline < 5 < .23 23 (93 %R) 24 (96 %R) (4 RPD) 3/17/2021 ug/L 40 - 140 625.1 20 40 - 140 625.1 17 (66 %R) (6 RPD) 3/17/2021 ug/L Aniline < 1 < .13 18 (70 %R) ug/L 40 - 140 20 625.1 Benzyl alcohol < 10 < .35 19 (75 %R) 18 (70 %R) (6 RPD) 3/17/2021 ug/L 35 - 180 62 625.1 3/17/2021 Nitrobenzene < 1 < .21 19 (77 %R) 18 (71 %R) (8 RPD) 93 3/17/2021 ug/L 21 - 196 625.1 19 (77 %R) (6 RPD) Isophorone < 1 < .16 21 (82 %R) 2,4-Dinitrotoluene < 2 < .14 24 (94 %R) 24 (96 %R) (2 RPD) 3/17/2021 ug/L 39 - 139 42 625.1 ug/L 50 - 158 48 625.1 23 (93 %R) 24 (94 %R) (2 RPD) 3/17/2021 2,6-Dinitrotoluene < 2 < .14 1 - 200 50 625.1 3/17/2021 ug/L 16 (62 %R) (3 RPD) Benzidine (estimated) < 5 < .41 15 (60 %R)

Eastern Analytical, Inc.

QC REPORT

### EAI ID#: 223237

Batch ID: 637515-63430/A031721E6251

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
3,3'-Dichlorobenzidine	< 1	< .27	21 (84 %R)	22 (87 %R) (3 RPC	) 3/17/2021	ug/L	1 - 262	108	625.1
Pyridine	< 5	< .18	12 (48 %R)	11 (45 %R) (8 RPC	) 3/17/2021	ug/L	15 - 140	20	625.1
Azobenzene	< 1	< .14	20 (82 %R)	21 (82 %R) (1 RPD	) 3/17/2021	ug/L	40 - 140	20	625.1
Carbazole	< 1	< .12	21 (84 %R)	21 (86 %R) (3 RPC	) 3/17/2021	ug/L	40 - 140	20	625.1
Dimethylphthalate	< 1	< .11	21 (84 %R)	21 (86 %R) (2 RPC	) 3/17/2021	ug/L	1 - 120	183	625.1
Diethylphthalate	< 5	< .11	22 (89 %R)	23 (93 %R) (3 RPC	) 3/17/2021	ug/L	1 - 120	100	625.1
Di-n-butylphthalate	< 5	< .64	23 (90 %R)	24 (95 %R) (5 RPC	) 3/17/2021	ug/L	1 - 120	47	625.1
Butylbenzylphthalate	< 5	< .14	24 (94 %R)	25 (99 %R) (5 RPC	) 3/17/2021	ug/L	1 - 152	60	625.1
bis(2-Ethylhexyl)phthalate	< 5	< .27	23 (92 %R)	24 (96 %R) (4 RPC	) 3/17/2021	ug/L	8 - 158	82	625.1
Di-n-octylphthalate	< 5	< .2	24 (97 %R)	25 (100 %R) (3 RPC	) 3/17/2021	ug/L	4 - 146	69	625.1
Dibenzofuran	< 1	< .11	20 (80 %R)	20 (79 %R) (1 RPE	) 3/17/2021	ug/L	40 - 140	20	625.1
Naphthaiene	< 1	< .088	17 (70 %R)	16 (64 %R) (8 RPE	) 3/17/2021	ug/L	21 - 133	65	625.1
2-Methylnaphthalene	< 1	< .11	18 (73 %R)	17 (68 %R) (7 RPE	) 3/17/2021	ug/L	40 - 140	65	625.1
1-Methylnaphthalene	< 1	< .12	18 (74 %R)	17 (69 %R) (7 RPE	) 3/17/2021	ug/L	40 - 140	65	625.1
Acenaphthylene	< 1	< .11	20 (79 %R)	19 (76 %R) (3 RPI	) 3/17/2021	ug/L	33 - 145	74	625.1
Acenaphthene	< 1	< .11	24 (97 %R)	24 (94 %R) (3 RPD	) 3/17/2021	ug/L	47 - 145	48	625.1
Fluorene	< 1	< .093	20 (79 %R)	20 (79 %R) (0 RPE	) 3/17/2021	ug/L	59 - 121	38	625.1
Phenanthrene	< 1	< .11	19 (77 %R)	20 (79 %R) (3 RPE	) 3/17/2021	ug/L	54 - 120	39	625.1
Anthracene	< 1	< .13	20 (79 %R)	20 (80 %R) (2 RPE	) 3/17/2021	ug/L	27 - 133	66	625.1
Fluoranthene	< 1	< .12	19 (78 %R)	20 (80 %R) (3 RPE	) 3/17/2021	ug/L	26 - 137	66	625.1
Pyrene	< 1	< .11	19 (77 %R)	20 (80 %R) (3 RPE	) 3/17/2021	ug/L	52 - 120	49	625.1
Benzo[a]anthracene	< 1	< .17	20 (78 %R)	20 (81 %R) (3 RPE	) 3/17/2021	ug/L	33 - 143	53	625.1
Chrysene	< 1	< .14	19 (78 %R)	20 (81 %R) (4 RPI	) 3/17/2021	ug/L	. 17 - 168	87	625.1
Benzo[b]fluoranthene	< 1	< .095	20 (81 %R)	21 (84 %R) (4 RPI	) 3/17/2021	ug/L	. 24 - 159	71	625.1
Benzo[k]fluoranthene	< 1	< .14	20 (79 %R)	20 (81 %R) (2 RPI	D) 3/17/2021	ug/L	. 11 - 162	63	625.1
Benzo[a]pyrene	< 1	< .058	19 (75 %R)	19 (77 %R) (3 RPI	D) 3/17/2021	ug/L	. 17 - 163	72	625.1
Indeno[1,2,3-cd]pyrene	< 1	< .13	21 (82 %R)	21 (84 %R) (2 RPI	) 3/17/2021	ug/L	. 1 - 171	99	625.1
Dibenz[a,h]anthracene	< 1	< .16	20 (80 %R)	21 (82 %R) (3 RPI	) 3/17/2021	ug/L	. 1 - 227	126	625.1
Benzo[g,h,i]perylene	< 1	< .14	20 (80 %R)	20 (81 %R) (2 RPI	D) 3/17/2021	ug/L	. 1 - 219	97	625.1
n-Decane	< 5	< .16	13 (52 %R)	12 (48 %R) (10 RPI	0) 3/17/2021	ug/L	. 40 - 140	20	625.1
n-Octadecane	< 5	< .5	21 (85 %R)	22 (87 %R) (2 RPI	D) 3/17/2021	ug/L	. 40 - 140	20	625.1
2-Fluorophenol (surr)	38 %R		42 %R	38 %	R 3/17/2021	% Rec	: 15 - 110		625.1
Phenol-d6 (surr)	28 %R		31 %R	29 %	R 3/17/2021	% Rec	: 15 - 110		625.1
2,4,6-Tribromophenol (surr)	84 %R		88 %R	89 %	R 3/17/2021	% Rec	: 15 - 110		625.1
Nitrobenzene-D5 (surr)	74 %R		80 %R	72 %	R 3/17/2021	% Red	30 - 130		625.1
2-Fluorobiphenyl (surr)	76 %R		80 %R	75 %	R 3/17/2021	% Red	30 - 130	)	625.1
p-Terphenyl-D14 (surr)	84 %R		85 %R	88 %	R 3/17/2021	% Red	30 - 130	)	625.1

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 on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

# LABORATORY REPORT

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

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	223237.01	223237.02						
Matrix:	aqueous	aqueous						
Date Sampled:	3/11/21	3/11/21			Ana	alysis		
Date Received:	3/11/21	3/11/21	RL	Units	Date	Time	Method /	Analyst
Solids Suspended	< 5	< 5	5	mg/L	3/15/21	13:25	2540D-11	HEH
Chloride	2600	2200	1000	ug/L	3/12/21	10:18	4500CIE-11	ATA
Cyanide Total	< 5	< 5	5	ug/L	3/16/21	10:06	ASTM D7511-	09 KD
Cyanide Free	< 5	< 5	5	ug/L	3/16/21	12:26	OIA-1677-09	) KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	3/12/21	12:21	TM NH3-001	I SEL

### EAI ID#: 223237

# Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits RP	PD Method
Solids Suspended	< 5	860 (90 %R)	860 (91 %R) (0 RPD)	ma/L 3/15/21	90 - 110	20 2540D-11
Chloride	< 1000	25 (101 %R)	25 (101 %R) (0 RPD)	ug/L 3/12/21	90 - 110	20 4500CIE-11
Cyanide Total	< 5	0.088 (88 %R)	0.099 (99 %R) (12 RPD)	ug/L 3/16/21	84 - 116	20 ASTM D7511-09
Cyanide Free	< 5	0.25 (100 %R)	0.26 (104 %R) (4 RPD)	ug/L 3/16/21	82 - 132	20 OIA-1677-09
Ammonia-N	< 0.05	2.0 (99 %R)	1.9 (97 %R) (2 RPD)	mg/L 3/12/21	87 - 104	20 TM NH3-001

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc.

# LABORATORY REPORT

EAI ID#: 223237

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	223237.01	223237.02						
Matrix:	aqueous	aqueous						
Date Sampled:	3/11/21	3/11/21		Analytical		Analysis		
Date Received:	3/11/21	3/11/21	RL	Matrix	Units	Date	Method A	nalyst
Chromium (VI)	< 10	< 10	10	AqTot	ug/L	3/11/21	7196A	HEH
Antimony	< 0.5	< 0.5	0.5	AqTot	ug/L	3/12/21	200.8	DS
Arsenic	< 0.5	< 0.5	0.5	AqTot	ug/L	3/12/21	200.8	DS
Cadmium	< 0.1	< 0.1	0.1	AqTot	ug/L	3/12/21	200.8	DS
Chromium	< 0.5	< 0.5	0.5	AqTot	ug/L	3/12/21	200.8	DS
Copper	1.1	< 0.1	0.1	AqTot	ug/L	3/12/21	200.8	DS
Iron	730	< 50	50	AqTot	ug/L	3/12/21	200.8	DS
Lead	< 0.1	< 0.1	0.1	AqTot	ug/L	3/12/21	200.8	DS
Mercury	< 0.1	< 0.1	0.1	AqTot	ug/L	3/12/21	200.8	DS
Nickel	0.61	0.46	0.1	AqTot	ug/L	3/12/21	200.8	DS
Selenium	< 0.5	< 0.5	0.5	AqTot	ug/L	3/12/21	200.8	DS
Silver	< 0.1	< 0.1	0.1	AqTot	ug/L	3/12/21	200.8	DS
Zinc	1.8	1.4	1	AqTot	ug/L	3/12/21	200.8	DS
Chromium (III)	< 10	< 10	10	AqTot	ug/L	3/12/21	200.8	DS

### EAI ID#: 223237

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

Client Designation: Rennie Farm RGP / 04.0190030.02

				Date of						
Parameter Name	Blank	LCS	LCSD		Units Analysi	s	Limits	RPD	Method	
Antimony	< 0.0005	1.1 (111 %R)	Ν	IA	mg/L 3/12/2	1	85 - 115	20	200.8	
Arsenic	< 0.0005	1.0 (105 %R)	Ν	Į٨	mg/L 3/12/2	1	85 - 115	20	200.8	
Cadmium	< 0.0001	1.0 (105 %R)	Ν	١A	mg/L 3/12/2	1	85 - 115	20	200.8	
Chromium	< 0.0005	1.1 (111 %R)	Ν	A	mg/L 3/12/2 ⁻	1	85 - 115	20	200.8	
Copper	< 0.0001	1.0 (104 %R)	Ν	ΙA	mg/L 3/12/2 ⁻	1	85 - 115	20	200.8	
Iron	< 0.05	12 (105 %R)	N	ΙA	mg/L 3/12/2	1	85 - 115	20	200.8	
Lead	< 0.0001	0.97 (97 %R)	N	A	mg/L 3/12/2	1	85 - 115	20	200.8	
Mercury	< 0.0001	0.00099 (100 %R)	N	١A	mg/L 3/12/2	1	85 - 115	20	200.8	
Nickel	< 0.0001	1.1 (109 %R)	N	A	mg/L 3/12/2	1	85 - 115	20	200.8	
Selenium	< 0.0005	1.0 (103 %R)	Ν	١A	mg/L 3/12/2	1	85 - 115	20	200.8	
Silver	< 0.0001	0.010 (102 %R)	Ν	١A	mg/L 3/12/2	1	85 - 115	20	200.8	
Zinc	< 0.001	1.1 (109 %R)	Ν	١A	mg/L 3/12/2	1	85 - 115	20	200.8	
Chromium (VI)	< 0.01	0.34 (96 %R)	Ν	١A	mg/L 3/11/2	1	85 - 115	20	7196 <b>A</b>	

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

March 19, 2021

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

RE: Project: 223237 3/11 Pace Project No.: 70165537

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on March 12, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures



### **REPORT OF LABORATORY ANALYSIS**

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Page 1 of 9



### CERTIFICATIONS

 Project:
 223237 3/11

 Pace Project No.:
 70165537

Pace Analytical Services Long Island

Delaware Certification # NY10478 Virginia Certification # 460302 Delaware Certification # NY10478 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**



### ANALYTICAL RESULTS

Project: 223237 3/11

Pace Project No.: 70165537

Sample: SYSTEM INFLUENT	Lab ID: 701	65537001	Collected: 03/11/2	1 11:10	Received: 0	3/12/21 09:50 M	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Meth Pace Analytica	nod: EPA 16 I Services -	624B - Melville					
	<0.010	mg/L	0.010	1		03/18/21 17:27	67-64-1	
1 2-Dichloroethane-d4 (S)	111	%	78-114	1		03/18/21 17:27	17060-07-0	
4-Bromofluorobenzene (S)	89	%	83-111	1		03/18/21 17:27	460-00-4	
Toluene-d8 (S)	98	.%	80-131	1		03/18/21 17:27	2037-26-5	

### REPORT OF LABORATORY ANALYSIS



### ANALYTICAL RESULTS

 Project:
 223237 3/11

 Pace Project No.:
 70165537

Sample: SYSTEM EFFLUENT	Lab ID: 701	65537002	Collected: 03/11/2	1 11:25	Received: 0	3/12/21 09:50 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Met Pace Analytica	hod: EPA 16 al Services -	324B Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		03/18/21 17:05	67-64-1	
1,2-Dichloroethane-d4 (S)	105	%	78-114	1		03/18/21 17:05	17060-07-0	
4-Bromofluorobenzene (S)	93	%	83-111	1		03/18/21 17:05	460-00-4	
Toluene-d8 (S)	95	%	80-131	1		03/18/21 17:05	2037-26-5	

### **REPORT OF LABORATORY ANALYSIS**



### QUALITY CONTROL DATA

Project:	223237 3/11								
Pace Project No.:	70165537								
QC Batch:	200788		Analysis I	Method:	EF	PA 1624B			
QC Batch Method:	EPA 1624B		Analysis I	Description:	16	624B MSV			
			Laborator	y:	Pa	ace Analytical	Services - Melv	ville	
Associated Lab Sam	ples: 7016553700	01, 70165537002							
METHOD BLANK:	988222		Mat	rix: Water					
Associated Lab Sam	ples: 7016553700	1,70165537002							
			Blank	Reporti	ng				
Param	eter	Units	Result	Limit		Analyzed	Qualif	iers	
Acetone		mg/L	<0.0*	10 (	0.010	03/18/21 15	:58		
1,2-Dichloroethane-d	4 (S)	%	1(	04 7	3-114	03/18/21 15	:58		
4-Bromofluorobenzer	ne (S)	%	٤	36 8	3-111	03/18/21 15	:58		
Toluene-d8 (S)		%	ę	97 80	)-131	03/18/21 15	:58		
LABORATORY CON	TROL SAMPLE: 9	88223							
			Spike	LCS		LCS	% Rec		
Param	eter	Units	Conc.	Result	(	% Rec	Limits	Qualifiers	
Acetone		mg/L	0.05	0.048		96	20-200		
1,2-Dichloroethane-d	4 (S)	%				105	78-114		
4-Bromofluorobenzer	ne (S)	%				90	83-111		
Toluene-d8 (S)		%				91	80-131		

### SAMPLE DUPLICATE: 988628

		70165446001	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Acetone	mg/L	4490 ug/L	3.8	18	<u>,                                     </u>
1,2-Dichloroethane-d4 (S)	%	102	98		
4-Bromofluorobenzene (S)	%	85	86		
Toluene-d8 (S)	%	91	97		

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:
 223237 3/11

 Pace Project No.:
 70165537

### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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:
 223237 3/11

 Pace Project No.:
 70165537

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70165537001 70165537002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	200788 200788		

### **REPORT OF LABORATORY ANALYSIS**

# **CHAIN-OF-CUSTODY RECORD**

Eastern Analytical, Incomposition of the services

000007

		EALID# ZZJZJ/ Page 1
Sample ID	Date Sampled Matrix aParameters	Sample Notes
System Influent	3/11/2021 aqueous Subcontract - EPA Method 1624 Isotope Dilution 11:10	WO#:70165537
System Effluent	3/11/2021 aqueous Subcontract - EPA Method 1624 Isotope Dilution 11:25	70165537

EAI ID# 2	23237 Project State: NH	Results Needed: Preferred Date: Standard RUSH Due Date:	PO #:54501 EAI ID# <b>223237</b>
Company	PACE ANALYTICAL	□ A □ A+ ⊠ B □ B+ □ C □ MA MCP Notes about project:	Excel NH EMD EQuIS ME EGAD
Address	575 BROAD HOLLOW ROAD	Email login confirmation, pdf of results and invoice to customerservice@easternanalytical.com.	Call prior to analyzing, if RUSH charges will be applied.
Address Account #	MELVILLE, NY 11747	1624 Acetone Only	Jam John 3/11/27 1500 UPS
Phone # ਾ	(631)694-3040	L MA	Multiple Tast 3/17/1 9:50 Marth
°G Eastern A	Analytical, Inc. 25 Chenell Dr. Concord,	NH 03301 Phone: (603)228-0525 1-800-26	Relinquished by Date/Time Received by 740000

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

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£7 .	ç	Sample	e Conditi	on Upon Rece		<b>6627</b>
PaceAnalytical	Client	Name:		Projec	PN: KMM DU	e Date: 03/19/21
	<u></u>			Winter and the second second second second second second second second second second second second second second	CLITENT: EASTA	
COURTER: Fed EX UPS USPS Clien	t 🗆 Com	mercial [	_Pace _Oth	er		
Iracking #: 12 XI6 599 01 99	7655	38		- · · · · · · · · · · · · · · · · · · ·		
Custody Seal on Cooler/Box Present:	'es 🗆 N	o Seals	intact: 🗆 Ye	s⊡ No	Temperature Blank P	resent: Yes No
Packing Material: Bubble Wrap Bubbl	le Bags [	🗆 Ziploc 🚬	🗆 None 🗆 O	ther	Type of Ice: (Wet) B	lue None
Thermometer Used: TH091	Correc	ction Fact	or: +0	0	Samples on ice, cooling	j process has begun
Cooler Temperature(°C): 3.4	Cooler	⁻ Tempera	ture Correct	ed(°C): <b>3.4</b>	Date/Time 5035A kits	placed in freezer
Temp should be above freezing to 6.0°C						• • •
USDA Regulated Soil ( 🗆 N/A, water sampl	e)			Date and Initials o	f person examining conter	ts: VITS 3.12.21
Did samples originate in a quarantine zone v NM, NY, OK, OR, SC, TN, TX, or VA (check map)	vithin the ? 🗆 Y	United Sta 'es □No	ates: AL, AR, C	A, FL, GA, ID, LA, MS, NO	), Did samples orignate f including Hawaii and P	rom a foreign source uerto Rico)? 🛛 Yes🕱 No
If Yes to either question, fill out a Regula	ted Soil (	Checklist	[F-LI-C-010] a	and include with SCL	JR/COC paperwork,	
Choin a Chicago A	Name of Street	<u>, in the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s</u>	ix		COMMENTS:	
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Linain of Custody Filled Out:	. Effes				an a sa marangana atangan sa sa sa sa sa sa sa sa sa sa sa sa sa	
Unam of Custody Relinquished.	Ziles	⊡No		3.	and the second second second second second second second second second second second second second second secon	
Sampler Name & Signature on COC:	Erres		CN/A	4.	a na ana ana ana ana ana ana ana ana an	
Samples Arrived within Hold Time:	Pres		و محمد میں انہ ک	5.		
Short Hold Time Analysis (<72hr):	⊡Yes	<b>LaNo</b>		6.	a and a second second second second second second second second second second second second second second second	· · · · · · · · · · · · · · · · · · ·
Rush Turn Around Time Requested:	⊡Yes	Calto	· ·	7.		
Sufficient Volume: Triple volume provided fo	ir Elles	⊡No		8.		
Correct Containers Used:	Pres	⊡No	a na na na na na na	9.		
-Pace Containers Used:	Janes	⊡No.	### 1 ### 1#		14	
Containers Intact:	erres	DNo			and a second second second second second second second second second second second second second second second	
Filtered volume received for Dissolved tests	⊡Yes	DNo	ZAV/A	11. Note if s	ediment is visible in the diss	olved container.
Sample Labels match COC:	Elles	⊡No	ayaa <b>ahi</b> fa dilaada <u>Jiriy</u> aray <u>aa a</u> n	12.		
-Includes date/time/ID,Matrix: SI	OIL			and a second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec		
All containers needing preservation have bee	en ⊡Yes	DNO	₽ <b>N</b> /A	13. □ HNO ₃	□H ₂ SO ₄ □NaOH	
checked?						-
pH paper Lot #						
All containers needing preservation are foun	d to be			Sample #		
in compliance with method recommendation	1?		•			
$[HNO_3, H_2SO_4, HCI, NaOH>9 Sulfide,$	⊡Yes	⊡No	JEN/A			
NAOH>12 Cyanide)						
Exceptions VOA, Coliform, TOC/DOC, Oil and (	Grease,			1.00-00 million 1.00	8 <u>. 5. 1995, 9 an</u>	in the second second second second second second second second second second second second second second second
DRO/8015 (water).				Initial when complet	ed: Lot # of added	Date/Time preservative
Per Method, VOA pH is checked after analysi	<u>.</u>	· .		L	preservative;	added:
Samples checked for dechlorination:	⊡Yes	⊡No	JAN/A	14.	nanta approximativa approximativa approximativa approximativa approximativa approximativa approximativa approxi	
KI starch test strips Lot #						
Residual chlorine strips Lot #				Positive fo	r Res. Chlorine? Y N	
SM 4500 CN samples checked for sulfide?	⊡Yes	⊡No	ZAV/A	15.		
Lead Acetate Strips Lot #	tande i se entrali		aller og her			
Headspace in VOA Vials [*6mm]:	⊡Yes	_1010		16.		
Trip Blank Present:	⊡Yes	ANG	⊡N/A	17.	<u></u>	
Trip Blank Custody Seals Present	⊡Yes	J2HO	⊡N/A	- The second second second second second second second second second second second second second second second		
Pace Trip Blank Lot # (if applicable)		energia de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de la composición de				······
Client Notification/ Resolution:	i in the second second second second second second second second second second second second second second sec			Field Data Required?	Y / N	
Person Contacted:				Date/Tim	1e:	
Comments/ Resolution:		in in the second second second second second second second second second second second second second second se		. History (1)		
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• PM (Project Manager) review is documented electronically in LIMS.

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Tuesday, March 30, 2021

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

Project ID: 223237 SDG ID: GCH77541 Sample ID#s: CH77541 - CH77542

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Stille

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 UT Lab Registration #CT00007 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

# Sample Id Cross Reference

March 30, 2021

SDG I.D.: GCH77541

Project ID: 223237

Client Id	Lab Id	Matrix
SYSTEM INFLUENT	CH77541	WATER
SYSTEM EFFLUENT	CH77542	WATER



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



Analysis Report March 30, 2021	FOR:	Attn: Front Office Eastern Analytical 25 Chenell Drive Concord, NH 03301

Sample Informa	ation	Custody Inform	nation	<u>Date</u>	<u>Time</u>
Matrix:	WATER	Collected by:		03/11/21	11:10
Location Code:	EASTANAL-NH	Received by:	LB	03/12/21	10:47
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	54502	Laboratory	Data	SDG ID:	GCH775

Project ID:	223237
Client ID:	SYSTEM INFLUENT

541 Phoenix ID: CH77541

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
1,4-dioxane							
1,4-dioxane	18	0.20	ug/l	1	03/16/21	AW	EPA522
QA/QC Surrogates % 1,4-dioxane-d8 Extraction for 1,4-Dioxane	79 Completed		%	1	03/16/21 03/15/21	AW H/H	70 - 130 % EPA522

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

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

### **Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director March 30, 2021 Reviewed and Released by: Rashmi Makol, Project Manager





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

Analysis March 3	<b>Report</b> 30, 2021			FOR:	Attn: Fro Eastern 25 Cher Concord	ont Office Analytica nell Drive d, NH 033	II 101		
Sample Inform	nation		Custo	dy Informa	ation		Date	2	Time
Matrix:	WATER		Collect	ed by:			03/11	/21	11:25
Location Code:	EASTANA	AL-NH	Receive	ed by:	LB		03/12	2/21	10:47
Rush Request:	Standard		Analyze	ed by:	see "By	/" below			
P.O.#:	54502		Labor	atory	<u>Data</u>		SI Phoe	DG IE nix IE	D: GCH77541 D: CH77542
Project ID:	223237								
Client ID:	SYSTEM EF	FLUENT							
Parameter		Result	RL/ PQL	Uni ^r	s Di	lution	Date/Time	Ву	Reference
1,4-dioxane									
1,4-dioxane		ND	0.20	ug/	l	1	03/16/21	AW	EPA522
QA/QC Surrogat	es								
% 1,4-dioxane-d8		79		%		1	03/16/21	AW	70 - 130 %
Extraction for 1,4-	Dioxane	Completed					03/15/21	H/H	EPA522

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

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

### Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director March 30, 2021 Reviewed and Released by: Rashmi Makol, Project Manager





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

March 30, 2021

## QA/QC Data

SDG I.D.: GCH77541

Parameter	Blank	Bik RL	LCS %	LCSD	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 566888 (u	g/l), QC Sample	No: CH76	642 (CH77541, CH77542)							
1,4dioxane - Water										
1,4-dioxane	ND	0.20	82	81	1.2	85			70 - 130	20
% 1,4-dioxane-d8	78	%	83	82	1.2	82			70 - 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 March 30, 2021

Tuesday, March 30, 2021		Sample Criteria Ex	ceedances Report					F
Criteria: None		GCH77541 - F	ASTANAL-NH					2
State: NH						RL	Analysis	
SampNo Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria	Units	

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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

March 30, 2021

SDG I.D.: GCH77541

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

		••••			EAI ID#	223237	Page 1
ample ID	Date Sampled	l Matrix	aParameters			Sample No	otes
system Influent	3/11/2021 11:10	aqueous	Subcontract - 1,4 Dioxane EPA Method 52	2	7	7541	
ystem Effluent	t 3/11/2021	aqueous	Subcontract - 1,4 Dioxane EPA Method 52	2	. <u> </u>		
	l 11:25	1 1			-	17542	
	RW2-18	oz an	nter per sampel.				
	RW2-18	oz an	nhur pur sampul.				
EAI ID# 223	RWA- 1 8 8237 Project Sta	02 QM	NEW RUY SAMPU . Results Needed: Preferred Date: 1 RUSH Due Date:	Standard  PO #	54502	EAI ID# 223	237
EAI ID# 223	RWAー I 8 3237 Project Sta Project	() 2 (신) ate: NH t ID: 4965	Results Needed: Preferred Date: RUSH Due Date: QC Deliverables	Standard PO #	54502 Deliverable (cire	EAI ID# 223	237
EAI ID# 223 Company P	RWA- 18 3237 Project Sta Project	()こ (U) ate: NH t ID: 4965 ital Labs	Results Needed: Preferred Date: RUSH Due Date: QC Deliverables A A + X B B + C Notes about project;	Standard PO # Data I MA MCP Excel	54502 Deliverable (cire NH EMD E	EAI ID# <b>223</b> cle) QuIS ME EGAD	237
EAI ID# 223 Company P Address 5	RWA- 18 3237 Project Sta Project Phoenix Environmen 87 East Middle Turr	ate: NH ti ID: 4965 ital Labs npike	NUN PUN SOMPU Results Needed: Preferred Date: RUSH Due Date: QC Deliverables □ A □ A+ ⊠ B □ B+ □ C Notes about project: Email login confirmation, pdf of resul	Standard PO #: Data I MA MCP Excel ts and Call p	54502 <u>Seliverable</u> (ciro NH EMD EG prior to analyzing	EAI ID# <b>223</b> cle) QuIS ME EGAD g, if RUSH charges	237 s will be applied.
EAI ID# 223 Company P Address 5 Address M	RWA- 18 3237 Project Sta Project Phoenix Environmen 87 East Middle Turr Manchester, CT 06	ate: NH t ID: 4965 Ital Labs npike 040	NW PUY Sampl Results Needed: Preferred Date: RUSH Due Date: QC Deliverables □ A □ A+ ⊠ B □ B+ □ C Notes about project: Email login confirmation, pdf of resul invoice to customerservice@easternana	Standard PO # Data I Data I Data I Excel s and Call p ytical.com. Sa	54502 <u>Deliverable</u> (circ NH EMD EC Drior to analyzing Deles Collected by	EAI ID# 223 cle) QuIS ME EGAD g, if RUSH charges	237 s will be applied.
EAI ID# 223 Company P Address 5 Address M Account #	RWA- 1 8 8237 Project Sta Project Project Project Project Project Project Project Project Project Project Project Sta Project	ate: NH ID: 4965 Ital Labs Inpike 040	NW PUY SOMPU Results Needed: Preferred Date: RUSH Due Date: _ QC Deliverables □ A □ A+ ⊠ B □ B+ □ C Notes about project: Email login confirmation, pdf of resul invoice to customerservice@easternana	Standard PO # Data I Data I Data I Excel s and Call p San ytical.com.	54502 <u>Seliverable</u> (circ NH EMD E prior to analyzing price Collected by m Werring price Selicited by	EAI ID# 223 cle) QuIS ME EGAD g, <i>if RUSH charges</i> y: Date/Time	237 s will be applied. <u>TSDU 1755</u> Received by

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

Page 8



### CHAIN-OF-CUSTODY RECORD

223237 _{GZANH} සි

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
System Influent	3-11-21 11:10	aqueous Grap or Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Co Se.Ag.Zn/Cr6/Cr3/CyanFree ヂアぁアぁノ	I.Cr.Cu.Fe.Hg.Pb.Ni.
Sampler confir	ns ID and parameters	are accurate	Circle preservative/s:HCU(HNO) H2SO NaOH MEOH Na2S2O3 (ICE) Dissolv	ed Sample Field Filtered
System Effluent	3-11-21	aqueous	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Co	I.Cr.Cu.Fe.Hg.Pb.Ni.
	11:25	Grabor Comp	Se.Ag.Zn/Cr6/Cr3/CyanFree 97 87 a/	/ 3
Sampler confir	ns ID and parameters	are accurate	Circle preservative/s:(HCL HNO)(H,SO, NaOH) MEOH Na,S20, (ICE) Dissolv	ed Sample Field Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 4965	Results Needed by: Preferred date	ReportingOptions
Project Name Rennie Farm RGP / 04.0190030.02	Notes:	HC INO FAX PO# verbal
State NH	1624 Apotono Onka	Image: Second system     Image: Second system     Image: Second system     Image: Second system     Quote#:       Image: Second system     Image: Second system     Image: Second system     Quote#:
Client (Pro Mgr) Jim Wieck	1624 Acetone Only	PDF prelim, NO FAX EQUIS
Customer GZA GeoEnvironmental, Inc. (NH)		e-mail Login Confirmation
Address 5 Commerce Park North, Suite 201		Samples Collected by: AVJ
City Bedford NH 03110		alfred Jacobsen 3-11-21
Phone 623-3600 Fax 624-9463 (37)		Relinquished by Date/Time Received by
	QC deliverables	1019 3/11/21 1414 histor
Email: James.Wieck@gza.com	🛛 А 🗆 А+ 🖾 В 🗆 В+ 🗍 С 🗋 МА МСР	Relinquished by Date/Time Received by
Direct 232-8732	Inc. Naux contempolatical com 1 000 007	

Eastern Analytical, Inc.

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

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



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 223238 Client Identification: Rennie Onsite Treatment System | 04.0190030.02 Date Received: 3/11/2021

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.easternanalytical.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), Vermont (VT1012) and New York (12072).

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



EAI ID#: 223238

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

Client Designation: Rennie Onsite Treatment System | 04.0190030.02

Temperat Acceptable	ture upon receipt (°C) temperature range (°C): 0-6	: 1.1		R	Received on ice or cold packs (Yes/No): $\gamma$								
Lab ID	Sample ID	Date Received	Date/ Sam	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)						
223238.01	System INFLUENT	3/11/21	3/8/21	08:35	aqueous		Adheres to Sample Acceptance Policy						
223238.02	System MID	3/11/21	3/8/21	08:30	aqueous		Adheres to Sample Acceptance Policy						
223238.03	LGAC INFLUENT	3/11/21	3/9/21	09:15	aqueous		Adheres to Sample Acceptance Policy						
223238.04	LGAC MID	3/11/21	3/9/21	09:20	aqueous		Adheres to Sample Acceptance Policy						
223238.05	LGAC EFFLUENT	3/11/21	3/9/21	09:25	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, 21st, 22nd & 23rd Edition or noted Revision year.

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

4) Hach Water Analysis Handbook, 4th edition, 1992

Eastern Analytical, Inc. www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com 1

# LABORATORY REPORT

EAI ID#: 223238

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

### Client Designation: Rennie Onsite Treatment System | 04.0190030.02

Client Sample ID:	System INFLUENT						
Lab Sample ID:	223238.01						
Matrix:	aqueous						
Date Sampled:	3/8/21						
Date Received:	3/11/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	35	2	10	ug/L	3/16/21 20:23	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	3/16/21 20:23	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	3/16/21 20:23	8260B SIM	AM

Client Sample ID:	System MID						
Lab Sample ID:	223238.02						
Matrix:	aqueous						
Date Sampled:	3/8/21						
Date Received:	3/11/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	3/16/21 13:09	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	3/16/21 13:09	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	3/16/21 13:09	8260B SIM	AM

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# LABORATORY REPORT

EAI ID#: 223238

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

### Client Designation: Rennie Onsite Treatment System | 04.0190030.02

Client Sample ID:	LGAC INFLUENT						
Lab Sample ID:	223238.03						
Matrix:	aqueous						
Date Sampled:	3/9/21						
Date Received:	3/11/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1500	20	100	ug/L	3/16/21 20:54	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	3/16/21 20:54	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	3/16/21 20:54	8260B SIM	AM

LGAC MID						
223238.04						
aqueous						
3/9/21						
3/11/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
0.69	0.2	1	ug/L	3/16/21 13:40	8260B SIM	AM
101 %R			%	3/16/21 13:40	8260B SIM	AM
101 %R			%	3/16/21 13:40	8260B SIM	AM
	LGAC MID 223238.04 aqueous 3/9/21 3/11/21 Result 0.69 101 %R 101 %R	LGAC MID 223238.04 aqueous 3/9/21 3/11/21 <b>Result RL</b> 0.69 0.2 101 %R 101 %R	LGAC MID 223238.04 aqueous 3/9/21 3/11/21 <b>Dilution</b> <b>Result RL Factor</b> 0.69 0.2 1 101 %R 101 %R	LGAC MID 223238.04 aqueous 3/9/21 3/11/21 <b>Dilution</b> <b>Result</b> <b>Rk</b> <b>6.69</b> <b>0.2</b> <b>1</b> <b>101 %R</b> <b>101 %R</b> <b>101 %R</b> <b>101 %R</b>	LGAC MID 223238.04 aqueous 3/9/21 3/11/21 Dilution Date / Time Result RL Factor Units Analyzed 0.69 0.2 1 ug/L 3/16/21 13:40 101 %R % 3/16/21 13:40	LGAC MID 223238.04 aqueous 3/9/21 3/11/21 Dilution Date / Time Result RL Factor Units Analyzed Method 0.69 0.2 1 ug/L 3/16/21 13:40 8260B SIM 101 %R % 3/16/21 13:40 8260B SIM 101 %R % 3/16/21 13:40 8260B SIM

Client Sample ID:	LGAC EFFLUENT						
Lab Sample ID:	223238.05						
Matrix:	aqueous						
Date Sampled:	3/9/21						
Date Received:	3/11/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.23	0.2	1	ug/L	3/16/21 14:11	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	3/16/21 14:11	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	3/16/21 14:11	8260B SIM	AM

### EAI ID#: 223238

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

Batch ID: 637514-88525/A031621DIOX1

Client Designation: Rennie Onsite Treatment System | 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.8 (96 %R)	4.7 (93 %R) (2 RPD	) 3/16/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	101 %R	102 %R	102 %F	२ 3/16/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	101 %R	101 %R	101 %F	R 3/16/2021	% Rec	70 - 130	50	8260B

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 on the sample page, flagged analytes that exceed acceptance limits in the Quality Control sample do not impact the data.

Eastern Analytical, Inc.

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Page of		Bo	DLD	FIEI	LDS	Re	QUI	RED	. P	LEA	SE (	CIRC	CLE	Rec	QUE	STEI	ЬΑ	NAĽ	YSIS	5.							2	232	38	
	1			;	VC	C	· ' : 		S	VC	C		TCLP	ME	TALS			NO	RG	AN		S		M	ICRO	0	DT	HER		
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 VTIC5 1, 4 DIOXANE	802IB BTEX HALOS	8015B 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 TPH 1664	TCLP 1311 ABN METALS VOC PEST HERB	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)	TS TSS TDS SPEC CON.	BR CI 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 CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	TOTAL COLIFORM E. COLI	ENTEROCOCCI	HEFEROFROPHIC PLATE LOUNT	1-1-1-CM ICM IEVEI		# of Containers	<b>N</b> otes MeOH Vial #
System INFLUENT	3/8/21 0835	w	6																							>	×		2	
System MID	3/8/21 0830	Ś	G																							>	<		2	
LGAC INFLUENT	3-9-21 9:15	600	G																							>	<		Z	
LGAC MID	3-9-21 9:20	دربى	6																							>	×		2	
LGAC EFFLUENT	3-9-21 9:25	GN)	G																							2	<		2	
Matrix: A-Air; S-Soil; GW-Ground Water WW-Waste water Preservative: H-HCL; N-HNO3; S-H2SO4; N	; SW-Surface Water; DW-Drink a-NaOH; M-MEOH	(ING W	ATER;																							6	2			
PROJECT MANAGER: James COMPANY: GZA ADDRESS: <u>5 Commerce Pro</u> CITY: Bedford	ark North Suite STATE: NH	<u>2</u> 2 ZIP: _(	01	10		DA QA Ref	/QC PORTIN	NEE ING I	DED LEVEI	): L			REPO	RTING : Yes	g Op or I	<b>TION</b> S No	5	Tei ICi	1P ?? <b>(</b>	i. 1 Yes	No	c	Me Othi Sap	TALS: Er Me IPLES	TALS: _ <b>S Fie</b>	B RCI	RA	I3 PP Red?	Fi	, MN PB, CU Yes 🗌 No
PHONE: 603-493-287 FAX: E-MAIL:James, wiech	4 (O) giza, com	Ext.:				Pre	SUM	C PTIVE	or E Cef	RTAII	VTY	E	Elects E-Mail	ronic Pl	: <b>O</b> pt DF	FIONS Equi	s s	EXCEL					Note	ES: (IE:	Speci	AL DE	TECTIO	n Limits,	BILLING	INFO, IF DIFFERENT)
SITE NAME: <u>Rennie Onsi</u> Project #: <u>CICL-OTACESC</u> STATE: NH MA ME VT OTHE	te Troatment Si 04.0191 6MS	yste 203	2m (). ()	52		SAMI		): _( fo	F, S 40	, ls	4 × m	7 y 3-	J 11-2	1	140	0	<		~	he (		2		¢						
REGULATORY PROGRAM: NPDES: RGP GWP, OIL FUND, BROWNFI QUOTE #:	POTW STORMWATER OR ELD OR OTHER: PO #: 26228					REL	INQU	ISHE	D BY:	:		DATE:		II Ti	IME: IME:		RECI	EIVED B	¥ Y:				Site Suspi	HISTO	ry: Conta	MINAT	rion:			
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(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



Laboratory Report for:

Eastern Analytical, Inc. ID: 223708 Client Identification: Rennie Farm | 04.0190030.02 Task No. 22 ST-1 Date Received: 3/25/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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#: 223708

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

Client Designation: Rennie Farm | 04.0190030.02 Task No. 22 ST-1

Temperat Acceptable	ture upon receipt (°C): temperature range (°C): 0-6	1.5		Received on ice or cold packs (Yes/No): $\gamma$									
Lab ID	Sample ID	Date Received	Date/ Sam	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)						
223708.01	System Influent	3/25/21	3/23/21	09:30	aqueous		Adheres to Sample Acceptance Policy						
223708.02	System Mid	3/25/21	3/23/21	09:40	aqueous		Adheres to Sample Acceptance Policy						
223708.03	LGAC Out	3/25/21	3/24/21	09:00	aqueous		Adheres to Sample Acceptance Policy						
223708.04	LGAC Mid	3/25/21	3/24/21	09:05	aqueous		Adheres to Sample Acceptance Policy						
223708.05	LGAC In	3/25/21	3/24/21	09:10	aqueous		Adheres to Sample Acceptance Policy						
223708.06	7 Rennie Rd	3/25/21	3/24/21	11:20	aqueous		Adheres to Sample Acceptance Policy						

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc. www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com

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# LABORATORY REPORT

EAI ID#: 223708

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

Client Designation: Rennie Farm | 04.0190030.02 Task No. 22 ST-1

Client Sample ID:	System Influent						
Lab Sample ID:	223708.01						
Matrix:	aqueous						
Date Sampled:	3/23/21						
Date Received:	3/25/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	29	2	10	ug/L	3/26/21 23:51	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	3/26/21 23:51	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	3/26/21 23:51	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	223708.02						
Matrix:	aqueous						
Date Sampled:	3/23/21						
Date Received:	3/25/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	3/26/21 16:05	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	3/26/21 16:05	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	3/26/21 16:05	8260B SIM	AM

# LABORATORY REPORT

EAI ID#: 223708

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

Client Designation: Rennie Farm | 04.0190030.02 Task No. 22 ST-1

Client Sample ID:	LGAC Out						
Lab Sample ID:	223708.03						
Matrix:	aqueous						
Date Sampled:	3/24/21						
Date Received:	3/25/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1.2	0.2	1	ug/L	3/26/21 16:36	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	3/26/21 16:36	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	3/26/21 16:36	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	223708.04						
Matrix:	aqueous						
Date Sampled:	3/24/21						
Date Received:	3/25/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	3/26/21 17:07	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	3/26/21 17:07	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	3/26/21 17:07	8260B SIM	AM

Client Sample ID:	LGAC In						
Lab Sample ID:	223708.05						
Matrix:	aqueous						
Date Sampled:	3/24/21						
Date Received:	3/25/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	2100	100	500	ug/L	3/30/21 16:08	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	3/30/21 16:08	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	3/30/21 16:08	8260B SIM	AM
EAI ID#: 223708

### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.02 Task No. 22 ST-1

Client Sample ID:	7 Rennie Rd							
Lab Sample ID:	223708.06							
Matrix:	aqueous							
Date Sampled:	3/24/21							
Date Received:	3/25/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	3/26/21	17:38	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	3/26/21	17:38	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	3/26/21	17:38	8260B SIM	AM

#### EAI ID#: 223708

Batch ID: 637523-68358/A032621DIOX1

Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.02 Task No. 22 ST-1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.8 (96 %R)	5.4 (109 %R) (13 RPD	) 3/26/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	103 %R	103 %R	103 %F	R 3/26/2021	% Rec.	70 - 130	50	8260B
Toluene-d8 (surr)	101 %R	102 %R	101 %F	R 3/26/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

## QC REPORT

#### EAI ID#: 223708

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

Batch ID: 637527-13931/A033021DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task No. 22 ST-1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.7 (94 %R)	4.7 (94 %R) (0 RPD	) 3/30/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	103 %R	103 %R	102 %F	R 3/30/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	101 %R	102 %R	101 %F	R 3/30/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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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



Laboratory Report for:

Eastern Analytical, Inc. ID: 224317 Client Identification: Rennie Farm | 04.0190030.02 | Task No. 22 ST-1, Task 9 Date Received: 4/8/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

4.14.2



Lorraine Olashaw, Lab Director

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

Client Designation: Rennie Farm | 04.0190030.02 | Task No. 22 ST-1, Task 9

Temperat Acceptable t	ure upon receipt (°C): emperature range (°C): 0-6	3.8		Received on ice or cold packs (Yes/No):								
Lab ID	Sample ID	Date Received	Date/ Sam	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)					
224317.01	System Influent	4/8/21	4/5/21	09:40	aqueous		Adheres to Sample Acceptance Policy					
224317.02	System Mid	4/8/21	4/5/21	09:45	aqueous		Adheres to Sample Acceptance Policy					
224317.03	LGAC IN	4/8/21	4/6/21	09:50	aqueous		Adheres to Sample Acceptance Policy					
224317.04	LGAC Mid	4/8/21	4/6/21	09:45	aqueous		Adheres to Sample Acceptance Policy					
224317.05	LGAC OUT	4/8/21	4/6/21	09:40	aqueous		Adheres to Sample Acceptance Policy					
224317.06	44 Rennie Rd	4/8/21	4/6/21	12:50	aqueous		Adheres to Sample Acceptance Policy					
224317.07	44 Rennie Rd Pond	4/8/21	4/6/21	12:40	aqueous		Adheres to Sample Acceptance Policy					

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

EAI ID#: 224317

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

Client Designation: Rennie Farm | 04.0190030.02 | Task No. 22 ST-1, Task 9

Client Sample ID:	System Influent						
Lab Sample ID:	224317.01						
Matrix:	aqueous						
Date Sampled:	4/5/21						
Date Received:	4/8/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	7.7	2	10	ug/Ľ	4/10/21 1:02	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	4/10/21 1:02	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	4/10/21 1:02	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	224317.02						
Matrix:	aqueous						
Date Sampled:	4/5/21						
Date Received:	4/8/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	4/9/21 16:46	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	4/9/21 16:46	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	4/9/21 16:46	8260B SIM	AM

EAI ID#: 224317

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

Client Designation: Rennie Farm | 04.0190030.02 | Task No. 22 ST-1, Task 9

Client Sample ID:	LGAC IN						
Lab Sample ID:	224317.03						
Matrix:	aqueous						
Date Sampled:	4/6/21						
Date Received:	4/8/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1900	40	200	ug/L	4/10/21 1:33	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	4/10/21 1:33	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	4/10/21 1:33	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	224317.04						
Matrix:	aqueous						
Date Sampled:	4/6/21						
Date Received:	4/8/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	2.3	0.2	1	ug/L	4/9/21 17:17	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	4/9/21 17:17	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	4/9 <b>/</b> 21 17:17	8260B SIM	AM

Client Sample ID:	LGAC OUT						
Lab Sample ID:	224317.05						
Matrix:	aqueous						
Date Sampled:	4/6/21						
Date Received:	4/8/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.82	0.2	1	ug/L	4/9/21 17:48	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	4/9/21 17:48	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	4/9/21 17:48	8260B SIM	AM

EAI ID#: 224317

#### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.02 | Task No. 22 ST-1, Task 9

Client Sample ID:	44 Rennie Rd							
Lab Sample ID:	224317.06							
Matrix:	aqueous							
Date Sampled:	4/6/21							
Date Received:	4/8/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time /zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	4/9/21	18:19	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	4/9/21	18:19	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	4/9/21	18:19	8260B SIM	AM

EAI ID#: 224317

## Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.02 | Task No. 22 ST-1, Task 9

								·
Client Sample ID:	44 Rennie Rd Po	nd						
Lab Sample ID:	224317.07							
Matrix:	aqueous							
Date Sampled:	4/6/21							
Date Received:	4/8/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time /zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	4/9/21	18:50	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	4/9 <b>/</b> 21	18:50	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	4/9/21	18:50	8260B SIM	AM

Eastern Analytical, Inc.

#### EAI ID#: 224317

Client: GZA GeoEnvironmental, Inc. (NH)

Batch ID: 637535-80121/A040921DIOX1

Client Designation: Rennie Farm | 04.0190030.02 | Task No. 22 ST-1, Task 9

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.6 (93 %R)	4.7 (95 %R) (2 RPD	) 4/9/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	102 %R	104 %R	104 %F	R 4/9/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	101 %R	102 %R	102 %F	R 4/9/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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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



Laboratory Report for:

Eastern Analytical, Inc. ID: 224593 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 4/13/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

marieanslim

Lorraine Olashaw, Lab Director

Date



SAMPLE CONDITIONS PAGE

EAI ID#: 224593

1

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Temperate Acceptable te	ure upon receipt (°C): emperature range (°C): 0-6	3.7		F	Received o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/ ⁻ Samp	Fime pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
224593.01	System Influent	4/13/21	4/13/21	12:00	aqueou <b>s</b>		Adheres to Sample Acceptance Policy
224593.02	System Effluent	4/13/21	4/13/21	12:20	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

EAI ID#: 224593

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

·										
Client Sample ID:	System Influent				Date of Prepara	tion:				
Lab Sample ID: 2	224593.01				Met	thod:	624.1			
Matrix:	aqueous				Ana	alyst:	SG			
Date Sampled: 4	1/13/21				U	nits:	ug/L			
Date Received:	1/13/21									
			Dilution	Date		_			Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyzed
Chloromethane	< 2	2	1	4/14/21	4-Bromofluorobenzene (surr)	99	%R			4/14/21
Vinyl chloride	< 1	1	1	4/14/21	1,2-Dichlorobenzene-d4	99	%R			4/14/21
Bromomethane	< 2	2	1	4/14/21	Toluene-d8 (surr)	100	%R			4/14/21
Chloroethane	< 2	2	1	4/14/21						
Trichlorofluoromethane	< 2	2	1	4/14/21						
Acrolein	< 50	50	1	4/14/21						
Acetone	< 10	10	1	4/14/21						
1,1-Dichloroethene	< 0.5	0.5	1	4/14/21						
Methylene chloride	< 1	1	1	4/14/21						
Acrylonitrile	< 50	50	1	4/14/21						
Methyl-t-butyl ether(MTBE)	) < 1	1	1	4/14/21						
trans-1,2-Dichloroethene	< 1	1	1	4/14/21						
Vinyl acetate	< 10	10	1	4/14/21						
1,1-Dichloroethane	< 1	1	1	4/14/21						
cis-1,2-Dichloroethene	< 1	1	1	4/14/21						
2-Butanone(MEK)	< 10	10	1	4/14/21						
Chloroform	< 1	1	1	4/14/21						
1,1,1-Trichloroethane	< 1	1	1	4/14/21						
Carbon tetrachloride	< 1	1	1	4/14/21						
Benzene	< 1	1	1	4/14/21						
1,2-Dichloroethane	< 1	1	1	4/14/21						
Trichloroethene	< 1	1	1	4/14/21						
1,2-Dichloropropane	< 1	1	1	4/14/21						
Bromodichloromethane	< 0.5	0.5	1	4/14/21						
2-Chloroethylvinylether	< 2	2	1	4/14/21						
4-Methyl-2-pentanone(MIB	K) < 10	10	1	4/14/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	4/14/21						
Toluene	< 1	1	1	4/14/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	4/14/21						
1,1,2-Trichloroethane	< 1	1	1	4/14/2 <b>1</b>						
2-Hexanone	< 10	10	1	4/14/21						
Tetrachloroethene	< 1	1	1	4/14/21						
Dibromochloromethane	< 1	1	1	4/14/21						
Chlorobenzene	< 1	1	1	4/14/21						
Ethylbenzene	< 1	1	1	4/14/21						
mp-Xylene	< 1	1	1	4/14/21						
o-Xylene	< 1	1	1	4/14/21						
Styrene	< 1	1	1	4/14/21						
Bromoform	< 2	2	1	4/14/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	4/14/21						
1,3-Dichlorobenzene	< 1	1	1	4/14/21						
1,4-Dichlorobenzene	< 1	1	1	4/14/21						
1,2-Dichlorobenzene	< 1	1	1	4/14/21						

EAI ID#: 224593

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

Client Sample ID:	System Effluent				Date of Prepa	ration:				
Lab Sample ID: 2	224593.02				M	ethod:	624.1			
Matrix:	aqueous				Ar	nalyst:	SG			
Date Sampled:	4/13/21					Units:	ug/L			
Date Received:	4/13/21									
Bate Received.			Dilution	Date					Dilution	Date
	Result	RL	Factor	Analyzed		Res	sult	RL	Factor	Analyze
Chloromethane	< 2	2	1	4/14/21	4-Bromofluorobenzene (surr	) 100	%R			4/14/21
Vinyl chloride	< 1	1	1	4/14/21	1,2-Dichlorobenzene-d4	99	%R			4/14/21
Bromomethane	< 2	2	1	4/14/21	Toluene-d8 (surr)	99	%R			4/14/21
Chloroethane	< 2	2	1	4/14/21						
Trichlorofluoromethane	< 2	2	1	4/14/21						
Acrolein	< 50	50	1	4/14/21						
Acetone	< 10	10	1	4/14/21						
1,1-Dichloroethene	< 0.5	0.5	1	4/14/21						
Methylene chloride	< 1	1	1	4/14/21						
Acrylonitrile	< 50	50	1	4/14/21						
Methyl-t-butyl ether(MTBE	) <1	1	1	4/14/21						
trans-1,2-Dichloroethene	< 1	1	1	4/14/21						
Vinyl acetate	< 10	10	1	4/14/21						
1,1-Dichloroethane	< 1	1	1	4/14/21						
cis-1,2-Dichloroethene	< 1	1	1	4/14/21						
2-Butanone(MEK)	< 10	10	1	4/14/21						
Chloroform	< 1	1	1	4/14/21						
1,1,1-Trichloroethane	< 1	1	1	4/14/21						
Carbon tetrachloride	< 1	1	1	4/14/21						
Benzene	< 1	1	1	4/14/21						
1,2-Dichloroethane	< 1	1	1	4/14/21						
Trichloroethene	< 1	1	1	4/14/21						
1,2-Dichloropropane	< 1	1	1	4/14/21						
Bromodichloromethane	< 0.5	0.5	1	4/14/21						
2-Chloroethylvinylether	< 2	2	1	4/14/21						
4-Methyl-2-pentanone(MIB	SK) < 10	10	1	4/14/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	4/14/21						
Toluene	< 1	1	1	4/14/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	4/14/21						
1,1,2-Trichloroethane	< 1	1	1	4/14/21						
2-Hexanone	< 10	10	1	4/14/21						
Tetrachloroethene	< 1	1	1	4/14/21						
Dibromochloromethane	< 1	1	1	4/14/21						
Chlorobenzene	< 1	1	1	4/14/21						
Ethylbenzene	< 1	. 1	1	4/14/21						
mp-Xylene	< 1	1	1	4/14/21						
o-Xylene	< 1	1	1	4/14/21						
Styrene	< 1	1	1	4/14/21						
Bromoform	< 2	2	1	4/14/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	4/14/21						
1,3-Dichlorobenzene	< 1	1	1	4/14/21						
1,4-Dichlorobenzene	< 1	1	1	4/14/21						
1,2-Dichlorobenzene	< 1	1	1	4/14/21						

QC REPORT

EAI ID#: 224593

4

Batch ID: 637539-35447/A041321V6241

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

Client Designation: Rennie Farm RGP / 04.0190030.02

	Blank	Blank							
Parameter Name	(RL)	(MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	< .876	20 (98 %R)	19 (96 %R) (2 RPD	) 4/13/2021	ug/L	1 - 205	60	624.1
Vinyl chloride	< 1	< .34	22 (108 %R)	21 (107 %R) (0 RPD	) 4/13/2021	ug/L	5 - 195	66	624.1
Bromomethane	< 2	< .554	19 (97 %R)	20 (98 %R) (1 RPD	) 4/13/2021	ug/L	15 - 185	61	624.1
Chloroethane	< 2	< .232	18 (90 %R)	18 (90 %R) (0 RPD	) 4/13/2021	ug/L	40 - 160	78	624.1
Trichlorofluoromethane	< 2	< .375	20 (99 %R)	20 (100 %R) (1 RPD	) 4/13/2021	ug/L	50 - 150	84	624.1
Acrolein	< 50	< .548	< 50 (109 %R)	< 50 (108 %R) (1 RPD	) 4/13/2021	ug/L	60 - 140	60	624.1
Acetone	< 10	< 2.387	20 (98 %R)	19 (96 %R) (2 RPD	) 4/13/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethene	< 0.5	< .37	19 (97 %R)	19 (97 %R) (0 RPD	) 4/13/2021	ug/L	50 - 150	32	624.1
Methylene chloride	< 1	< .545	18 (88 %R)	18 (88 %R) (0 RPD	) 4/13/2021	ug/L	60 - 140	28	624.1
Acrylonitrile	< 50	< .302	< 50 (93 %R)	< 50 (92 %R) (1 RPD	) 4/13/2021	ug/L	60 - 140	60	624.1
Methyl-t-butyl ether(MTBE)	< 1	< .519	19 (95 %R)	19 (95 %R) (0 RPD	) 4/13/2021	ug/L	70 - 130	20	624.1
trans-1,2-Dichloroethene	< 1	< .298	20 (98 %R)	20 (98 %R) (0 RPD	) 4/13/2021	ug/L	70 - 130	45	624.1
Vinyl acetate	< 10	< .557	18 (90 %R)	18 (91 %R) (1 RPD	) 4/13/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethane	< 1	< .085	19 (96 %R)	19 (96 %R) (1 RPD	) 4/13/2021	ug/L	70 - 130	40	624.1
cis-1,2-Dichloroethene	< 1	< .238	19 (95 %R)	19 (94 %R) (0 RPD	) 4/13/2021	ug/L	70 - 130	20	624.1
2-Butanone(MEK)	< 10	< .206	19 (95 %R)	19 (94 %R) (1 RPD	) 4/13/2021	ug/L	40 - 160	20	624.1
Chloroform	< 1	.36	17 (87 %R)	17 (87 %R) (0 RPD	) 4/13/2021	ug/L	70 - 135	54	624.1
1,1,1-Trichloroethane	< 1	< .227	19 (96 %R)	19 (96 %R) (0 RPD	) 4/13/2021	ug/L	70 - 130	36	624.1
Carbon tetrachloride	< 1	< .261	19 (94 %R)	19 (95 %R) (1 RPD	) 4/13/2021	ug/L	70 - 130	41	624.1
Benzene	< 1	< .312	19 (97 %R)	19 (97 %R) (0 RPD	) 4/13/2021	ug/L	65 - 135	61	624.1
1,2-Dichloroethane	< 1	< .21	19 (93 %R)	18 (92 %R) (1 RPD	) 4/13/2021	ug/L	70 - 130	49	624.1
Trichloroethene	< 1	< .359	19 (95 %R)	19 (95 %R) (0 RPD	) 4/13/2021	ug/L	65 - 135	48	624.1
1,2-Dichloropropane	< 1	< .285	19 (96 %R)	19 (96 %R) (0 RPD	) 4/13/2021	ug/L	35 - 165	55	624.1
Bromodichloromethane	< 0.5	< .079	19 (97 %R)	19 (97 %R) (0 RPD	) 4/13/2021	ug/L	65 - 135	56	624.1
2-Chloroethylvinylether	< 2	< .493	20 (100 %R)	20 (100 %R) (0 RPD	) 4/13/2021	ug/L	1 - 225	71	624.1
4-Methyl-2-pentanone(MIBK)	< 10	< .411	19 (95 %R)	19 (94 %R) (1 RPD	) 4/13/2021	ug/L	40 - 160	20	624.1
cis-1,3-Dichloropropene	< 0.5	< .101	19 (95 %R)	19 (94 %R) (0 RPD	) 4/13/2021	ug/L	25 - 175	58	624.1
Toluene	< 1	< .19	19 (97 %R)	19 (96 %R) (1 RPD	) 4/13/2021	ug/L	70 - 130	41	624.1
trans-1,3-Dichloropropene	< 0.5	< .08	20 (101 %R)	20 (99 %R) (2 RPD	) 4/13/2021	ug/L	50 - 150	86	624.1
1,1,2-Trichloroethane	< 1	< .203	20 (98 %R)	19 (96 %R) (2 RPD	) 4/13/2021	ug/L	70 - 130	45	624.1
2-Hexanone	< 10	< .28	19 (94 %R)	18 (91 %R) (4 RPD	) 4/13/2021	ug/L	40 - 160	20	624.1
Tetrachloroethene	< 1	< .371	19 (97 %R)	19 (97 %R) (0 RPD	) 4/13/2021	ug/L	70 - 130	39	624.1
Dibromochloromethane	< 1	< .225	20 (98 %R)	19 (96 %R) (1 RPD	) 4/13/2021	ug/L	70 - 135	50	624.1
Chlorobenzene	< 1	< .247	20 (98 %R)	19 (97 %R) (1 RPD	) 4/13/2021	ug/L	65 - 135	53	624.1
Ethylbenzene	< 1	< .213	20 (99 %R)	20 (98 %R) (1 RPD	) 4/13/2021	ug/L	60 - 140	63	624.1
mp-Xylene	< 1	< .476	39 (97 %R)	38 (95 %R) (1 RPD	) 4/13/2021	ug/L	70 - 130	20	624.1
o-Xylene	< 1	< .298	20 (98 %R)	19 (97 %R) (1 RPD	) 4/13/2021	ug/L	70 - 130	20	624.1
Styrene	< 1	< .727	20 (100 %R)	20 (101 %R) (1 RPD	) 4/13/2021	ug/L	70 - 130	20	624.1
Bromoform	< 2	< .282	20 (101 %R)	20 (99 %R) (2 RPD	) 4/13/2021	ug/L	70 - 130	42	624.1
1,1,2,2-Tetrachloroethane	< 1	< .381	19 (96 %R)	18 (92 %R) (5 RPD	) 4/13/2021	ug/L	60 - 140	61	624.1
1,3-Dichlorobenzene	< 1	< .426	20 (99 %R)	19 (96 %R) (3 RPD	) 4/13/2021	ug/L	70 - 130	43	624.1
1,4-Dichlorobenzene	< 1	< .375	19 (97 %R)	19 (95 %R) (3 RPD	) 4/13/2021	ug/L	65 - 135	57	624.1
1,2-Dichlorobenzene	< 1	< .218	20 (98 %R)	19 (96 %R) (3 RPD	) 4/13/2021	ug/L	65 - 135	57	624.1
4-Bromofluorobenzene (surr)	99 %R		99 %R	99 %F	4/13/2021	% Rec	70 - 130		624.1
1,2-Dichlorobenzene-d4 (surr)	98 %R		100 %R	100 %F	4/13/2021	% Rec	70 - 130		624.1
Toluene-d8 (surr)	99 %R		101 %R	100 %F	4/13/2021	% Rec	70 - 130		624.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Eastern Analytical, Inc.

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#### EAI ID#: 224593

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

Client Sample ID:	System Influent							
Lab Sample ID:	224593.01							
Matrix:	aqueous							
Date Sampled:	4/13/21							
Date Received:	4/13/21							
	Result	RL	Dilution Factor	Units	Date / ` Analy:	Time zed	Method	Analyst
Phenol	< 1	1	1	ug/L	4/14/21	16:07	625.1	JMR
2-Fluorophenol (surr)	41 %R			%	4/14/21	16:07	625.1	JMR
Phenol-d6 (surr)	27 %R			%	4/14/21	16:07	625.1	JMR
2,4,6-Tribromophenol (surr)	69 %R			%	4/14/21	16:07	625.1	JMR

#### EAI ID#: 224593

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

Client Sample ID:	System Effluent							
Lab Sample ID:	224593.02							
Matrix:	aqueous							
Date Sampled:	4/13/21							
Date Received:	4/13/21							
	Result	RL	Dilution Factor	Units	Date / T Analyz	Time zed	Method	Analyst
Phenol	< 1	1	1	ug/L	4/14/21	16:30	625.1	JMR
2-Fluorophenol (surr)	46 %R			%	4/14/21	16:30	625.1	JMR
Phenol-d6 (surr)	30 %R			%	4/14/21	16:30	625.1	JMR
2,4,6-Tribromophenol (surr)	72 %R			%	4/14/21	16:30	625.1	JMR

## QC REPORT

#### EAI ID#: 224593

Batch ID: 637539-84373/A041421E6251

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

Client Designation: Rennie Farm RGP / 04.0190030.02

alpha-Feynenel       <6       <17       19 (75 %R)       20 (8' %R) (7 RPD)       4/14/2021       ugl.       40-140       20       62:1.         Phonol       <1       <.2       20 (80 %R)       30 (87 %R) (7 RPD)       4/14/2021       ugl.       5-120       64       625:1         2.4-Dithorophenol       <1       <.3       34 (86 %R)       30 (7 2 %R) (8 RPD)       4/14/2021       ugl.       32-135       66       625:1         2.4-Dithorophenol       <1       <.48       86 (7 2 %R)       37 (7 5 %R) (8 RPD)       4/14/2021       ugl.       71-146       66       65.5         2.4-Dithorophenol       <5       <.44       35 (7 2 %R)       36 (7 3 %R) (8 RPD)       4/14/2021       ugl.       1-122       65.6       65.6         2.4-Ditrophenol       <16       <5       <.42       26 (5 %R) (8 RPD)       4/14/2021       ugl.       1-122       30       22.5       22.5       22.5       22.5       22.5       22.5       22.5       22.5       22.5       22.5       22.5       22.6       22.6       22.6       22.5       22.5       22.5       22.5       22.6       22.6       22.7       22.5       22.5       22.6       22.7       22.6       22.7       22.7	Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Phenol         < 1                                                                                                                      <         <	alpha-Terpineol	< 5	< .17	19 (78 %R)	20 (81 %R) (5 RPC	) 4/14/2021	ug/L	40 - 140	20	625.1
2-Chioxophenol         <1	Phenol	< 1	< .12	14 (28 %R)	15 (30 %R) (7 RPE	) 4/14/2021	ug/L	5 - 120	64	625.1
2.4-Dicklorophenol       <1	2-Chlorophenol	< 1	< .2	30 (60 %R)	33 (67 %R) (10 RPD	) 4/14/2021	ug/L	23 - 134	61	625.1
2,4,5,Tichlorophenol       <1	2,4-Dichlorophenol	< 1	< .31	34 (68 %R)	36 (72 %R) (6 RPD	) 4/14/2021	ug/L	39 - 135	50	625.1
2,4,6-Trichlorophenol       <1	2,4,5-Trichlorophenol	< 1	< .33	36 (72 %R)	37 (74 %R) (2 RPD	) 4/14/2021	ug/L	30 - 130	20	625.1
Pentabloophanol         <6	2,4,6-Trichlorophenol	< 1	< .48	36 (72 %R)	37 (75 %R) (3 RPC	) 4/14/2021	ug/L	37 - 144	58	625.1
2-Nirophenol       <5	Pentachlorophenol	< 5	< 1.1	32 (65 %R)	34 (67 %R) (4 RPE	) 4/14/2021	ug/L	14 - 176	86	625.1
4-Nitrophenol       < 5	2-Nitrophenol	- < 5	< .44	36 (72 %R)	39 (78 %R) (9 RPC	) 4/14/2021	ug/L	29 - 182	55	625.1
2.4-Dinkrophenol       <1.5	4-Nitrophenol	< 5	< .22	16 (32 %R)	17 (33 %R) (2 RPE	) 4/14/2021	ug/L	1 - 132	131	625.1
2-Methylphenol       <1	2,4-Dinitrophenol	< 10	< 1.5	37 (73 %R)	39 (77 %R) (5 RPC	) 4/14/2021	ug/L	1 - 191	132	625.1
3/4-Methylphenol       <1	2-Methylphenol	< 1	< .4	29 (58 %R)	32 (63 %R) (8 RPC	) 4/14/2021	ug/L	30 - 130	20	625.1
2.4-Dimethylphenol       <5	3/4-Methylphenol	< 1	< .42	28 (57 %R)	30 (61 %R) (7 RPE	) 4/14/2021	ug/L	30 - 130	20	625.1
4-Chloro-3-methylphenol<1< 2.6 $36$ (72 % R) $37$ (74 % R) (3 RPD) $4/14/2021$ $ugl.$ $22 - 147$ $73$ $625.1$ 4.6-Diuthro-2-methylphenol<5	2,4-Dimethylphenol	< 5	< 1.4	34 (68 %R)	36 (71 %R) (5 RPD	) 4/14/2021	ug/L	32 - 120	58	625.1
4,6-Dinitro-2-methylphenol       < 5	4-Chloro-3-methylphenol	< 1	< .26	36 (72 %R)	37 (74 %R) (3 RPI	) 4/14/2021	ug/L	22 - 147	73	625.1
Benzoic Acid         < 50         < 57         < 50         (15 %R)         < 50         (16 %R)         (6 RPD)         4/14/2021         ug/L         15 - 130         50         625.1           N-Nitrosodim-propylamine         < 1	4,6-Dinitro-2-methylphenol	< 5	< 3.3	46 (92 %R)	47 (94 %R) (2 RPD	) 4/14/2021	ug/L	1 - 181	203	625.1
N-Nitrosodimethylamine         < 1         < 1.1         11 (44 %R)         12 (48 %R) (10 RPD)         4/14/2021         ug/L         15 - 140         20         625.1           n-Nitroso-din-propylamine         < 0.5	Benzoic Acid	< 50	< 5.7	< 50 (15 %R)	< 50 (16 %R) (6 RPE	) 4/14/2021	ug/L	15 - 130	50	625.1
n-Nitroso-di-n-propylamine       < 0.5	N-Nitrosodimethylamine	< 1	< .11	11 (44 %R)	12 (48 %R) (10 RPD	, ) 4/14/2021	ug/L	15 - 140	20	625.1
n-Nitrosodiphenylamine<1<.06820 (82 % R)21 (83 % R) (1 RPD)4/14/2021ug/L40 - 14020625.1bis(2-Chloroethyl)ether<1	n-Nitroso-di-n-propylamine	< 0.5	< .22	18 (71 %R)	19 (76 %R) (7 RPD	, ) 4/14/2021	ug/L	1 - 230	87	625.1
bis(2-Chloroethyl)ether<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<<1<	n-Nitrosodiphenvlamine	< 1	< .068	20 (82 %R)	21 (83 %R) (1 RPD	, ) 4/14/2021	ug/L	40 - 140	20	625.1
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	bis(2-Chloroethyl)ether	< 1	< .11	16 (64 %R)	18 (71 %R) (11 RPE	) 4/14/2021	ug/L	12 - 158	108	625.1
$ \begin{array}{c} 11 \\ 13 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 15 \\ 14 \\ 12 \\ 12 \\ 14 \\ 12 \\ 12 \\ 12 \\ 14 \\ 12 \\ 12$	bis(2-chloroisopropyl)ether	< 1	< 13	16 (64 %R)	18 (71 %R) (11 RPE	) 4/14/2021	ua/L	36 - 166	76	625.1
1.3.Dichlorobenzene       <1	bis(2-Chloroethoxy)methane	< 1	< 2	18 (72 %R)	19 (76 %R) (6 RPD	) 4/14/2021	ua/L	33 - 184	54	625.1
Acetophenone       <10	1 3-Dichlorobenzene	< 1	< 15	14 (56 %R)	16 (63 %R) (12 RPF	) 4/14/2021	ua/L	40 - 140	20	625.1
ActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActionActi	Acetophenone	< 10	< 8.8	17 (69 %R)	19 (75 %R) (8 RPC	) 4/14/2021	ua/L	40 - 140	20	625.1
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1 4-Dichlorobenzene	< 1	< 11	14 (56 %R)	16 (63 %R) (12 RPF	4/14/2021	ua/L	40 - 140	20	625.1
12.2.4-Trichlorobenzene<1<1.1017 (61 %H)17 (68 %R) (9 RPD)4/14/2021ug/L4/14/2021ug/L4/14/20214/14/202117 (68 %R) (9 RPD)2.Chloronaphthalene<1	1 2-Dichlorobenzene	< 1	< 13	14 (57 %R)	16 (64 %R) (11 RPE	) 4/14/2021	vg/L	40 - 140	20	625.1
2-Chloronaphthalene       <1	1 2 4-Trichlorobenzene	< 1	< 09	15 (62 %R)	17 (68 %R) (9 RPC	4/14/2021	ug/L	44 - 142	50	625.1
2-Chiorophenyl-phenylether<1<110 (12 / 14)10 (17 9 %R) (1 RPD)4/1/4/2021ug/L25 - 15861625.14-Chiorophenyl-phenylether<1		- 1	- 11	18 (72 %R)	19 (76 %R) (5 RPI	a) <u>4/14/2021</u>	ug/i	60 - 120	24	625.1
4-Bronophenyl-phenyletter<1<1<100020 (10 km)20 (10 km)(11 kD) $4/14/2021$ ug/L53 - 12743625.14-Bronophenyl-phenyletter<1	4-Chlorophenyl-phenylether	< 1	< 059	20 (78 %R)	20 (79 %R) (1 RPI	$\frac{1}{10} \frac{4}{14} \frac{2021}{2021}$	ua/l	25 - 158	61	625.1
Heininghieninghieninghiening $< 1$ $< 1$ $< 21$ $(22 \text{ M})$ $< 21$ $(20 \text{ M})$ $(1 \text{ M})$ $= 144221$ $(20 \text{ M})$ $(1 \text{ M})$ Hexachloropethane $< 1$ $< .15$ $14$ $(58 \text{ WR})$ $16$ $(66 \text{ WR})$ $(13 \text{ RPD})$ $4/14/2021$ $ug/L$ $40 - 120$ $52$ $625.1$ Hexachloropethadiene $< 1$ $< .073$ $15$ $(61 \text{ WR})$ $17$ $(67 \text{ WR})$ $(10 \text{ RPD})$ $4/14/2021$ $ug/L$ $24 - 120$ $62$ $625.1$ Hexachloropethadiene $< 1$ $< .12$ $21$ $83 \text{ WR}$ $21$ $(83 \text{ WR})$ $4/14/2021$ $ug/L$ $15 - 140$ $20$ $625.1$ Hexachlorobenzene $< 1$ $< .12$ $21$ $83 \text{ WR}$ $21$ $(83 \text{ WR})$ $4/14/2021$ $ug/L$ $1 - 152$ $55$ $625.1$ 4-Chloroaniline $< 1$ $< .12$ $21$ $83 \text{ WR}$ $21$ $(83 \text{ WR})$ $4/14/2021$ $ug/L$ $40 - 140$ $20$ $625.1$ 2.Nitroaniline $< 1$ $< .11$ $19$ $(76 \text{ WR})$ $20$ $(79 \text{ WR})$ $(3 \text{ RPD})$ $4/14/2021$ $ug/L$ $40 - 140$ $20$ $625.1$ 2.Nitroaniline $< 5$ $< .18$ $23$ $(91 \text{ WR})$ $(21 \text{ WR})$ $(0 \text{ RPD})$ $4/14/2021$ $ug/L$ $40 - 140$ $20$ $625.1$ 3-Nitroaniline $< 5$ $< .23$ $21$ $64 \text{ WR}$ $21$ $63 \text{ WR}$ $0 \text{ RPD}$ $4/14/2021$ $ug/L$ $40 - 140$ $20$ $6$	4-Chlorophenyl-phenylether	< 1	< 14	20 (70 %R) 21 (82 %R)	21 (83 %R) (1 RPI	$\frac{1}{2021}$	ug/l	53 - 127	43	625.1
Hexachlobeltatine<1<1.1314 (00 /kl)17 (67 %R) (10 RPD) $4/14/2021$ ug/L24 - 12062625.1Hexachlorobutadiene<5	Hexachloroethane	< 1	< 15	14 (58 %R)	16 (66 %R) (13 RPI	$\frac{4}{14} + \frac{12021}{2021}$	ug/1	40 - 120	52	625.1
Hexachloboldulating       < 1	Hexachlorobutadiono	< 1	< 073	15 (61 %R)	17 (67 %R) (10 RP	$\frac{1}{4} \frac{1}{4} \frac{2021}{2021}$	ug/1	24 - 120	62	625.1
Hexachlologychperiadiene </td <td>Hexachlorocyclopontadiono</td> <td>&lt; 5</td> <td>&lt; .073</td> <td>14 (56 %R)</td> <td>15 (61 %R) (8 RPI</td> <td>$\frac{1}{2} \frac{1}{2} \frac{1}$</td> <td>ug/L</td> <td>15 - 140</td> <td>20</td> <td>625.1</td>	Hexachlorocyclopontadiono	< 5	< .073	14 (56 %R)	15 (61 %R) (8 RPI	$\frac{1}{2} \frac{1}{2} \frac{1}$	ug/L	15 - 140	20	625.1
Hexaclified benzence $< 1 < 12$ $21 (35 / 31)$ $21 (35 / 31)$ $21 (35 / 31)$ $4142021$ $3g12$ $1102$ $302$ 4-Chloroaniline $< 1 < .13$ $19 (75 \% R)$ $20 (78 \% R) (4 RPD)$ $4/14/2021$ $ug/L$ $15 - 140$ $20$ $625.1$ 2,3-Dichloroaniline $< 1 < .11$ $19 (76 \% R)$ $20 (79 \% R) (3 RPD)$ $4/14/2021$ $ug/L$ $40 - 140$ $20$ $625.1$ 2-Nitroaniline $< 5 < .18$ $23 (91 \% R)$ $23 (91 \% R) (0 RPD)$ $4/14/2021$ $ug/L$ $40 - 140$ $20$ $625.1$ 3-Nitroaniline $< 5 < .13$ $21 (83 \% R)$ $21 (83 \% R) (0 RPD)$ $4/14/2021$ $ug/L$ $40 - 140$ $20$ $625.1$ 4-Nitroaniline $< 5 < .13$ $21 (84 \% R)$ $21 (84 \% R) (0 RPD)$ $4/14/2021$ $ug/L$ $40 - 140$ $20$ $625.1$ Aniline $< 1 < .13$ $16 (63 \% R)$ $17 (68 \% R) (8 RPD)$ $4/14/2021$ $ug/L$ $40 - 140$ $20$ $625.1$ Benzyl alcohol $< 10 < .35$ $17 (68 \% R)$ $18 (73 \% R) (7 RPD)$ $4/14/2021$ $ug/L$ $40 - 140$ $20$ $625.1$ Nitrobenzene $< 1 < .16$ $20 (79 \% R)$ $20 (82 \% R) (4 RPD)$ $4/14/2021$ $ug/L$ $40 - 140$ $20$ $625.1$ Isophorone $< 1 < .16$ $20 (79 \% R)$ $20 (82 \% R) (4 RPD)$ $4/14/2021$ $ug/L$ $35 - 180$ $62$ $625.1$ Isophorone $< 2 < .14$ $21 (85 \% R)$ $21 (85 \% R) (0 RPD)$ $4/14/2021$ $ug/L$ $39 - 139$ $42$ $625.1$		< 1	< 12	21 (83 %R)	21 (83 %R) (1 RPF	) 4/14/2021	ug/L	1 - 152	55	625.1
4-Choordanime $< 1$ $< 1.13$ $19$ $(73.7k)$ $20$ $(79.7k)$ $(74.1k)$ $(74.1$		< 1	< 13	21 (05 %N)	20 (78 %R) (4 RPF	) 4/14/2021	ug/L	15 - 140	20	625.1
2,3-Dictionorbanimie       <1		< 1	<ul> <li>10</li> <li>11</li> </ul>	19 (75 %R)	20 (70 %R) (4 RF	$\frac{1}{2021}$	ug/L	40 - 140	20	625.1
3-Nitroaniline<5<1.13 $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$ $23 (31 / M)$	2. Nitroaniline	< 1	< 18	23 (01 %R)	23 (91 %R) (0 RPE	$\frac{4}{14} \frac{2021}{2021}$	ug/L	40 - 140	20	625.1
4-Nitroaniline< 5< .13 $21 (63 % R)$ $21 (63 % R)$ $21 (63 % R)$ $41 (4/2021)$ $ug/L$ $40 - 140$ $20$ $625.1$ Aniline< 1	3 Nitroanilino	< 5	< 13	23 (91 /6K) 21 (83 %R)	23 (91 %R) (0 RPI	$\frac{1}{2021}$	ud/L	40 - 140	20	625.1
Aniline       <1		< 5	< 23	21 (84 %R)	21 (84 %R) (0 RPI	) 4/14/2021	ug/L	40 - 140	20	625.1
Benzyl alcohol       <10		< 1	< 13	16 (63 %R)	17 (68 %R) (8 RPI	) 4/14/2021	ua/L	40 - 140	20	625.1
Delizy accide       <10	Benzyl alcohol	< 10	< 35	17 (68 %R)	18 (73 %R) (7 RPI	(4/14/2021)	ug/L	40 - 140	20	625.1
Isophorone       <1	Nitrobenzene	< 1	< 21	17 (30 %R)	19 (75 %R) (8 RPI	$\frac{1}{2} \frac{1}{2} \frac{1}$	ua/L	35 - 180	62	625.1
2,4-Dinitrotoluene       < 2	Isonhorone	< 1	< 16	20 (79 %P)	20 (82 %R) (4 RPI	(1) (14/2021)	ug/L	21 - 196	93	625.1
2,6-Dinitrotoluene       < 2	2 4-Dinitrotoluene	~ )	< 11	20 (73 %T) 21 (84 %P)	21 (85 %R) (0 RPI	$\frac{1}{12} + \frac{1}{12} $	ug/L	39 - 139	47	625 1
Benzidine (estimated) <5 < 41 17 (70 %R) 19 (74 %R) (6 RPD) 4/14/2021 ug/L 1 - 200 50 625.1		~ 2	< 1/	21 (85 %P)	21 (85 %R) (1 RPI	$\frac{1}{2} \frac{1}{2} \frac{1}$	ug/L	50 - 158	48	625 1
	Benzidine (estimated)	< 5	< 41	17 (70 %R)	19 (74 %R) (6 RPI	(1) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	ua/L	. 1 - 200	50	) 625.1

Eastern Analytical, Inc.

## QC REPORT

#### EAI ID#: 224593

Batch ID: 637539-84373/A041421E6251

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
3,3'-Dichlorobenzidine	< 1	< .27	21 (83 %R)	21 (84 %R) (1 RPE	) 4/14/2021	ug/L	1 - 262	108	625.1
Pyridine	< 5	< .18	12 (50 %R)	14 (54 %R) (9 RPD	) 4/14/2021	ug/L	15 - 140	20	625.1
Azobenzene	< 1	< .14	22 (86 %R)	22 (88 %R) (2 RPD	) 4/14/2021	ug/L	40 - 140	20	625.1
Carbazole	< 1	< .12	20 (82 %R)	20 (82 %R) (0 RPD	) 4/14/2021	ug/L	40 - 140	20	625.1
Dimethylphthalate	< 1	< .11	20 (81 %R)	20 (81 %R) (0 RPD	) 4/14/2021	ug/L	1 - 120	183	625.1
Diethylphthalate	< 5	< .11	22 (87 %R)	22 (87 %R) (1 RPE	) 4/14/2021	ug/L	1 <del>-</del> 120	100	625.1
Di-n-butylphthalate	< 5	< .64	23 (91 %R)	23 (92 %R) (1 RPE	) 4/14/2021	ug/L	1 - 120	47	625.1
Butylbenzylphthalate	< 5	< .14	24 (95 %R)	24 (96 %R) (1 RPD	) 4/14/2021	ug/L	1 - 152	60	625.1
bis(2-Ethylhexyl)phthalate	< 5	< ,27	23 (93 %R)	23 (93 %R) (1 RPE	) 4/14/2021	ug/L	8 - 158	82	625.1
Di-n-octylphthalate	< 5	< .2	24 (98 %R)	24 (98 %R) (0 RPE	) 4/14/2021	ug/L	4 - 146	69	625.1
Dibenzofuran	< 1	< .11	19 (75 %R)	19 (76 %R) (1 RPE	) 4/14/2021	ug/L	40 - 140	20	625.1
Naphthalene	< 1	< .088	16 (64 %R)	17 (69 %R) (8 RPE	) 4/14/2021	ug/L	21 - 133	65	625.1
2-Methylnaphthalene	< 1	< .11	17 (67 %R)	18 (71 %R) (7 RPE	) 4/14/2021	ug/L	40 - 140	65	625.1
1-Methylnaphthalene	< 1	< .12	17 (68 %R)	18 (72 %R) (7 RPI	) 4/14/2021	ug/L	40 - 140	65	625.1
Acenaphthylene	< 1	< .11	18 (74 %R)	19 (76 %R) (3 RPI	) 4/14/2021	ug/L	33 - 145	74	625.1
Acenaphthene	< 1	< .11	19 (75 %R)	19 (78 %R) (3 RPE	) 4/14/2021	ug/L	47 - 145	48	625.1
Fluorene	< 1	< .093	19 (74 %R)	19 (75 %R) (1 RPI	) 4/14/2021	ug/L	59 - 121	38	625.1
Phenanthrene	< 1	< .11	19 (76 %R)	19 (77 %R) (1 RPI	) 4/14/2021	ug/L	54 - 120	39	625.1
Anthracene	< 1	< .13	19 (76 %R)	19 (77 %R) (1 RPI	) 4/14/2021	ug/L	27 - 133	66	625.1
Fluoranthene	< 1	< .12	19 (74 %R)	19 (75 %R) (1 RPE	) 4/14/2021	ug/L	26 - 137	66	625.1
Pyrene	< 1	< .11	19 (76 %R)	19 (76 %R) (0 RPI	0) 4/14/2021	ug/L	52 - 120	49	625.1
Benzo[a]anthracene	< 1	< .17	20 (78 %R)	20 (79 %R) (1 RPI	) 4/14/2021	ug/L	33 - 143	53	625.1
Chrysene	< 1	< .14	19 (76 %R)	19 (77 %R) (1 RPI	) 4/14/2021	ug/L	17 - 168	87	625.1
Benzo[b]fluoranthene	< 1	< .095	20 (80 %R)	20 (80 %R) (0 RPI	) 4/14/2021	ug/L	24 - 159	71	625.1
Benzo[k]fluoranthene	< 1	< .14	19 (77 %R)	19 (77 %R) (0 RPI	) 4/14/2021	ug/L	11 - 162	63	625.1
Benzo[a]pyrene	< 1	< .058	19 (74 %R)	18 (74 %R) (1 RPI	) 4/14/2021	ug/L	17 - 163	72	625.1
Indeno[1,2,3-cd]pyrene	< 1	< .13	19 (77 %R)	19 (77 %R) (0 RPI	0) 4/14/2021	ug/L	<b>1 -</b> 171	99	625.1
Dibenz[a,h]anthracene	< 1	< .16	18 (73 %R)	18 (73 %R) (0 RPI	0) 4/14/2021	ug/L	1 - 227	126	625.1
Benzo[g,h,i]perylene	< 1	< .14	18 (73 %R)	18 (72 %R) (0 RPI	0) 4/14/2021	ug/L	1 - 219	97	625.1
n-Decane	< 5	< .16	13 (53 %R)	15 (59 %R) (11 RPI	0) 4/14/2021	ug/L	40 - 140	20	625.1
n-Octadecane	< 5	< .5	23 (91 %R)	23 (93 %R) (1 RPI	0) 4/14/2021	ug/L	40 - 140	20	625.1
2-Fluorophenol (surr)	41 %R		37 %R	41 %	R 4/14/2021	% Rec	15 - 110		625.1
Phenoi-d6 (surr)	29 %R		27 %R	29 %	R 4/14/2021	% Rec	15 - 110		625.1
2,4,6-Tribromophenol (surr)	79 %R		81 %R	81 %	R 4/14/2021	% Rec	15 - 110		625.1
Nitrobenzene-D5 (surr)	79 %R		70 %R	76 %	R 4/14/2021	% Rec	30 - 130		625.1
2-Fluorobiphenyl (surr)	78 %R		71 %R	75 %	R 4/14/2021	% Rec	: 30 - 130		625.1
p-Terphenvi-D14 (surr)	82 %R		82 %R	82 %	R 4/14/2021	% Rec	: 30 - 130		625.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	224593.01	224593.02						
Matrix:	aqueous	aqueous						
Date Sampled:	4/13/21	4/13/21			Ana	alysis		
Date Received:	4/13/21	4/13/21	RL	Units	Date	Time	Method	Analyst
Solids Suspended	< 5	< 5	5	mg/L	4/15/21	14:50	2540D-11	KJD
Chloride	3500	3600	1000	ug/L	4/14/21	11:18	4500CIE-11	ΑΤΑ
Cyanide Total	7.6	< 5	5	ug/L	4/15/21	9:46	ASTM D7511-	09 ATA
Cyanide Free	< 5	< 5	5	ug/L	4/16/21	11:51	OIA-1677-09	) KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	4/15/21	10:10	TM NH3-001	I SEL

#### EAI ID#: 224593

Data of

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

Client Designation: Rennie Farm RGP / 04.0190030.02

				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits F	RPD	Method
Solids Suspended	< 5	92 (98 %R)	94 (100 %R) (2 RPD)	mg/L 4/15/21	90 - 110	20	2540D-11
Chloride	< 1000	25000 (100 %R)	24000 (96 %R) (3 RPD)	ug/L 4/14/21	90 - 110	20	4500CIE-11
Cyanide Total	< 5	100 (102 %R)	100 (103 %R) (2 RPD)	ug/L 4/15/21	84 - 116	20	ASTM D7511-09
Cyanide Free	< 5	250 (99 %R)	290 (116 %R) (16 RPD)	ug/L 4/16/21	82 - 132	20	OIA-1677-09
Ammonia-N	< 0.05	2.0 (98 %R)	1.9 (97 %R) (2 RPD)	mg/L 4/15/21	87 - 104	20	TM NH3-001
Ammonia-N	< 0.05	2.0 (98 %R)	1.9 (97 %R) (2 RPD)	mg/L 4/15/21	87 - 104	20	TM NH3-0

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

EAI ID#: 224593

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	224593.01	224593.02						
Matrix:	aqueous	aqueous						
Date Sampled:	4/13/21	4/13/21		Analytica	1	Analysis		
Date Received:	4/13/21	4/13/21	RL	Matrix	Units	Date	Method /	Analyst
Chromium (VI)	< 10	< 10	10	AqTot	ug/L	4/14/21	7196A	HEH
Antimony	< 0.5	< 0.5	0.5	AqTot	ug/L	4/14/21	200.8	B DS
Arsenic	< 0.5	< 0.5	0.5	AqTot	ug/L	4/14/21	200.8	B DS
Cadmium	< 0.1	< 0.1	0.1	AqTot	ug/L	4/14/21	200.8	B DS
Chromium	< 0.5	< 0.5	0.5	AqTot	ug/L	4/14/21	200.8	B DS
Chromium (III)	< 10	< 10	10	AqTot	ug/L	4/14/21	200.8	B DS
Copper	1.2	0.17	0.1	AqTot.	ug/L	4/14/21	200.8	B DS
Iron	1400	< 50	50	AqTot	ug/L	4/14/21	200.8	B DS
Lead	< 0.1	< 0.1	0.1	AqTot	ug/L	4/14/21	200.8	B DS
Mercury	< 0.1	< 0.1	0.1	AqTot	ug/L	4/14/21	200.8	B DS
Nickel	1.1	0.56	0.1	AqTot	ug/L	4/14/21	200.8	B DS
Selenium	< 0.5	< 0.5	0.5	AqTot	ug/L	4/14/21	200.8	B DS
Silver	< 0.1	< 0.1	0.1	AqTot	ug/L	4/14/21	200.8	B DS
Zinc	2.2	1.5	1	AqTot	ug/L	4/14/21	200.8	B DS

#### 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	< 0.0005	1.2 (115 %R)	1	NA	mg/L 4/14/21	85 - 115	20	200.8	
Arsenic	< 0.0005	1.0 (104 %R)	I	NA	mg/L 4/14/21	85 - 115	20	200.8	
Cadmium	< 0.0001	1.1 (106 %R)	I	NA	mg/L 4/14/21	85 - 115	20	200.8	
Chromium	< 0.0005	1.1 (108 %R)	I	NA	mg/L 4/14/21	85 - 115	20	200.8	
Copper	< 0.0001	1.0 (105 %R)	I	NA	mg/L 4/14/21	85 - 115	20	200.8	
Iron	< 0.05	11 (104 %R)	I	NA	mg/L 4/14/21	85 - 115	20	200.8	
Lead	< 0.0001	1.1 (106 %R)	I	NA	mg/L 4/14/21	85 - 115	20	200.8	
Mercury	< 0.0001	0.0011 (110 %R)	I	NA	mg/L 4/14/21	85 - 115	20	200.8	
Nickel	< 0.0001	1.0 (104 %R)	I	NA	mg/L 4/14/21	85 - 115	20	200.8	
Selenium	< 0.0005	1.1 (112 %R)	I	NA	mg/L 4/14/21	85 - 115	20	200.8	
Silver	< 0.0001	0.011 (111 %R)	I	NA	mg/L 4/14/21	85 - 115	20	200.8	
Zinc	< 0.001	1.0 (104 %R)	I	NA	mg/L 4/14/21	85 - 115	20	200.8	
Chromium (VI)	< 0.01	0.29 (95 %R)	I	NA	mg/L 4/14/21	85 - 115	20	7196A	

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.



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

April 21, 2021

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

RE: Project: 224593 4/13 Pace Project No.: 70169447

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on April 16, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures



#### REPORT OF LABORATORY ANALYSIS

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

Page 1 of 9



#### CERTIFICATIONS

 Project:
 224593 4/13

 Pace Project No.:
 70169447

#### Pace Analytical Services Long Island

Virginia Certification # 460302 Delaware Certification # NY10478 Delaware Certification # NY10478 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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Page 2 of 9



#### ANALYTICAL RESULTS

 Project:
 224593 4/13

 Pace Project No.:
 70169447

Sample: SYSTEM INFLUENT	Lab ID: 701	69447001	Collected: 04/13/2	21 12:00	Received: 0	04/16/21 09:45 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Meth Pace Analytica	nod: EPA 16 I Services -	624B - Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		04/19/21 13:16	67-64-1	
1,2-Dichloroethane-d4 (S)	92	%	78-114	1		04/19/21 13:16	17060-07-0	
4-Bromofluorobenzene (S)	88	%	83-111	1		04/19/21 13:16	460-00-4	
Toluene-d8 (S)	99	%	80-131	1		04/19/21 13:16	2037-26-5	

#### REPORT OF LABORATORY ANALYSIS



#### ANALYTICAL RESULTS

 Project:
 224593 4/13

 Pace Project No.:
 70169447

Sample: SYSTEM EFFLUENT	Lab ID: 701	69447002	Collected: 04/13/2	1 12:20	Received: 0	4/16/21 09:45 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Met Pace Analytic	hod: EPA 16 al Services -	624B Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		04/19/21 12:54	67-64-1	
1,2-Dichloroethane-d4 (S)	92	%	78-114	1		04/19/21 12:54	17060-07-0	
4-Bromofluorobenzene (S)	88	%	83-111	1		04/19/21 12:54	460-00-4	
Toluene-d8 (S)	100	%	80-131	1		04/19/21 12:54	2037-26-5	

#### **REPORT OF LABORATORY ANALYSIS**

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#### QUALITY CONTROL DATA

Project:	224593 4/13								
	/016944/							<u> </u>	
QC Batch:	204314		Analysis	Method:	EF	PA 1624B			
QC Batch Method:	EPA 1624B		Analysis	Descriptior	n: 16	624B MSV			
			Laborato	ry:	Pa	ace Analytical	Services - Mel	ville	
Associated Lab San	nples: 701694470	001, 70169447002							
METHOD BLANK:	1008394	<u> </u>	Ma	trix: Water					
Associated Lab San	nples: 701694470	001, 70169447002							
			Blank	Rep	orting				
Paran	neter	Units	Result	Li	mit	Analyzed	Qualif	iers	
Acetone		mg/L	<0.0	10	0.010	04/19/21 12	:09		
1,2-Dichloroethane-	d4 (S)	%		90	78-114	04/19/21 12	:09		
4-Bromofluorobenze	ene (S)	%		92	<b>83-11</b> 1	04/19/21 12	:09		
Toluene-d8 (S)		%		99	80-131	04/19/21 12	:09		
LABORATORY CON	NTROL SAMPLE:	1008395							
			Spike	LCS		LCS	% Rec		
Paran	neter	Units	Conc.	Result		% Rec	Limits	Qualifiers	_
Acetone		mg/L	0.05	0.0	059	118	20-200		
1,2-Dichloroethane-	d4 (S)	%				83	78-114		
4-Bromofluorobenze	ene (S)	%				88	83-111		
Toluene-d8 (S)		%				92	80-131		

#### SAMPLE DUPLICATE: 1013113

		70169341001	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Acetone	mg/L	5750 ug/L	6.5	13	
1,2-Dichloroethane-d4 (S)	%	94	88		
4-Bromofluorobenzene (S)	%	83	87		
Toluene-d8 (S)	%	98	98		

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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Page 5 of 9



#### QUALIFIERS

 Project:
 224593 4/13

 Pace Project No.:
 70169447

#### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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:
 224593 4/13

 Pace Project No.:
 70169447

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70169447001 70169447002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	204314 204314		

#### **REPORT OF LABORATORY ANALYSIS**

# CHAIN-OF-CUST

Date Sampled Matrix

Sample ID



EAI ID# 224593 Page 1

oumpro no	Date Sample		Sample Notes
System Influent	4/13/2021 12:00	aqueous Subcontract - EPA Method 1624 Isotope Dilution	
System Effluent	4/13/2021 12:20	aqueous Subcontract - EPA Method 1624 Isotope Dilution	yn a fan reken wedd within a regyn after yn yn yn annen dw'n âftegyr gyn yn yn a rewedd o fawrodyn awyn a yn â Yn a fan reken wedd yn gyn after yn yn annen dw'n âftegyr gyn yn yn a rewedd o fawrodyn awyn ar yn af fant swyyn fan yn ar yn ar fan yn yn yn ar yn ar yn ar yn yn ar yn ar yn ar yn yn yn ar yn ar yn ar yn yn yn ar

EAI ID# <b>2</b>	24593	Project State: NH Project ID: 4965	Results Needed: Preferred Date: Standard         RUSH Due Date:	PO #:54700 <u>Data Deliverable</u> (circle Excel NH EMD EO	EALID# 22 e) uis me ega	4593	
Company	PACE AN	ALYTICAL	Notes about project:				
Address	575 BROA	AD HOLLOW ROAD	Email login confirmation, pdf of results and	Call prior to analyzing,	if RUSH charg	es will be applied.	
Address	MELVILLE	E, NY 11747		Samples Collected by:	Miels	TENIPS	
Account #			1624 VOC Acetone Uniy	- Anguan	- 3/13/21	1030 01-	
Phone #	(631)694-	3040		Relinquished by	Date/Time	MANN S	4/16/21
Pa				Relinquished by	Date/Time	Received by	950
Eastern /	Analytical, Inc	. 25 Chenell Dr. Concord,	NH 03301 Phone: (603)228-0525 1-800-28	37-0525 customerser	vice@easterna	nalytical.com	

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

50	S	ample	Conditi	on Upon Receipt
/ Pace Analytical °	Client	Namo.		. LIN#:70169441
1	Chem	wanne: Wanne:	Beach	Due Date: 04/23/21
Courier - Fed Exc IIPS IISPS Cilient		<u>orcial</u> [	Pare CINY	PM: KNP
		0305	8725	CLIENT: EHSIA
Custody Seal on Cooler/Box Present-	es DAIN	Seals		SZ No
Packing Material TBubble Wran T Bubble		7 7inloc r	-None i-i A	
Thermometer Used: TH091	Соггес	tion Facto	ur∙ ≁∧.	Samples on ice cooling process has begun
Cooler Temperature $[^{\circ}C]$ : $U$ , $\Lambda$	Conler	Tempera	ture Correct	$ed(^{\circ}C)$ : $\Psi$ - $D$ Date/Time 50354 kits placed in freezer
Temp should be above freezing to 6.0°C.	_	rompord		
USDA Regulated Soil ( N/A water sample	2			Date and Initials of person examining contents: WS416/71
	~, 	المئدمة الفه	too AL AD C	A EL CA ID LA MC NO. Did complex orignate from a foreign pourse
MANY OK OD SC TN TY as VA [aback map]			ies: AL, AR, C.	A, FL, OA, ID, LA, MO, NO, Did samples of grade in on a foreign source
If Vos to althor supption fill out a modulat	n Luin ad Soil (	±S ∟NU bookligt Î		and include with SCHERMER and and Puerto Ricult - Testa No
		neckiisti		
Chain of Custodir Present	Moe		A.25	
Chain of Distory Filled Out-	Alac			
Chain of Custody Polioguidead	2100			, T⊂r
Sampler Name & Signature on COC-	/Nac		171N 7.A	<u>10</u>
Samples Arrived within Hold Time-	TNon		35-1834-785 	
Short Hold Time Analysis 1<72br				
Rush Turn Around Time Romested		- Velito		
Sufficient Volume: (Triple volume provided for				<u>8</u>
Correct Containers Used:	Tives		<u></u>	n <u>na serie de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la company de la com</u>
-Pace Containers Used	TiVes			
Containers Intact:	TVes			n <u></u>
Filtered volume received for Dissolved tests			ALLAN T	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	Wes			
-Includes date/time/ID. Matrix: SL A				
All containers needing preservation have bee	n⊡Yes	⊡No	DN/A	13. $\Box HNO_3 \Box H_2SO_4 \Box NaOH \Box HCl$
checked?				
pH paper Lot #			(	
All containers needing preservation are found	d to be			Sample #
in compliance with method recommendation	?		. <b>é</b>	
$[(HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide,$	⊡Yes	⊡No	ØN/A	
NAOH>12 Cyanide)			1	
Exceptions: VOA, Coliform, TOC/DOC, Oil and G	irease,			
DR0/8015 (water).				Initial when completed: Lot # of added Date/Time preservative
Per Method, VOA pH is checked after analysis				preservative: added:
Samples checked for dechlorination:	⊡Yes	⊡No		14.
KI starch test strips Lot #			1	
Residual chlorine strips Lot #	نىچىنى <u>تىمى</u> ت			Positive for Res. Chlorine? Y N
SM 4500 CN samples checked for sulfide?	⊡Yes	⊡No	<b>7</b> N/A	15.
Lead Acetate Strips Lot #			/	
Headspace in VOA Vials ( >6mm);	⊡Yes	- TANO	<u>CIN/A</u>	
Inp Blank Present:	⊡Yes	ZNO	$\sum_{n=1}^{n}$	
Hank Custody Seals Present	⊡Yes	ΞNo		
Pace ITIP BIBINK LOT # (IT applicable):		and the second second second second second second second second second second second second second second second	1 	
Client Notification/ Resolution				Field Data Required? Y / N
Person Contacted:				Date/Time:
CUMMENTS/ RESOLUTION:				
				<u></u>
	···· ··· ···			
in the second second second second second second second second second second second second second second second				
• DM (Drojopt Monogor) rovie via desure t	lootro-t-	olly in The		
- EPHELDELL MANADER FEVIEW IS OUTUMENTED F	аеси опіс	ally III LIMS	) <b>.</b>	

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Thursday, April 22, 2021

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

Project ID: 224593 SDG ID: GCI10416 Sample ID#s: CI10416 - CI10417

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Stille

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 UT Lab Registration #CT00007 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

## Sample Id Cross Reference

April 22, 2021

SDG I.D.: GCI10416

Project ID: 224593

Client Id	Lab Id	Matrix
SYSTEM INFLUENT	CI10416	WATER
SYSTEM EFFLUENT	CI10417	WATER


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



Analysis April 22	<b>Report</b> 2, 2021	FOR:	Attn: Front Office Eastern Analytical 25 Chenell Drive Concord, NH 03301		
Sample Information		Custody Inform	<u>Date</u>	Time	
Matrix:	WATER	Collected by:		04/13/21	12:00
Location Code:	EASTANAL-NH	Received by:	CP	04/16/21	15:15
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	54699	Laboratory	<u>v Data</u>	SDG ID: Phoenix ID:	: GCI10416 : CI10416
Project ID:	224593				
Client ID:	SYSTEM INFLUENT				

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,4-dioxane							
1,4-dioxane	20	0.20	ug/l	1	04/21/21	AW	EPA522
QA/QC Surrogates % 1,4-dioxane-d8 Extraction for 1,4-Dioxane	76 Completed		%	1	04/21/21 04/20/21	AW G/G	70 - 130 % EPA522

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

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

#### Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director April 22, 2021 Reviewed and Released by: Rashmi Makol, Project Manager



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



Analysis April 22	<b>Report</b> 2, 2021		FO	Attn: Front Offic Eastern Analytic 25 Chenell Drive Concord, NH 03	e cal e 3301			
Sample Inforn	nation		Custody Information			Date	Date	
Matrix: WATER			Collected by	:		04/1:	3/21	12:20
Location Code:	EASTANA	L-NH	Received by	:	CP	04/16	5/21	15:15
Rush Request:	72 Hour		Analyzed by:	:	see "By" below			
P.O.#:	54699		Laborato	ory I	Data	SI Phoe	DG II nix II	D: GCI10416 D: CI10417
Project ID:	224593							
Client ID:	SYSTEM EF	FLUENT						
Parameter		Result	RL/ PQL	Units	s Dilution	Date/Time	Ву	Reference
1,4-dioxane								
1,4-dioxane		ND	0.20	ug/l	1	04/21/21	AW	EPA522
QA/QC Surrogat	es							
% 1,4-dioxane-d8	i	80		%	1	04/21/21	AW	70 - 130 %
Extraction for 1,4-	Dioxane	Completed				04/20/21	G/G	EPA522

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

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

#### **Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director April 22, 2021 Reviewed and Released by: Rashmi Makol, Project Manager





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

April 22, 2021

## QA/QC Data

SDG I.D.: G	CI10416
-------------	---------

Parameter	Blank	Blk RL	LCS %	LCSD	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 571793 (ug	/I), QC Sample	No: CH9938	38 (CI10416, CI10417)							
1,4dioxane - Water										
1,4-dioxane	ND	0.20	106	97	8.9	93			70 <b>-</b> 130	20
% 1,4-dioxane-d8	83	%	82	<b>7</b> 5	8.9	77			70 - 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 April 22, 2021

Thursday, April	22, 2021	Sample	Sample Criteria Exceedances Report							
Criteria: None GCI10416 - EASTANAL-NH									3	
State: NH							RL	Analysis		
SampNo A	code Phoenix Ar	lyte Criteria		Result	RL	Criteria	Criteria	Units		
									'	

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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

April 22, 2021

SDG I.D.: GCI10416

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

ample ID	Data Sampled M	- toise	aBaramatara		1,5			-
			ararameters	A Method 522		NN 111 -	Sample Notes	
system indent	12:00					10416	)	
System Effluent	4/13/2021   aq   12:20	ueous Sub	contract - 1,4 Dioxane EPA	A Method 522		1041-	1	
EALID# 22/503	Decident States		<u>esults Needed:</u> Prefe	rred Date: Standard	IPO # 5469	99	EAI ID# 22459	3
EAI ID# 224593	Project State: Project ID:	NH 8 4965 9	esults Needed: Prefer RUSH I <u>C Deliverables</u>	rred Date: Standard Due Date:	PO #:5469 Data Deliver	99 <u>able</u> (circle	EAI ID# <b>22459</b> 3	3
EAI ID# <b>224593</b> Company Phoei	Project State: Project ID: hix Environmental	NH 8 4965 Ω _abs 1	<u>esults Needed:</u> Prefer RUSH I <u>C Deliverables</u> ] A □ A+ ⊠ B □ E lotes about proiect:	rred Date: Standard Due Date: 3+ □ C □ MA MC	PO #:5469 Data Deliver Excel NH	99 <u>able</u> (circle EMD EQu	EAI ID# <b>22459</b> 3 9) JIS ME EGAD	3
EAI ID# 224593 Company Phoen Address 587 E	Project State: Project ID: hix Environmental ast Middle Turnpik	NH 4965 1 _abs 1 e =	esults Needed: Prefer RUSH I <u>C Deliverables</u> ]A □ A+ ⊠ B □ E Notes about project; mail login confirmation,	rred Date: Standard Due Date: 3+ □ C □ MA MC pdf of results and @easternanalytical com	PO #:5469 Data Deliver Excel NH Call prior to	99 <u>able</u> (circle EMD EQu panalyzing, i	EAI ID# 22459 a) uIS ME EGAD if RUSH charges wi	3 If be applied.
EAI ID# 224593 Company Phoer Address 587 E Address Manc	Project State: Project ID: nix Environmental ast Middle Turnpik hester , CT 06040	NH 4965 Labs e	esults Needed: Prefer RUSH I <u>C Deliverables</u> ]A □ A+ ⊠ B □ E Notes about project; mail login confirmation, proice to customerserviced	rred Date: Standard Due Date: 3+	PO #:5469 Data Deliver Excel NH Call prior to Samples (	99 <u>able</u> (circle EMD EQU o analyzing, i Collected by:	EAI ID# 22459 als ME EGAD if RUSH charges with $4/6 - 202/$	3 If be applied.
EAI ID# 224593 Company Phoer Address 587 E Address Manc Account #	Project State: Project ID: hix Environmental ast Middle Turnpik hester , CT 06040	NH 4965 G Labs f e ir	esults Needed: Prefer RUSH I <u>C Deliverables</u> A A+ X B E Notes about project; mail login confirmation, proice to customerservice ASAP WHXE	rred Date: Standard Due Date: 3+ □ C □ MA MC pdf of results and @easternanalytical.com. F SUCWATGR	PO #: 5469 Data Deliver Excel NH Call prior to Sampler O Relinquist	99 able (circle EMD EQU analyzing, i Collected by: Xummed by	EAI ID# 22459 als ME EGAD if RUSH charges with 4-16-2021	3 If be applied.



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CHAIN-OF-CUSTODY RECORD

224593

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
System Influent	9-13-21 12:00	aqueous Grabor Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg.F Se.Ag.Zn/Cr6/Cr3/CyanFree	Pb.Ni. 13
Sampler confi	ا rms ID and parameters	s are accurate	Circle preservative/s:(HCL/HNO_/H_SO_/NaOH_MEOH_Na_S_O_(ICE) Dissolved Sample Fiel	d Filtered
System Effluent	4/13/21	aqueous Grabor Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg.F Se.Ag.Zn/Cr6/Cr3/CyanFree	^p b.Ni. <i>13</i>
Sampler confi	rms ID and parameters	s are accurate	Circle preservative/s;HCDHNO,H2SO, NaOH MEOH Na2S2O3 ICE Dissolved Sample Fiel	d Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID  4965 Project Name   Rennie Farm RGP / 04.0190030.02	Results Needed by: Preferred date <u>5 Poy</u> Notes:	ReportingOptions   Image: HC Image: NO FAX PO# verbal   Image: Method Set Set Set Set Set Set Set Set Set Set
State NH Client (Pro Mgr) Jim Wieck	1624 Acetone Only	$\square$ EDD PDP $\square$ Faitual FAXQuote#: $\square$ EDD email $\square$ PDF Invoice $\square$ EQUIS $3.7 \circ C$ $\square$ e-mail Login Confirmation $\square$ EQUIS $3.7 \circ C$
Customer GZA GeoEnvironmental, Inc. (NH) Address 5 Commerce Park North, Suite 201 City Bedford NH 03110		Samples Collected by: <u>AVJ</u> Ice YUND al Jacobrent 4713-21
Phone 623-3600 Fax 624-9463 (37) Email: James.Wieck@gza.com	QC deliverables □ A □ A+ ⊠ B □ B+ □ C □ MA MCP	Relinquished by Date/Time Received by <u>+Oyen</u> 4/13/21 1-530 (un sub- Relinquished by Date/Time Received by
Direct 232-8732 Eastern Analytical,	Inc. www.easternanalytical.com   800.287	.0525   customerservice@easternanalytical.com

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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



Laboratory Report for:

Eastern Analytical, Inc. ID: 224748 Client Identification: Rennie Farm | 04.0190030.02 | Task No. 22, ST-1 Date Received: 4/15/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Vashen

Lorraine Olashaw, Lab Director

Date



## SAMPLE CONDITIONS PAGE

EAI ID#: 224748

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

Client Designation: Rennie Farm | 04.0190030.02 | Task No. 22, ST-1

Temperat Acceptable to	ure upon receipt (°C): 3 emperature range (°C): 0-6	3.9 Received on ice o					r cold packs (Yes/No): Υ		
Lab ID	Sample ID	Date Received	Date/] Samp	lime Died	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)		
224748.01	System Influent	4/15/21	4/14/21	11:15	aqueous		Adheres to Sample Acceptance Policy		
224748.02	System Mid	4/15/21	4/14/21	11:20	aqueous		Adheres to Sample Acceptance Policy		
224748.03	LGAC Out	4/15/21	4/15/21	09:50	aqueous		Adheres to Sample Acceptance Policy		
224748.04	LGAC Mid	4/15/21	4/15/21	09:53	aqueous		Adheres to Sample Acceptance Policy		
224748.05	LGAC In	4/15/21	4/15/21	09:56	aqueous		Adheres to Sample Acceptance Policy		

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

EAI ID#: 224748

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

Client Designation: Rennie Farm | 04.0190030.02 | Task No. 22, ST-1

Client Sample ID:	System Influent						
Lab Sample ID:	224748.01						
Matrix:	aqueous						
Date Sampled:	4/14/21						
Date Received:	4/15/21						
	Pooult	ы	Dilution	Unite	Date / Time	Mathad	Analunt
/ / m.	Result	RL	ractor	Units	Analyzed	wethod	Analyst
1,4-Dioxane	15	2	10	ug/L	4/16/21 21:04	8260B SIM	AM
4-Bromofluorobenzene (surr)	106 %R			%	4/16/21 21:04	8260B SIM	AM
Toluene-d8 (surr)	103 %R			%	4/16/21 21:04	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	224748.02						
Matrix:	aqueous						
Date Sampled:	4/14/21						
Date Received:	4/15/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	4/16/21 14:20	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	4/16/21 14:20	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	4/16/21 14:20	8260B SIM	AM

EAI ID#: 224748

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

Client Designation: Rennie Farm | 04.0190030.02 | Task No. 22, ST-1

Client Sample ID:	LGAC Out						
Lab Sample ID:	224748.03						
Matrix:	aqueous						
Date Sampled:	4/15/21						
Date Received:	4/15/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.70	0.2	1	ug/L	4/16/21 14:51	8260B SIM	AM
4-Bromofluorobenzene (surr)	105 %R			%	4/16/21 14:51	8260B SIM	AM
Toluene-d8 (surr)	103 %R			%	4/16/21 14:51	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	224748.04						
Matrix:	aqueous						
Date Sampled:	4/15/21						
Date Received:	4/15/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	280	40	200	ug/L	4/19/21 16:39	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	4/19/21 16:39	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	4/19/21 16:39	8260B SIM	AM

LGAC In						
224748.05						
aqueous						
4/15/21						
4/15/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
1100	100	500	ug/L	4/16/21 21:35	8260B SIM	AM
104 %R			%	4/16/21 21:35	8260B SIM	AM
103 %R			%	4/16/21 21:35	8260B SIM	AM
	LGAC In 224748.05 aqueous 4/15/21 4/15/21 Result 1100 104 %R 103 %R	LGAC In 224748.05 aqueous 4/15/21 4/15/21 <b>Result RL</b> 1100 100 104 %R 103 %R	LGAC In 224748.05 aqueous 4/15/21 4/15/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>100</b> 500 <b>104 %R</b> <b>103 %R</b>	LGAC In 224748.05 aqueous 4/15/21 4/15/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Res</b>	LGAC In 224748.05 aqueous 4/15/21 4/15/21 <b>Dilution</b> Date / Time <b>Result</b> RL Factor Units Analyzed 1100 100 500 ug/L 4/16/21 21:35 104 %R % 4/16/21 21:35	LGAC In 224748.05 aqueous 4/15/21 4/15/21 <b>Dilution</b> Date / Time <b>Result</b> RL Factor Units Analyzed Method 1100 100 500 ug/L 4/16/21 21:35 8260B SIM 104 %R % % 4/16/21 21:35 8260B SIM 103 %R % % 4/16/21 21:35 8260B SIM

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## QC REPORT

#### EAI ID#: 224748

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

Client Designation: Rennie Farm | 04.0190030.02 | Task No. 22, ST-1

				Date of		
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits RPD	Method
1,4-Dioxane	< 0.2	4.5 (90 %R)	4.3 (86 %R) (5 RPD)	ug/L 4/16/21	70 - 130 20	8260B SIM
4-Bromofluorobenzene (surr)	104 %R	104 %R	104 %R	% Rec 4/16/21	70 - 130 50	8260B SIM
Toluene-d8 (surr)	103 %R	103 %R	103 %R	% Rec 4/16/21	70 - 130 50	8260B SIM

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

#### EAI ID#: 224748

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

Client Designation: Rennie Farm | 04.0190030.02 | Task No. 22, ST-1

				Date of		
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits RPD	Method
1,4-Dioxane	< 0.2	4.4 (88 %R)	4.3 (86 %R) (3 RPD)	ug/L 4/19/21	70 - 130 20	8260B SIM
4-Bromofluorobenzene (surr)	103 %R	103 %R	104 %R	% Rec 4/19/21	70 - 130 50	8260B SIM
Toluene-d8 (surr)	103 %R	103 %R	103 %R	% Rec 4/19/21	70 - 130 50	8260B SIM

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

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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



Laboratory Report for:

Eastern Analytical, Inc. ID: 225431 Client Identification: Rennie Farm | 04.0190030.02 | #1, Task 22, Subtask 1 | #2, Task 9 Date Received: 4/29/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Courrie Oushaw

5.6.21

Date



Lorraine Olashaw, Lab Director

## SAMPLE CONDITIONS PAGE

1

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

Client Designation: Rennie Farm | 04.0190030.02 | #1, Task 22, Subtask 1 | #2, Task 9

Temperat	ure upon receipt (°C): 4.'	1		í	Received on ice or cold packs (Yes/No): $\gamma$						
Lab ID	Sample ID	Date Received	Date/1 Samp	Time bled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)				
225431.01	System Influent	4/29/21	4/28/21	10:25	aqueous		Adheres to Sample Acceptance Policy				
225431.02	System Mid	4/29/21	4/28/21	10:30	aqueous		Adheres to Sample Acceptance Policy				
225431.03	LGAC In	4/29/21	4/29/21	09:41	aqueous		Adheres to Sample Acceptance Policy				
225431.04	LGAC Mid	4/29/21	4/29/21	09:38	aqueous		Adheres to Sample Acceptance Policy				
225431.05	LGAC Out	4/29/21	4/29/21	09:35	aqueous		Adheres to Sample Acceptance Policy				
225431.06	9 Rennie Rd	4/29/21	4/29/21	11:30	aqueous		Adheres to Sample Acceptance Policy				
225431.07	7 Rennie Rd	4/29/21	4/29/21	10:50	aqueous		Adheres to Sample Acceptance Policy				

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

EAI ID#: 225431

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

Client Sample ID:	System Influent								
Lab Sample ID:	225431.01								
Matrix:	aqueous								
Date Sampled:	4/28/21								
Date Received:	4/29/21								
Time Sampled:	10:25								
	Result	RL	Dilution Factor	Analytical Matrix	Units	Date Ana	Time lyzed	Method	Analyst
1,4-Dioxane 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	36 98 %R 99 %R	2	10	AqTot AqTot AqTot	ug/L % %	5/1/21 5/1/21 5/1/21	10:55 10:55 10:55	8260B SIM 8260B SIM 8260B SIM	AM AM AM

Client Sample ID:	System Mid								
Lab Sample ID:	225431.02								
Matrix:	aqueous								
Date Sampled:	4/28/21								
Date Received:	4/29/21								
Time Sampled:	10:30								
	Result	RL	Dilution Factor	Analytical Matrix	Units	Date Ana	Time lyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	AqTot	ug/L	5/1/21	3:08	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			AqTot	%	5/1/21	3:08	8260B SIM	AM
Toluene-d8 (surr)	100 %R			AqTot	%	5/1/21	3:08	8260B SIM	AM

#### EAI ID#: 225431

3

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

Client Sample ID:	LGAC In						
Lab Sample ID:	225431.03						
Matrix:	aqueous						
Date Sampled:	4/29/21						
Date Received:	4/29/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1800	100	500	ug/L	5/1/21 11:57	8260B SIM	AM
4-Bromofluorobenzene (surr)	94 %R			%	5/1/21 11:57	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	5/1/21 11:57	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	225431.04						
Matrix:	aqueous						
Date Sampled:	4/29/21						
Date Received:	4/29/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.59	0.2	1	ug/L	5/2/21 13:18	8260B SIM	AM
4-Bromofluorobenzene (surr)	94 %R			%	5/2/21 13:18	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	5/2/21 13:18	8260B SIM	AM

LGAC Out						
225431.05						
aqueous						
4/29/21						
4/29/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
1.1	0.2	1	ug/L	5/1/21 3:39	8260B SIM	AM
100 %R			%	5/1/21 3:39	8260B SIM	AM
100 %R			%	5/1/21 3:39	8260B SIM	AM
	LGAC Out 225431.05 aqueous 4/29/21 4/29/21 Result 1.1 100 %R 100 %R	LGAC Out 225431.05 aqueous 4/29/21 4/29/21 <b>Result RL</b> 1.1 0.2 100 %R 100 %R	LGAC Out 225431.05 aqueous 4/29/21 4/29/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>1.1</b> 0.2 1 100 %R 100 %R	LGAC Out 225431.05 aqueous 4/29/21 4/29/21 <b>Dilution</b> <b>Result</b> <b>1.1</b> 0.2 1 ug/L 100 %R %	LGAC Out 225431.05 aqueous 4/29/21 4/29/21 <b>Dilution</b> Date / Time Result RL Factor Units Analyzed 1.1 0.2 1 ug/L 5/1/21 3:39 100 %R % 5/1/21 3:39	LGAC Out 225431.05 aqueous 4/29/21 4/29/21 <b>Dilution</b> Date / Time <b>Result</b> RL Factor Units Analyzed Method 1.1 0.2 1 ug/L 5/1/21 3:39 8260B SIM 100 %R % 5/1/21 3:39 8260B SIM

EAI ID#: 225431

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

Client Sample ID:	9 Rennie Rd								
Lab Sample ID:	225431.06								
Matrix:	aqueous								
Date Sampled:	4/29/21								
Date Received:	4/29/21								
Time Sampled:	11:30								
	Result	RL	Dilution Factor	Analytical Matrix	Units	Date Ana	Time lyzed	Method	Analyst
1,4-Dioxane	12	0.2	1	AqTot	ug/L	5/1/21	4:10	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			AqTot	%	5/1/21	4:10	8260B SIM	AM
Toluene-d8 (surr)	101 %R			AqTot	%	5/1/21	4:10	8260B SIM	AM

EAI ID#: 225431

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

Client Sample ID:	7 Rennie Rd								
Lab Sample ID:	225431.07								
Matrix:	aqueous								
Date Sampled:	4/29/21								
Date Received:	4/29/21								
Time Sampled:	10:50								
	Result	RL	Dilution Factor	Analytical Matrix	Units	Date Ana	Time lyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	AqTot	ug/L	5/1/21	4:41	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			AqTot	%	5/1/21	4:41	8260B SIM	AM
Toluene-d8 (surr)	100 %R			AqTot	%	5/1/21	4:41	8260B SIM	AM

## QC REPORT

#### EAI ID#: 225431

6

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

#### Batch ID: 637555-38490/A043021DIOX2

Client Designation: Rennie Farm | 04.0190030.02 | #1, Task 22, Subtask 1 | #2, Task 9

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.6 (92 %R)	4.7 (95 %R) (3 RPD	) 5/1/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	99 %R	100 %R	99 %F	R 5/1/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	100 %R	100 %R	100 %F	R 5/1/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

#### EAI ID#: 225431

7

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

Batch ID: 637556-41207/A050221DIOX1

Client Designation: Rennie Farm | 04.0190030.02 | #1, Task 22, Subtask 1 | #2, Task 9

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.7 (95 %R)	4.5 (90 %R) (5 RPD	) 5/2/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	94 %R	95 %R	95 %F	R 5/2/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	99 %R	99 %R	99 %F	R 5/2/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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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



Laboratory Report for:

Eastern Analytical, Inc. ID: 225980 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 5/10/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Date



## SAMPLE CONDITIONS PAGE

EAI ID#: 225980

1

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Temperat Acceptable	ture upon receipt (°C): temperature range (°C): 0-6	3.2	Received on ice or cold packs (Yes/No): Υ							
Lab ID	Sample ID	Date Received	Date/ Sam	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)			
225980.01	System Influent	5/10/21	5/10/21	12:15	aqueous		Adheres to Sample Acceptance Policy			
225980.02	System Effluent	5/10/21	5/10/21	12:05	aqueous		Adheres to Sample Acceptance Policy			

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

#### EAI ID#: 225980

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

### Client Designation: Rennie Farm RGP / 04.0190030.02

Client Sample ID:	System Influent				Date of Prepara	tion:	004.4			
Lab Sample ID: 2	225980.01				We	unou:	024.1			
Matrix:	aqueous				Ana	alyst:	SG			
Date Sampled:	5/10/21				U	nits:	ug/L			
Date Received:	5/10/21									
	<b></b>		Dilution	Date		Π.	14	וח	Dilution	Date
	Result	RL	Factor	Analyzed		Re	suit	RL	Factor	Analyzeu
Chloromethane	< 2	2	1	5/10/21	4-Bromofluorobenzene (surr)	103	%R			5/10/21
Vinyl chloride	< 1	1	1	5/10/21	1,2-Dichlorobenzene-d4	99	%R			5/10/21
Bromomethane	< 2	2	1	5/10/21	Toluene-d8 (surr)	98	%R			5/10/21
Chloroethane	< 2	2	1	5/10/21						
Trichlorofluoromethane	< 2	2	1	5/10/21						
Acrolein	< 50	50	1	5/10/21						
Acetone	< 10	10	1	5/10/21						
1,1-Dichloroethene	< 0.5	0.5	1	5/10/21						
Methylene chloride	< 1	1	1	5/10/21						
Acrylonitrile	< 50	50	1	5/10/21						
Methyl-t-butyl ether(MTBE	) <1	1	1	5/10/21						
trans-1,2-Dichloroethene	< 1	1	1	5/10/21						
Vinyl acetate	< 10	10	1	5/10/21						
1,1-Dichloroethane	< 1	1	1	5/10/21						
cis-1,2-Dichloroethene	< 1	1	1	5/10/21						
2-Butanone(MEK)	< 10	10	1	5/10/21						
Chloroform	< 1	1	1	5/10/21						
1,1,1-Trichloroethane	< 1	1	1	5/10/21						
Carbon tetrachloride	< 1	1	1	5/10/21						
Benzene	< 1	1	1	5/10/21						
1,2-Dichloroethane	< 1	1	1	5/10/21						
Trichloroethene	< 1	1	1	5/10/21						
1,2-Dichloropropane	< 1	1	1	5/10/21						
Bromodichloromethane	< 0.5	0.5	1	5/10/21						
2-Chloroethylvinylether	< 2	2	1	5/10/21						
4-Methyl-2-pentanone(MIE	3K) < 10	10	1	5/10/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	5/10/21						
Toluene	< 1	1	1	5/10/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	5/10/21						
1,1,2-Trichloroethane	< 1	1	1	5/10/21						
2-Hexanone	< 10	10	1	5/10/21						
Tetrachloroethene	< 1	1	1	5/10/21						
Dibromochloromethane	< 1	1	1	5/10/21						
Chlorobenzene	< 1	1	1	5/10/21						
Ethylbenzene	< 1	1	1	5/10/21						
mp-Xylene	< 1	1	1	5/10/21						
o-Xylene	< 1	1	1	5/10/21						
Styrene	< 1	1	1	5/10/21						
Bromoform	< 2	2	1	5/10/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	5/10/21						
1,3-Dichlorobenzene	< 1	1	1	5/10/21						
1,4-Dichlorobenzene	< 1	1	1	5/10/21						
1,2-Dichlorobenzene	< 1	1	1	5/10/21						

EAI ID#: 225980

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

Client Sample ID: S Lab Sample ID: 2	System Effluent 225980.02				Date of Prepara Me	ation: thod:	624.1			
Matrix:	aqueous				An	alyst:	SG			
Date Sampled: 5	5/10/21				L	Jnits:	ug/L			
Date Date include	5/10/21						·			
Date Received:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Dilution	Date					Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyzed
Chloromethane	< 2	2	1	5/10/21	4-Bromofluorobenzene (surr)	104	%R			5/10/21
Vinyl chloride	< 1	1	1	5/10/21	1,2-Dichlorobenzene-d4	99	%R			5/10/21
Bromomethane	< 2	2	1	5/10/21	Toluene-d8 (surr)	99	%R			5/10/21
Chloroethane	< 2	2	1	5/10/21						
Trichlorofluoromethane	< 2	2	1	5/10/21						
Acrolein	< 50	50	1	5/10/21						
Acetone	< 10	10	1	5/10/21						
1.1-Dichloroethene	< 0.5	0.5	1	5/1 <b>0/21</b>						
Methvlene chloride	< 1	1	1	5/10/21						
Acrylonitrile	< 50	50	1	5/10/21						
Methvl-t-butvl ether(MTBF)	) <1	1	1	5/10/21						
trans-1 2-Dichloroethene	, < 1	. 1	1	5/10/21						
Vinvl acetate	< 10	10	1	5/10/21						
1 1-Dichloroethane	< 1	1	1	5/10/21						
cis-1 2-Dichloroethene	< 1		1	5/10/21						
2-Butanone(MEK)	< 10	10	1	5/10/21						
Chloroform	< 1	1	1	5/10/21						
1 1 1-Trichloroethane	< 1	1	1	5/10/21						
Carbon tetrachloride	< 1	1	1	5/10/21						
Banzana	< 1	1	1	5/10/21						
1.2-Dichloroethane	< 1	1	1	5/10/21						
Trichloroethene	< 1	1	1	5/10/21						
1.2 Dichloropropapo	< 1	1	1	5/10/21						
Promodichloromothano	< 0.5	0.5	1	5/10/21						
2 Chloroothylyinylothor	< 0.0	0.0	1	5/10/21						
2-Chioroeuryivinyieurei 4 Mothyl 2 poptopopo(Mi⊑	~ 2	10	1	5/10/21						
-Metry-z-peritatione(Mie	< 0.5	0.5	1	5/10/21						
	< 0.5	0.0	1	5/10/21						
toluelle trong 1.2 Dichloropropono			1	5/10/21						
1 1 2 Trichlereethene	< 0.0	0.0	1	5/10/21						
	< 10	10	1	5/10/21						
	< 10	10	1	5/10/21						
	< 1	1	1	5/10/21						
	< 1	1	1	5/10/21						
	1	1	1	5/10/21						
	<   - 1	ا بہ	1	5/10/21						
mp-Aylene	< 1	ן א	1	5/10/21						
o-Aylene	< 1	ן א	1	5/10/21						
Siyrene	< 1	1	1 4	5/10/21						
	< 2	2	T A	5/10/21						
1,1,2,2-1 etrachloroethane	< 1	1	T A	5/10/21						
	< 1	1	1	5/10/21						
1,4-Dichlorobenzene	< 1	1	1	5/10/21						
1,2-Dichlorobenzene	< 1	1	1	5/10/21						

QC REPORT

EAI ID#: 225980

Batch ID: 637562-58894/A051021V6241

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

Client Designation: Rennie Farm RGP / 04.0190030.02

	Blank	Blank							
Parameter Name	(RL)	(MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	< .876	22 (112 %R)	24 (118 %R) (5 RPD	) 5/10/2021	ug/L	1 - 205	60	624.1
Vinyl chloride	< 1	< .34	28 (138 %R)	29 (146 %R) (6 RPD	) 5/10/2021	ug/L	5 - 195	66	624.1
Bromomethane	< 2	< .554	26 (129 %R)	28 (138 %R) (7 RPD	) 5/10/2021	ug/L	15 - 185	61	624.1
Chloroethane	< 2	< .232	19 (96 %R)	21 (103 %R) (7 RPD	) 5/10/2021	ug/L	40 - 160	78	624.1
Trichlorofluoromethane	< 2	< .375	24 (118 %R)	25 (125 %R) (6 RPD	) 5/10/2021	ug/L	50 - 150	84	624.1
Acrolein	< 50	< .548	< 50 (92 %R)	< 50 (97 %R) (5 RPD	) 5/10/2021	ug/L	60 - 140	60	624.1
Acetone	< 10	< 2.387	19 (94 %R)	19 (96 %R) (2 RPD	) 5/10/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethene	< 0.5	< .37	21 (107 %R)	23 (113 %R) (5 RPD	) 5/10/2021	ug/L	50 - 150	32	624.1
Methylene chloride	< 1	< .545	19 (97 %R)	20 (102 %R) (5 RPD	) 5/10/2021	ug/L	60 - 140	28	624.1
Acrylonitrile	< 50	< .302	< 50 (86 %R)	< 50 (89 %R) (4 RPD	) 5/10/2021	ug/L	60 - 140	60	624.1
Methyl-t-butyl ether(MTBE)	< 1	< .519	19 (96 %R)	20 (102 %R) (6 RPD	) 5/10/2021	ug/L	70 - 130	20	624.1
trans-1,2-Dichloroethene	< 1	< .298	19 (96 %R)	20 (101 %R) (5 RPD	) 5/10/2021	ug/L	70 - 130	45	624.1
Vinyl acetate	< 10	< .557	19 (96 %R)	20 (100 %R) (3 RPD	) 5/10/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethane	< 1	< .085	21 (103 %R)	22 (108 %R) (5 RPD	) 5/10/2021	ug/L	70 - 130	40	624.1
cis-1,2-Dichloroethene	< 1	< .238	21 (103 %R)	21 (107 %R) (4 RPD	) 5/10/2021	ug/L	70 - 130	20	624.1
2-Butanone(MEK)	< 10	< .206	18 (92 %R)	19 (94 %R) (2 RPD	) 5/10/2021	ug/L	40 - 160	20	624.1
Chloroform	< 1	< .36	20 (101 %R)	21 (107 %R) (5 RPD	) 5/10/2021	ug/L	70 - 135	54	624.1
1,1,1-Trichloroethane	< 1	< .227	22 (111 %R)	23 (115 %R) (4 RPD	) 5/10/2021	ug/L	70 - 130	36	624.1
Carbon tetrachloride	< 1	< .261	22 (112 %R)	23 (115 %R) (3 RPD	) 5/10/2021	ug/L	70 - 130	41	624.1
Benzene	< 1	< .312	20 (99 %R)	21 (103 %R) (4 RPD	) 5/10/2021	ug/L	65 - 135	61	624.1
1,2-Dichloroethane	< 1	< .21	21 (107 %R)	23 (113 %R) (5 RPD	) 5/10/2021	ug/L	70 - 130	49	624.1
Trichloroethene	< 1	< .359	20 (102 %R)	21 (105 %R) (3 RPD	) 5/10/2021	ug/L	65 - 135	48	624.1
1,2-Dichloropropane	< 1	< .285	20 (99 %R)	21 (103 %R) (5 RPD	) 5/10/2021	ug/L	35 - 165	55	624.1
Bromodichloromethane	< 0.5	< .079	22 (111 %R)	23 (115 %R) (4 RPD	) 5/10/2021	ug/L	65 - 135	56	624.1
2-Chloroethylvinylether	< 2	< .493	20 (102 %R)	21 (105 %R) (3 RPD	) 5/10/2021	ug/L	1 - 225	71	624.1
4-Methyl-2-pentanone(MIBK)	< 10	< .411	19 (93 %R)	19 (93 %R) (1 RPD	) 5/10/2021	ug/L	40 - 160	20	624.1
cis-1,3-Dichloropropene	< 0.5	< .101	20 (102 %R)	21 (106 %R) (4 RPD	) 5/10/2021	ug/L	25 - 175	58	624.1
Toluene	< 1	< .19	19 (95 %R)	20 (100 %R) (4 RPD	) 5/10/2021	ug/L	70 - 130	41	624.1
trans-1,3-Dichloropropene	< 0.5	< .08	21 (106 %R)	22 (111 %R) (5 RPD	) 5/10/2021	ug/L	50 ~ 150	86	624.1
1,1,2-Trichloroethane	< 1	< .203	19 (95 %R)	20 (99 %R) (4 RPD	) 5/10/2021	ug/L	70 - 130	45	624.1
2-Hexanone	< 10	< .28	18 (92 %R)	19 (93 %R) (1 RPD	) 5/10/2021	ug/L	40 - 160	20	624.1
Tetrachloroethene	< 1	< .371	19 (97 %R)	20 (100 %R) (4 RPD	) 5/10/2021	ug/L	70 - 130	39	624.1
Dibromochloromethane	< 1	< .225	21 (103 %R)	22 (108 %R) (5 RPD	) 5/10/2021	ug/L	70 - 135	50	624.1
Chlorobenzene	< 1	< .247	19 (97 %R)	20 (101 %R) (4 RPD	) 5/10/2021	ug/L	65 - 135	53	624.1
Ethylbenzene	< 1	< .213	20 (100 %R)	21 (104 %R) (3 RPD	) 5/10/2021	ug/L	60 - 140	63	624.1
mp-Xylene	< 1	< .476	39 (99 %R)	41 (102 %R) (3 RPD	) 5/10/2021	ug/L	70 - 130	20	624.1
o-Xylene	< 1	< .298	20 (99 %R)	21 (103 %R) (3 RPD	) 5/10/2021	ug/L	70 - 130	20	624.1
Styrene	< 1	< .727	20 (98 %R)	20 (102 %R) (4 RPD	) 5/10/2021	ug/L	70 - 130	20	624.1
Bromoform	< 2	< .282	21 (103 %R)	21 (107 %R) (4 RPD	) 5/10/2021	ug/L	70 - 130	42	624.1
1,1,2,2-Tetrachioroethane	< 1	< .381	18 (88 %R)	19 (93 %R) (6 RPD	) 5/10/2021	ug/L	60 - 140	61	624.1
1,3-Dichlorobenzene	< 1	< .426	19 (96 %R)	20 (101 %R) (6 RPD	) 5/10/2021	ug/L	70 - 130	43	624.1
1.4-Dichlorobenzene	< 1	< .375	19 (94 %R)	20 (99 %R) (6 RPD	, ) 5/10/2021	ug/L	65 - 135	57	624.1
1,2-Dichlorobenzene	< 1	< .218	19 (94 %R)	20 (100 %R) (7 RPD	) 5/10/2021	ug/L	65 - 135	57	624.1
4-Bromofluorobenzene (surr)	102 %R		103 %R	102 %F	8 5/10/2021	% Rec	70 - 130		624.1
1,2-Dichlorobenzene-d4 (surr)	99 %R		100 %R	100 %F	s 5/10/2021	% Rec	70 - 130		624.1
Toiuene-d8 (surr)	97 %R		98 %R	98 %F	R 5/10/2021	% Rec	70 - 130		624.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

EAI ID#: 225980

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Client Sample ID:	System Influent						
Lab Sample ID:	225980.01						
Matrix:	aqueous						
Date Sampled:	5/10/21						
Date Received:	5/10/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
Phenol	< 1	1	1	ug/L	5/11/21 14:11	625.1	JMR
2-Fluorophenol (surr)	40 %R			%	5/11/21 14:11	625.1	JMR
Phenol-d6 (surr)	26 %R			%	5/11/21 14:11	625.1	JMR
2,4,6-Tribromophenol (surr)	76 %R			%	5/11/21 14:11	625.1	JMR

EAI ID#: 225980

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

Client Sample ID:	System Effluent							
Lab Sample ID:	225980.02							
Matrix:	aqueous							
Date Sampled:	5/10/21							
Date Received:	5/10/21							
	Result	RL	Dilution Factor	Units	Date / 1 Analyz	Time zed	Method	Analyst
Phenol	< 1	1	1	ug/L	5/11/21	14:32	625.1	JMR
2-Fluorophenol (surr)	40 %R			%	5/11/21	14:32	625.1	JMR
Phenol-d6 (surr)	26 %R			%	5/11/21	14:32	625.1	JMR
2,4,6-Tribromophenol (surr)	81 %R			%	5/11/21	14:32	625.1	JMR

# 

#### EAI ID#: 225980

Batch ID: 637563-15746/A051121E6251

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP / 04.0190030.02

Blank Blank **Parameter Name** LCS LCSD Analysis Date Units Limits **RPD** Method (MDL) (RL) alpha-Terpineol < 5 < .17 19 (74 %R) 20 (79 %R) (7 RPD) 5/11/2021 ug/L 20 40 - 140 625.1 Phenol < 1 < .12 14 (27 %R) 15 (30 %R) (9 RPD) 5/11/2021 ug/L 5 - 120 64 625.1 2-Chlorophenol < 1 < .2 30 (61 %R) 33 (66 %R) (8 RPD) 5/11/2021 61 625.1 ug/L 23 - 134 2,4-Dichlorophenol < 1 < .31 34 (68 %R) 36 (73 %R) (7 RPD) 5/11/2021 ug/L 39 - 135 50 625.1 2,4,5-Trichlorophenol < 1 < .33 35 (71 %R) 37 (75 %R) (6 RPD) 5/11/2021 ug/L 30 - 130 20 625.1 2,4,6-Trichlorophenol < 1 < .48 35 (71 %R) 38 (75 %R) (6 RPD) 5/11/2021 ug/L 37 - 144 58 625.1 Pentachlorophenol < 5 < 1.1 32 (64 %R) 34 (67 %R) (5 RPD) 5/11/2021 ug/L 14 - 176 86 625.1 2-Nitrophenol < 5 < .44 37 (73 %R) 55 39 (79 %R) (7 RPD) 5/11/2021 ug/L 29 - 182 625.1 4-Nitrophenol < 5 < .22 16 (31 %R) 16 (32 %R) (3 RPD) 5/11/2021 ug/L 1 - 132 131 625.1 2,4-Dinitrophenol < 10 < 1.5 33 (66 %R) 37 (74 %R) (13 RPD) 5/11/2021 ug/L 1 - 191 132 625.1 2-Methylphenol < 1 < .4 28 (57 %R) 31 (62 %R) (9 RPD) 5/11/2021 ug/L 30 - 130 20 625.1 3/4-Methylphenol < 1 < .42 29 (57 %R) 31 (62 %R) (8 RPD) 5/11/2021 30 - 130 20 625.1 ug/L 2,4-Dimethylphenol < 5 < 1.4 33 (65 %R) 35 (70 %R) (7 RPD) 5/11/2021 ug/L 32 - 120 58 625.1 4-Chloro-3-methylphenol < 1 < .26 35 (70 %R) 73 37 (74 %R) (6 RPD) 5/11/2021 ug/L 22 - 147 625.1 4,6-Dinitro-2-methylphenol < 5 < 3.3 45 (90 %R) 47 (94 %R) (4 RPD) 5/11/2021 ug/L 1 - 181 203 625.1 Benzoic Acid < 50 < 5.7 * < 50 (13 %R) < 50 (15 %R) (17 RPD) 5/11/2021 ug/L 15 - 130 50 625.1 N-Nitrosodimethylamine < 1 < .11 12 (48 %R) (10 RPD) 20 625.1 11 (43 %R) 5/11/2021 ug/L 15 - 140 n-Nitroso-di-n-propylamine < 0.5 < .22 18 (72 %R) 20 (78 %R) (8 RPD) 5/11/2021 ug/L 1 - 230 87 625.1 n-Nitrosodiphenylamine < 1 < .068 19 (76 %R) 20 (79 %R) (4 RPD) 20 625.1 5/11/2021 ug/L 40 - 140 bis(2-Chloroethyl)ether < 1 < .11 15 (61 %R) 108 17 (67 %R) (10 RPD) 5/11/2021 ug/L 12 - 158 625.1 bis(2-chloroisopropyl)ether < 1 < .13 15 (61 %R) 17 (67 %R) (9 RPD) 5/11/2021 ug/L 36 - 166 76 625.1 bis(2-Chloroethoxy)methane < 1 < .2 17 (69 %R) 19 (75 %R) (8 RPD) 5/11/2021 ug/L 33 - 184 54 625.1 1,3-Dichlorobenzene < 1 < .15 13 (53 %R) 15 (59 %R) (11 RPD) 20 5/11/2021 ug/L 40 - 140 625.1 Acetophenone < 10 < 8.8 17 (67 %R) 18 (74 %R) (10 RPD) 5/11/2021 ug/L 40 - 140 20 625.1 1,4-Dichlorobenzene < 1 < .11 13 (53 %R) 15 (59 %R) (11 RPD) 5/11/2021 ug/L 40 - 140 20 625.1 1,2-Dichlorobenzene 20 < 1 < .13 5/11/2021 ug/L 40 - 140 625.1 14 (54 %R) 15 (60 %R) (11 RPD) 1,2,4-Trichlorobenzene < 1 15 (60 %R) 16 (65 %R) (9 RPD) 5/11/2021 ug/L 44 - 142 50 625.1 2-Chloronaphthalene < 1 < .11 60 - 120 625.1 17 (67 %R) 18 (72 %R) (7 RPD) 5/11/2021 ug/L 24 ug/L 4-Chlorophenyl-phenylether < 1 < .059 25 - 158 61 625.1 18 (72 %R) 19 (76 %R) (6 RPD) 5/11/2021 4-Bromophenyl-phenylether < 1 < .14 19 (75 %R) 20 (78 %R) (4 RPD) 5/11/2021 ua/L 53 - 127 43 625.1 Hexachloroethane < 1 40 - 120 52 625.1 < .15 14 (54 %R) 15 (61 %R) (11 RPD) 5/11/2021 ug/L Hexachlorobutadiene < 1 < .073 15 (59 %R) 16 (64 %R) (9 RPD) 5/11/2021 ug/L 24 - 120 62 625.1 20 Hexachlorocyclopentadiene 15 - 140 < 5 < .21 12 (50 %R) 13 (54 %R) (8 RPD) 5/11/2021 ug/L 625.1 Hexachlorobenzene 55 < 1 < .12 19 (75 %R) 20 (78 %R) (4 RPD) 5/11/2021 ug/L 1 - 152 625.1 4-Chloroaniline < 1 20 15 - 140 625.1 < .13 19 (76 %R) (6 RPD) 5/11/2021 ug/L 18 (72 %R) ug/L 2.3-Dichloroaniline 40 - 140 20 625.1 < 1 < .11 18 (72 %R) 19 (77 %R) (7 RPD) 5/11/2021 2-Nitroaniline < 5 < .18 20 (82 %R) 22 (86 %R) (5 RPD) 5/11/2021 ug/L 40 - 140 20 625.1 3-Nitroaniline < 5 40 - 140 20 625.1 < .13 20 (78 %R) 21 (82 %R) (5 RPD) 5/11/2021 ug/L 4-Nitroaniline < 5 < .23 21 (83 %R) 22 (87 %R) (4 RPD) 5/11/2021 ug/L 40 - 140 20 625.1 Aniline < 1 ug/L 40 - 140 20 625.1 < .13 16 (64 %R) 17 (68 %R) (6 RPD) 5/11/2021 < .35 ug/L 20 625.1 Benzyl alcohol 40 - 140 < 10 16 (66 %R) 18 (70 %R) (7 RPD) 5/11/2021 Nitrobenzene < 1 < .21 18 (71 %R) (8 RPD) 5/11/2021 ug/L 35 - 180 62 625.1 16 (65 %R) Isophorone < 1 < .16 18 (74 %R) 20 (80 %R) (8 RPD) 5/11/2021 ug/L 21 - 196 93 625.1 42 2,4-Dinitrotoluene 39 - 139 625.1 < 2 < .14 19 (75 %R) 20 (79 %R) (4 RPD) 5/11/2021 ug/L 2,6-Dinitrotoluene < 2 5/11/2021 ug/L 50 - 158 48 625.1 < .14 20 (79 %R) 21 (83 %R) (5 RPD) 625.1 Benzidine (estimated) < 5 < .41 17 (69 %R) 17 (67 %R) (3 RPD) 5/11/2021 ug/L 1 - 200 50

## QC REPORT

#### EAI ID#: 225980

Client: GZA GeoEnvironmental, Inc. (NH)

Batch ID: 637563-15746/A051121E6251

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
3,3'-Dichlorobenzidine	< 1	< .27	20 (78 %R)	20 (81 %R) (3 RPD	) 5/11/2021	ug/L	1 - 262	108	625.1
Pyridine	< 5	< .18	12 (48 %R)	13 (52 %R) (8 RPD	) 5/11/2021	ug/L	15 - 140	20	625.1
Azobenzene	< 1	< .14	19 (77 %R)	20 (80 %R) (4 RPD	) 5/11/2021	ug/L	40 - 140	20	625.1
Carbazole	< 1	< .12	20 (79 %R)	20 (82 %R) (3 RPD	) 5/11/2021	ug/L	40 - 140	20	625.1
Dimethylphthalate	< 1	< .11	19 (75 %R)	20 (79 %R) (5 RPD	) 5/11/2021	ug/L	1 - 120	183	625.1
Diethylphthalate	< 5	< .11	20 (82 %R)	21 (85 %R) (4 RPD	) 5/11/2021	ug/L	1 - 120	100	625.1
Di-n-butylphthalate	< 5	< .64	22 (87 %R)	22 (90 %R) (2 RPD	) 5/11/2021	ug/L	1 - 120	47	625.1
Butylbenzylphthalate	< 5	< .14	22 (90 %R)	23 (93 %R) (3 RPD	) 5/11/2021	ug/L	1 - 152	60	625.1
bis(2-Ethylhexyl)phthalate	< 5	< .27	22 (88 %R)	23 (91 %R) (4 RPD	) 5/11/2021	ug/L	8 - 158	82	625.1
Di-n-octylphthalate	< 5	< .2	23 (93 %R)	24 (95 %R) (3 RPD	) 5/11/2021	ug/L	4 - 146	69	625.1
Dibenzofuran	< 1	< .11	18 (71 %R)	19 (75 %R) (6 RPD	) 5/11/2021	ug/L	40 - 140	20	625.1
Naphthalene	< 1	< .088	15 (62 %R)	17 (67 %R) (9 RPD	) 5/11/2021	ug/L	21 - 133	65	625.1
2-Methyinaphthaiene	< 1	< .11	16 (64 %R)	17 (69 %R) (8 RPD	) 5/11/2021	ug/L	40 - 140	65	625.1
1-Methylnaphthalene	< 1	< .12	16 (66 %R)	18 (71 %R) (8 RPD	) 5/11/2021	ug/L	40 - 140	65	625.1
Acenaphthylene	< 1	< .11	17 (69 %R)	18 (74 %R) (7 RPD	) 5/11/2021	ug/L	33 - 145	74	625.1
Acenaphthene	< 1	< .11	17 (69 %R)	18 (73 %R) (6 RPD	) 5/11/2021	ug/L	47 - 145	48	625.1
Fluorene	< 1	< .093	18 (71 %R)	19 (75 %R) (6 RPD	) 5/11/2021	ug/L	59 - 121	38	625.1
Phenanthrene	< 1	< .11	18 (72 %R)	19 (75 %R) (4 RPD	) 5/11/2021	ug/L	54 - 120	39	625.1
Anthracene	< 1	< .13	18 (74 %R)	19 (76 %R) (3 RPD	) 5/11/2021	ug/L	27 - 133	66	625.1
Fluoranthene	< 1	< .12	18 (72 %R)	19 (74 %R) (3 RPD	) 5/11/2021	ug/L	26 - 137	66	625.1
Pyrene	< 1	< .11	18 (74 %R)	19 (76 %R) (3 RPD	) 5/11/2021	ug/L	52 - 120	49	625.1
Benzo[a]anthracene	< 1	< .17	18 (73 %R)	19 (77 %R) (4 RPD	) 5/11/2021	ug/L	33 - 143	53	625.1
Chrysene	< 1	< .14	18 (72 %R)	19 (75 %R) (4 RPD	) 5/11/2021	ug/L	17 - 168	87	625.1
Benzo[b]fluoranthene	< 1	< .095	18 (74 %R)	19 (77 %R) (4 RPD	) 5/11/2021	ug/L	24 - 159	71	625.1
Benzo[k]fluoranthene	< 1	< .14	18 (73 %R)	19 (75 %R) (3 RPD	) 5/11/2021	ug/L	11 - 162	63	625.1
Benzo[a]pyrene	< 1	< .058	17 (69 %R)	18 (71 %R) (3 RPD	) 5/11/2021	ug/L	17 - 163	72	625.1
Indeno[1,2,3-cd]pyrene	< 1	< .13	18 (73 %R)	19 (75 %R) (3 RPD	) 5/11/2021	ug/L	1 - 171	99	625.1
Dibenz[a,h]anthracene	< 1	< .16	18 (73 %R)	19 (76 %R) (5 RPD	) 5/11/2021	ug/L	1 - 227	126	625.1
Benzo[g,h,i]perylene	< 1	< .14	16 (66 %R)	17 (68 %R) (4 RPD	) 5/11/2021	ug/L	1 - 219	97	625.1
n-Decane	< 5	< .16	12 (47 %R)	13 (53 %R) (12 RPD	) 5/11/2021	ug/L	40 - 140	20	625.1
n-Octadecane	< 5	< .5	20 (79 %R)	21 (82 %R) (4 RPD	) 5/11/2021	ug/L	40 - 140	20	625.1
2-Fluorophenol (surr)	40 %R		37 %R	41 %F	R 5/11/2021	% Rec	15 - 110		625.1
Phenol-d6 (surr)	27 %R		26 %R	28 %F	R 5/11/2021	% Rec	15 - 110		625.1
2,4,6-Tribromophenol (surr)	79 %R		79 %R	82 %F	R 5/11/2021	% Rec	15 - 110		625.1
Nitrobenzene-D5 (surr)	68 %R		67 %R	73 %F	R 5/11/2021	% Rec	30 - 130		625.1
2-Fluorobiphenyl (surr)	70 %R		68 %R	73 %F	R 5/11/2021	% Rec	30 - 130		625.1
p-Terphenyl-D14 (surr)	80 %R		79 %R	82 %F	R 5/11/2021	% Rec	30 - 130		625.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	225980.01	225980.02						
Matrix:	aqueous	aqueous						
Date Sampled:	5/10/21	5/10/21			Ana	alysis		
Date Received:	5/10/21	5/10/21	RL	Units	Date	Time	Method	Analyst
Solids Suspended	< 5	< 5	5	mg/L	5/11/21	11:45	2540D-11	KJD
Chloride	5700	5500	1000	ug/L	5/11/21	10:57	4500CIE-11	1 ΑΤΑ
Cvanide Total	< 5	< 5	5	ug/L	5/11/21	16:29	ASTM D7511	-09 KD
Cvanide Free	< 5	< 5	5	ug/L	5/13/21	13:31	OIA-1677-0	9 KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	5/11/21	13:34	TM NH3-00	1 SEL

#### EAI ID#: 225980

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

Client Designation: Rennie Farm RGP / 04.0190030.02

			Date of					
Parameter Name	Blank	LCS	LCSD	Units Analys	is Limits	RPD	Method	
Solids Suspended	< 5	100 (108 %R)	100 (110 %R) (2 RPD)	mg/L 5/11/2	1 90 - 110	20	2540D-11	
Chloride	< 1000	24000 (96 %R)	26000 (103 %R) (7 RPD)	ug/L 5/11/2	1 90 - 110	20	4500CIE-11	
Cyanide Total	< 5	100 (102 %R)	100 (101 %R) (2 RPD)	ug/L 5/11/2	1 84 - 116	20	ASTM D7511-09	
Cyanide Free	< 5	280 (111 %R)	250 (101 %R) (9 RPD)	ug/L 5/13/2	1 82 - 132	20	OIA-1677-09	
Ammonia-N	< 0.05	2.0 (101 %R)	2.0 (99 %R) (2 RPD)	mg/L 5/11/2	1 87 - 104	20	TM NH3-001	

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	225980.01	225980.02						
Matrix:	aqueous	aqueous						
Date Sampled:	5/10/21	5/10/21		Analytical	,	Analysis		
Date Received:	5/10/21	5/10/21	RL	Matrix Units		Date	Method A	nalyst
Chromium (VI)	< 10	< 10	10	AqTot	ug/L	5/10/21	7196A	HEH
Antimony	< 0.5	< 0.5	0.5	AqTot	ug/L	5/11/21	200.8	DS
Arsenic	0.51	< 0.5	0.5	AqTot	ug/L	5/11/21	200.8	DS
Cadmium	< 0.1	< 0.1	0.1	AqTot	ug/L	5/11/21	200.8	DS
Chromium	< 0.5	< 0.5	0.5	AqTot	ug/L	5/11/21	200.8	DS
Chromium (III)	< 10	< 10	10	AqTot	ug/L	5/11/ <b>21</b>	200.8	DS
Copper	0.78	0.16	0.1	AqTot	ug/L	5/11/21	200.8	DS
Iron	860	< 50	50	AqTot	ug/L	5/11/21	200.8	DS
Lead	< 0.1	< 0.1	0.1	AqTot	ug/L	5/11/21	200.8	DS
Mercury	< 0.1	< 0.1	0.1	AqTot	ug/L	5/11/21	200.8	DS
Nickel	1.1	0.57	0.1	AqTot	ug/L	5/11/21	200.8	DS
Selenium	< 0.5	< 0.5	0.5	AqTot	ug/L	5/11/21	200.8	DS
Silver	< 0.1	< 0.1	0.1	AqTot	ug/L	5/11/21	200.8	DS
Zinc	1.1	1.7	1	AqTot	ug/L	5/11/21	200.8	DS

#### 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	< 0.0005	1.1 (114 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
Arsenic	< 0.0005	1.1 (107 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
Cadmium	< 0.0001	1.1 (106 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
Chromium	< 0.0005	1.1 (106 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
Copper	< 0.0001	1.0 (102 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
iron	< 0.05	11 (101 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
Lead	< 0.0001	1.1 (112 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
Mercury	< 0.0001	0.0011 (109 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
Nickel	< 0.0001	1.0 (101 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
Selenium	< 0.0005	1.1 (113 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
Silver	< 0.0001	0.010 (102 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
Zinc	< 0.001	1.1 (108 %R)	NA	mg/L 5/11/21	85 - 115 20	200.8
Chromium (VI)	< 0.01	0.29 (95 %R)	NA	mg/L 5/10/21	85 - 115 20	7196 <b>A</b>

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.


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

May 20, 2021

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

RE: Project: 225980 Pace Project No.: 70173012

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on May 14, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures



#### **REPORT OF LABORATORY ANALYSIS**

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

Page 1 of 9



#### CERTIFICATIONS

 Project:
 225980

 Pace Project No.:
 70173012

#### Pace Analytical Services Long Island

Virginia Certification # 460302 Delaware Certification # NY10478 Delaware Certification # NY10478 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:
 225980

 Pace Project No.:
 70173012

Sample: SYSTEM INFLUENT	Lab ID: 70173012001		Collected: 05/10/21 12:15		Received: 05	i/14/21 09:45 N	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Meth Pace Analytica	nod: EPA 16 I Services -	524B · Melville					
Acetone <i>Surrogates</i>	<0.010	mg/L	0.010	1		05/19/21 14:05	67-64-1	
1,2-Dichloroethane-d4 (S)	90	%	78-114	1		05/19/21 14:05	17060-07-0	
4-Bromofluorobenzene (S)	98	%	83-111	1		05/19/21 14:05	460-00-4	
Toluene-d8 (S)	111	%	80-131	1		05/19/21 14:05	2037-26-5	

#### **REPORT OF LABORATORY ANALYSIS**

^gace Analytical www.pacelabs.com

## ANALYTICAL RESULTS

 Project:
 225980

 Pace Project No.:
 70173012

Sample: SYSTEM EFFLUENT	Lab ID: 70	0173012002	Collected: 05/10/2	21 12:05	Received: C	)5/14/21 09:45 N	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical M Pace Analyti	ethod: EPA 16 cal Services -	24B Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		05/19/21 13:42	67-64-1	
1,2-Dichloroethane-d4 (S)	88	%	78-114	1		05/19/21 13:42	17060-07-0	
4-Bromofluorobenzene (S)	93	%	83-111	1		05/19/21 13:42	460-00-4	
Toluene-d8 (S)	106	%	80-131	1		05/19/21 13:42	2037-26-5	

## REPORT OF LABORATORY ANALYSIS

CC Analytical www.pacelabs.com

#### QUALITY CONTROL DATA

Project: 225980	1							
Pace Project No.: 701730	12							
QC Batch: 20970	03	Analysis	Method:	EPA	A 1624B	·		<u> </u>
QC Batch Method: EPA 1	624B	Analysis Description:			4B MSV			
		Laboratory:		Pac	e Analytical	Services - Mel	ville	
Associated Lab Samples:	70173012001, 70173012002		-					
METHOD BLANK: 104683	3	Ma	trix: Water		• * • • •			
Associated Lab Samples:	70173012001, 70173012002							
		Blank	Reportir	ng				
Parameter Units		Result	Limit	•	Analyze	d Qualit	Qualifiers	
Acetone	mg/L	<0.0	10 0	0.010	05/19/21 12	2:54		
1,2-Dichloroethane-d4 (S)	%		89 78	3-114	05/19/21 12	2:54		
4-Bromofluorobenzene (S)	%		94 83	3-111	05/19/21 12	2:54		
Toluene-d8 (S)	%	1	08 80	)-131	05/19/21 12	2:54		
LABORATORY CONTROL S	GAMPLE: 1046834				· · · · · · · · · · · · · · · · · · ·		. <u>.</u>	
		Spike	LCS	L	.CS	% Rec		
Parameter	Units	Conc.	Result	%	Rec	Limits	Qualifiers	
Acetone	mg/L	0.05	0.030		59	20-200	·····	
1,2-Dichloroethane-d4 (S)	%				85	78-114		
4-Bromofluorobenzene (S)	%				94	83-111		
Toluene-d8 (S)	%				102	80-131		

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:	225980
Pace Project No.:	70173012

#### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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 This report shall not be reproduced, except in full,

without the written consent of Pace Analytical Services, LLC.



## QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 225980

 Pace Project No.:
 70173012

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70173012001 70173012002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	209703 209703		

REPORT OF LABORATORY ANALYSIS

# **CHAIN-OF-CUSTODY RECORD**

Eastern Analytical, Inc. professional laboratory and drilling services N

# EAI ID# 225980

Page 1

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
System Influent	5/10/2021 12:15	aqueous Subc	ontract - EPA Method 1624 Isotope Dilutio	n
System Effluent	5/10/2021 12:05	aqueous Subo	ontract - EPA Method 1624 Isotope Dilutio	n



E/	ai id# <b>2</b>	25980	Project State: NH Project ID: 4965	Results Needed: Preferred Date: Standard RUSH Due Date: QC Deliverables A A+ X B B+ C MA MCP	PO #:54912 EAI ID# <u>Data Deliverable</u> (circle) Excel NH EMD EQuis ME E	225980
Co	mpany	PACE AN	ALYTICAL	Notes about project;		
А	ddress	575 BRO	AD HOLLOW ROAD	Email login confirmation, pdf of results and	Call prior to analyzing, if RUSH cl	harges will be applied.
A	ddress	MELVILL	E, NY 11747	1624 Acetone Only	Samples Collected by:	21 TGOUVPS
Ac	count #				Relinquished by Date/Tim	Received by 5/4/21
	Phone #	(631)694	-3040			ME-4 9:45
Pag					Relinquished by Date/Tim	e Received by
e 8 o	Eastern /	Analytical, In	c. 25 Chenell Dr. Concord,	NH 03301 Phone: (603)228-0525 1-800-2	37-0525 customerservice@east	ernanalytical.com

As 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 are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, you officers, agents or employees.

	S	ample	Conditi	on Upon	Recr	104.70470	
Pace Analytical®						WU#:/U1/3	012
	Client N	lame:			Projec	PM: KMM Due De	1 AL OF /21 /04
						CLIENT: ERSTO	ite: 03/21/21
			Pace Liutr	ner	41). 54		
Iracking #: 17 X46 599	01	4055	7050	S			
Custody Seal on Cooler/Box Present.	es LA No	Seals II		BSIZI NO		Temperature Blank Prese	Nono
Packing Material: Buddle Wrap X Buddle	Bags [	I ZIPIOC					
		tion Facto	[: <u>+0</u>	todlech		Date /Time EDZEA kite plac	ed in fronzer
		remperat	ure correct		•		
ISDA Regulated Soil ( N/A water sample	1			Date and i	Initials o	f person examining contents: 4	Nestucitat
						Did complex arianets from r	torging pourse
Uid samples originate in a quarantine zone wi	ithin the l	United Stat	es: AL, AR, U	A, FL, GA, ID, I	.A, MS, NU	Jud samples originate from a including Reweil and Duarte	
NM, NY, UK, UR, SC, IN, TX, or VA [check map]?	YE LIYE	S ∟NO	* ULO 010)	and Include	with COL	Including Hawaii and Puerto	RICUJ? - YESLAJ NU
Il Yes to either question, fill out a Regulati	ea Soli C	neckiist ji	-LI-U-UIU)	<u>ălin nicinne</u>	with SU		<u> </u>
Chain of Mintorly Drasont-	-			1		GUPIMENTS;	
Chain of Custody Filed Out-	TVoc				<u> </u>		
Chain of Pustody Palineuished	ZITES .			3	·····		
Sampler Name & Signature on COC.	ZNoc		iπ N/Δ	4	*		
Samples Arrived within Hold Time	17Nos			- 16		· · · · · · · · · · · · · · · · · · ·	
Short Hold Time Analysis (<72hr):			- line	6		<u> </u>	
Rush Turn Around Time Requested			<u> </u>	7.	1. · · · · · · · · · · · · · · · · · · ·	<u></u>	
Sufficient Volume: Triple volume provided for	7/Ves		and in this work a second second second	8.			
Correct Containers Used:	ViYes			9.			
-Pace Containers Used:	Zives	⊡No .					
Containers Intact:	ZYes	⊡No		10,		n an an an an an an an an an an an an an	
Filtered volume received for Dissolved tests	⊡Yes	⊡No	ZN/A	11.	Note if s	sediment is visible in the dissolved	i container,
Sample Labels match COC:	<b>Z</b> Yes	⊡No		12.	<u></u>	,	
-Includes date/time/ID_Matrix: SL WT) (	ЛL						
All containers needing preservation have bee	n⊡Yes	⊡No	ŹN/A	13,	$\Box$ HNO ₃	$\Box H_2 SO_4$ $\Box NaOH$	🗆 HCI
checked?							
pH paper Lot #				Controlo			
All containers needing preservation are found	i to be			Sample #			2
In compliance with method recommendation	{ 		AN/A				
(HNU3, H2SU4, HUI, NAUH>9 SUIIIUE,	Lifes		JUN/A				
Transting VOA Californ TOC (DDC Oil and C							
DDD /9015 (weter)	lease,			Initial who	n comole	ted. I ot # of added Da	te/Time preservative
Per Method VOA at is checked after analysis	:				n compie	Increservative ad	ded-
Samples checked for dechloringtion-			TAI/A	14			
KI starch test string I of #			Later H	1 '''			
Residual chlorine string Lot #					Positive fr	or Res. Chlorine? Y N	
SM 4500 CN samples checked for sulfide?	⊡Yes	ΠNo	DAV/A	15.			
Lead Acetate Strips Lot #	1.00		7.11				
Headspace in VOA Vials (>6mm):	⊡Yes	Ĩ/NO	⊡N/A	16,			
Trip Blank Present:	□Yes	ZINO	⊡N/A	17.		<u></u>	
Trip Blank Custody Seals Present	⊡Yes	⊡No	<b>/</b> ⊡N/A				
Pace Trip Blank Lot # (if applicable)			1		and the second second second second second second second second second second second second second second second		
Client Notification/ Resolution:			ن <del>میں اور</del> پر اور اور اور اور اور اور اور اور اور او	Field Data	Required	? Y / N	
Person Contacted:					Date/Tir	me:	
Comments/ Resolution:			· · · · · · · · · · · · · · · · · · ·				
							<u> </u>
• • • • • • • • • • • • • • • • • • •				<u> </u>			



Thursday, May 20, 2021

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

Project ID: 225980 SDG ID: GCI31572 Sample ID#s: CI31572 - CI31573

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Stille

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 UT Lab Registration #CT00007 VT Lab Registration #VT11301





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

# Sample Id Cross Reference

May 20, 2021

SDG I.D.: GCI31572

Project ID: 225980

Client Id	Lab Id	Matrix	
SYSTEM INFLUENT	CI31572	WATER	
SYSTEM EFFLUENT	CI31573	WATER	





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

Analysis May 20	<b>Report</b> , 2021		FOR: Attn: Front Office Eastern Analytical 25 Chenell Drive Concord, NH 03301						
Sample Inform	nation		Custody Inf	ormati	<u>on</u>		<u>Date</u>	<u>e</u>	<u>Time</u>
Matrix:	WATER		Collected by:				05/1	0/21	12:15
Location Code:	EASTANAL	-NH	Received by:		СР		05/14	4/21	15:54
Rush Request:	Standard		Analyzed by:		see "By" be	low			
P.O.#:	54911		Laborato	ry D	<u>ata</u>		S Phoe	DG II enix II	D: GCI31572 D: CI31572
Project ID:	225980								
Client ID:	SYSTEM INFL	UENT							
Parameter		Result	RL/ PQL	Units	Dilutio	n Dat	e/Time	By	Reference
1.4-dioxane									

1,4-dioxane 20 0.20 1 05/19/21 AW EPA522 ug/l **QA/QC** Surrogates 05/19/21 70 - 130 % % 1 AW % 1,4-dioxane-d8 86 05/18/21 G/G EPA522 Extraction for 1,4-Dioxane Completed

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

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

## Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director May 20, 2021 Reviewed and Released by: Kathleen Cressia, QA/QC Officer





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

Analysis May 20	Report , 2021		FOR: Attn: Front Office Eastern Analytica 25 Chenell Drive Concord, NH 033				e cal e i301		
Sample Inform	nation		<u>Custod</u>	y Informat	<u>tion</u>		Date	<u>e</u>	Time
Matrix:	WATER		Collecte	d by:			05/10	)/21	12:05
Location Code:	EASTANA	AL-NH	Receive	d by:	CP		05/14	1/21	15:54
Rush Request:	Standard		Analyze	d by:	see "B	y" below			
P.O.#:	54911		Labora	atory [	<u>Data</u>		SI Phoe	DG II nix II	D: GCI31572 D: CI31573
Project ID:	225980								
Client ID:	SYSTEM EF	FLUENT			,				
Parameter		Result	RL/ PQL	Unite	s Di	lution	Date/Time	Ву	Reference
1,4-dioxane									
1,4-dioxane		ND	0.20	ug/l		1	05/19/21	AW	EPA522
QA/QC Surrogat	es								
% 1,4-dioxane-d8		85		%		1	05/19/21	AW	70 - 130 %
Extraction for 1.4-	Dioxane	Completed					05/18/21	G/G	EPA522

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

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

#### **Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director May 20, 2021 Reviewed and Released by: Kathleen Cressia, QA/QC Officer





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

May 20, 2021

# QA/QC Data

SDG I.D.: GCI31572

Parameter	Blank	Bik RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 575821 (ug/	l), QC Sample	No: Cl29571	(Cl31572, Cl31573)							
<u> 1,4dioxane - Water</u>										
1,4-dioxane	ND	0.20	112	107	4.6	88			70 - 130	20
% 1,4-dioxane-d8	85	%	87	77	12.2	85			70 - 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 May 20, 2021

Thursday, M	ay 20, 2021		Sample Crite	ria Exceedances Report					
Criteria:	None		GCI3	1572 - EASTANAL-NH					
State:	NH							RL	Analysis
SampNo	Acode	Phoenix Analyte	Criteria		Result	RL.	Criteria	Criteria	Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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

May 20, 2021

SDG I.D.: GCI31572

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

СН	AIN-OF-CUS	TODY	RECORD	V	NCIP	Eas	tern Analyt sional laboratory and	<b>ical, Inc.</b> drilling services
Sample ID	Defe Ormela d. M				1.2	EAI ID#	225980	Page 1
	Date Sampled M		Parameters				Sample Notes	
System Influ	ient 5/10/2021 aq	ueous Subcontrac	- 1,4 Dioxane EPA Method 5	22				
3157	2 112:15	I						
System Efflu	uent   5/10/2021   aq	ueous Subcontrac	- 1,4 Dioxane EPA Method 5	22				
3157	ا _{12:05}							
	225020	Results	<u>Needed</u> : Preferred Date:	Standard		104.4		
EALID# Z	2000 Project State: Project ID:	NH ADEE QC Deli	RUSH Due Date: verables		Data Deli	torii verable (circl	EAI ID# 223300	
	Dheenix Environmental		А+ 🖾 В 🗆 В+ 🗆 С	П МА МСР	Excel	NH EMD EQ	uis me egad	
Company	587 East Middle Turneil	Labs <u>Notes a</u>	bout project: ain confirmation odf of result	lts and	Call prio	r to analvzing.	if RUSH charges will F	e applied
Address		invoice i	o customerservice@easternan	alytical.com.	Sample	S Collected by:	5-14-2021	
Account #	Manchester, CT 00040	, I				John	@ 100 0	1 the
Phone #	(860) 645-1102				Refinqu	isfied by	Date/Time Re	ceived by
Eastern As a subcontract arising out of the	Analytical, Inc. 25 Chenell Dr. ( ab to EAI, you will defend, indemnify performance against this chain of cus	Concord, NH 0330 and hold Eastern Anal tody but only in proport	1 Phone: (603)228-05 rtical, Inc., its officers, employees, ion to and to the extent such liabil	525 1-800- , and agents han ity, loss, expense	<b>Relinqu</b> -287-0525 mless from and a e, or claims for in	customerser	Date/Time Ref 5/14/1554 vice@easternanalytical. liability, loss, expense or claim e caused by or result from the	ceived by

acts or omissions of you as a subcontract lab, your officers, agents or employees

# CHAIN-OF-CUSTODY RECORD

225980 gzanh

30

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	#	of containers
System Influent	5-10-21 12:15	aqueous Grab or Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/Cl/NH3/CyanT/ICPMets.Sb.As.Cd.C Se.Ag.Zn/Cr6/Cr3/CyanFree	ንr.Cu.Fe.Hg.Pb	D.NI. 13
Sampler confi	ا rms ID and parameter	s are accurate	Circle preservative/s:(HCL/HNO,H,SO,/NaOH) MEOH Na,S,O, (CE) Dissolved	I Sample Field	Filtered
System Effluent	5-10-21 12,05	aqueous Grat or Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.C Se.Ag.Zn/Cr6/Cr3/CyanFree	℃r.Cu.Fe.Hg.Pt	o.Ni. 13
Sampler confi	ا rms ID and parameter	s are accurate	Circle preservative/stHCl HNO3 H2SO NaOH MEOH Na2S2O3 (CE)	1 Sample Field	Filtered

errus auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

I.

EAI Project ID 4965	~ m	<b>—</b>	
Project Name Rennie Farm RGP / 04.0190030.02	Results Needed by: Preferred date <u>5 //ay</u> Notes:	ReportingOptions	PO# verbal
State NH		EDD PDF Partial FAX	Quote#:
Client (Pro Mgr) Jim Wieck	1624 Acetone Only	Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint     Image: Constraint       Image: Constraint	2)
Customer GZA GeoEnvironmental, Inc. (NH)		Re-mail Login Confirmation	Temp <u>```</u> C
Address 5 Commerce Park North, Suite 201		Samples Collected by: AVJ	Ice Y
City Bedford NH 03110		al Jacobson 5-10-21 15 25	······································
Phone 623-3600 Fax 624-9463 (37)		Relinquished by Date/Time	Received by
Email: James.Wieck@gza.com		taya 5/10/21 1525	Un yohn
Direct 232-8732	∟а ∟а+ ⊠в ⊔в+ □с □мамср	Relinquished by Date/Time F	Received by
			4



Eastern Analytical, Inc.

professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 226169 Client Identification: Rennie Farm | 04.0190030.02 | Task 22, SubTask-1 Date Received: 5/12/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

## Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

## References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Date

# of pages (excluding cover letter)

# SAMPLE CONDITIONS PAGE

EAI ID#: 226169

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

Client Designation: Rennie Farm | 04.0190030.02 | Task 22, SubTask-1

Temperat Acceptable t	ure upon receipt (°C):   emperature range (°C): 0-6	1.0			Received o	d on ice or cold packs (Yes/No): Υ							
Lab ID	Sample ID	Date Received	Date/i Samp	Time bled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)						
226169.01	System MIDFLUENT	5/12/21	5/11/21	08:55	aqueous		Adheres to Sample Acceptance Policy						
226169.02	System INFLUENT	5/12/21	5/11/21	09:00	aqueous		Adheres to Sample Acceptance Policy						
226169.03	LGAC OUT	5/12/21	5/12/21	08:30	aqueous		Adheres to Sample Acceptance Policy						
226169.04	LGAC MID	5/12/21	5/12/21	08:35	aqueous		Adheres to Sample Acceptance Policy						
226169.05	LGAC IN	5/12/21	5/12/21	08:40	aqueous		Adheres to Sample Acceptance Policy						

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

# LABORATORY REPORT

EAI ID#: 226169

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

Client Designation: Rennie Farm | 04.0190030.02 | Task 22, SubTask-1

Client Sample ID:	System MIDFLUENT						
Lab Sample ID:	226169.01						
Matrix:	aqueous						
Date Sampled:	5/11/21						
Date Received:	5/12/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	5/13/21 13:41	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	5/13/21 13:41	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	5/13/21 13:41	8260B SIM	AM

Client Sample ID:	System INFLUENT						
Lab Sample ID:	226169.02						
Matrix:	aqueous						
Date Sampled:	5/11/21						
Date Received:	5/12/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	21	2	10	ug/L	5/13/21 21:58	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	5/13/21 21:58	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	5/13/21 21:58	8260B SIM	AM

**...** 

# M

# LABORATORY REPORT

EAI ID#: 226169

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

Client Designation: Rennie Farm | 04.0190030.02 | Task 22, SubTask-1

Client Sample ID:	LGAC OUT						
Lab Sample ID:	226169.03						
Matrix:	aqueous						
Date Sampled:	5/12/21						
Date Received:	5/12/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.62	0.2	1	ug/L	5/13/21 14:12	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	5/13/21 14:12	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	5/13/21 14:12	8260B SIM	AM

Client Sample ID:	LGAC MID						
Lab Sample ID:	226169.04						
Matrix:	aqueous						
Date Sampled:	5/12/21						
Date Received:	5/12/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.60	0.2	1	ug/L	5/13/21 14:43	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	5/13/21 14:43	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	5/13/21 14:43	8260B SIM	AM

LGAC IN						
226169.05						
aqueous						
5/12/21						
5/12/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
1400	100	500	ug/L	5/13/21 22:28	8260B SIM	AM
99 %R			%	5/13/21 22:28	8260B SIM	AM
100 %R			%	5/13/21 22:28	8260B SIM	AM
	LGAC IN 226169.05 aqueous 5/12/21 5/12/21 <b>Result</b> 1400 99 %R 100 %R	LGAC IN 226169.05 aqueous 5/12/21 5/12/21 Result RL 1400 100 99 %R 100 %R	LGAC IN 226169.05 aqueous 5/12/21 5/12/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> 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## EAI ID#: 226169

4

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

Batch ID: 637565-12804/A051321DIOX1

Client Designation: Rennie Farm | 04.0190030.02 | Task 22, SubTask-1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.4 (89 %R)	4.4 (89 %R) (0 RPD	) 5/13/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	100 %R	100 %R	99 %F	R 5/13/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	98 %R	102 %R	99 %F	R 5/13/2021	% Rec	70 - 130	50	. 8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Page _____ of ____

# CHAIN-OF-CUSTODY RECORD

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226169

# BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

							OC SVOC					TCLP METALS INO				ORGANICS										! <i>Ç</i>					
SAMPLE I.D.	Sampling Date /Time *If Composite, Indicate Both Start & Finish Date /Time	MATRIX (SEE BELOW)	GRABY*COMPOSITE	524.2 524.2 BTEX 524.2 MTBE ONLY	8260B 624 VTICS 1, 4 DIOXANE	802IB BTEX HALOS	8015B GRO MAVPH	8270D 625 SVTICs EDB DBCP ABN A BN PAH	TPH8100 LI L2	8015B DRO MAEPH	PEST 608 PCB 608 PEST 80814 PCB 8087	Oil & Grease 1664 TPH 1664	TCLP 1311 ABN METALS VOC PECT HERR	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)	TS TSS TDS SPEC. CON.	BR CI F 504 No2 N03 N03N02	BOD CBOD T. ALK.	TKN NH ₃ T. PHOS. O. PHOS.	PH T. RES. CHLORINE	COD PHENOLS TOC DOC	Fotal Cyanide Total Sulfide	REACTIVE CYANIDE REACTIVE SULFIDE LASEPOINT IGNITABILITY	FECAL COLIFORM E. COLI FECAL COLIFORM	ENTEROCOCCI Heterotrophic Plate Count	1,4 dx towlevel			# OF CONTAINERS	<b>Not</b> MeOH Vi	es al #
Sylstem MIDFLUEN	5/11/21 0855	6	6																							X			2		
Systen INFLUENT	5/11/21 0900																									×			1		
LGAC OUT	5/12/21 0830																									X					
LGAC MID	5/12/21 0835																									X					
LGAC IN	5/12/21 0840	V	$\downarrow$																							X			$\overline{\mathbf{V}}$		
			 								1																	~			
MATRIX: A-AIR; S-SOIL; (W)GROUND WATER WW-WASTE WATER PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; N	 r; SW-Surface Water; DW-Drini Ia-NaOH; M-MEOH	L Ing V	/ATER;																									1	VA		
PROJECT MANAGER: James COMPANY: GZA Bes ADDRESS: 5 COMMENCE (	es Wieck Lford Park North Sur	ita	20			DATE NEEDED:						Repo	RTING	G OP	TION	5	Ti	EMP	Tes:	No No	°C	Me Othi	tals: er Met	8 "ALS:	RCRA	13	PP	FE	, Mn	PB, CU	
(ITY: Bedford	STATE: NH	ZIP:	03	10			чокі 4	ING	leve: B	£.	С	ŀ	PRELIM	S: YES	OR	NO		L	- August	- Aller		l	Sam	IPLES	FIEL	d Fili	rered	?		Yes	٦No
PHONE: 603-493-2	.874	Ext.: _						c	)R				FLECT	RONIC	- OP	TION	ç						Noti	ES: (IE: \$	SPECIAI	L DETECT	ION LIM	1ITS, BI	ILLING	INFO, IF DIF	FERENT)
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SITE NAME: RENNIE FORM	<u></u>	<u> </u>							/		~	1	,	19	7	has	Conceptuation of														
PROJECT #: 04.0190030	). 02 Task 22,	Sub	Tas2	1-1	10	SAMI	ELER(S	); —		216	97	1916	$\frac{n}{l}$	A	NNU	WWW	$\mathcal{D}$														
STATE: NH) MA ME VT OTHE	ER:				······	RELINOUISHED BY: DATE TIME - RECEIPTORY																									
GULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR					1	àa	Ż		S	5-R	ef	-	10	55		M		U	Ua	C	·	SITE	Ηιςταν	γ.							
Ouote #:	DTF #- PO #- 7 (07.7 \$					- RELINQUISHED BY: DA					DATE:		Ti	IME:		REC	EIVED	BY:		- /	SUSPECTED CONTAMINATION:										
•		ميا مي				REL	INQU	HSHE	d By	:		DATE:		Tı	IME:		REC	EIVED	BY:				FIELD	READI	INGS:						
Eastern Analy professional laboratory and	tical, Inc. 25 I drilling services	CHE	NELL I	Drive	Cot	ICOR	d, NH	1 033	ר  ומ	Fel: 6	03.22	8.052	25   1.	800.2	87.05	525	E-Mai	L; <b>C</b> ປ	STOM	erServ	/ICE@	EAST	ernA	NALYT	TICAL.	сом	www	EAST	ernA	NALYTICA	L.COM



Eastern Analytical, Inc.

professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 226737 Client Identification: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1 Date Received: 5/25/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

## Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

## References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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#: 226737

1

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Temperat Acceptable t	ure upon receipt (°C): emperature range (°C): 0-6	0.5	Received on ice or cold packs (Yes/No): Υ									
Lab ID	Sample ID	Date Received	Date/ ⁻ Samı	Time oled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)					
226737.01	System Influent	5/25/21	5/24/21	09:20	aqueous		Adheres to Sample Acceptance Policy					
226737.02	System Mid	5/25/21	5/24/21	09:25	aqueous		Adheres to Sample Acceptance Policy					
226737.03	LĢAC In	5/25/21	5/25/21	10:21	aqueous		Adheres to Sample Acceptance Policy					
226737.04	LGAC Mid	5/25/21	5/25/21	10:18	aqueous		Adheres to Sample Acceptance Policy					
226737.05	LGAC Out	5/25/21	5/25/21	10:15	aqueous		Adheres to Sample Acceptance Policy					

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

# LABORATORY REPORT

EAI ID#: 226737

# Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Client Sample ID:	System Influent						
Lab Sample ID:	226737.01						
Matrix:	aqueous						
Date Sampled:	5/24/21						
Date Received:	5/25/21						
	Beault	ы	Dilution	Unito	Date / Time	Method	Analyst
	Result	RL	racion	Units	Analyzeu	Method	Analyst
1,4-Dioxane	21	2	10	ug/L	5/27/21 9:01	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	5/27/21 9:01	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	5/27/21 9:01	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	226737.02						
Matrix:	aqueous						
Date Sampled:	5/24/21						
Date Received:	5/25/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	5/27/21 6:25	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	5/27/21 6:25	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	5/27/21 6:25	8260B SIM	AM

# LABORATORY REPORT

EAI ID#: 226737

# Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Client Sample ID:	LGAC In						
Lab Sample ID:	226737.03						
Matrix:	aqueous						
Date Sampled:	5/25/21						
Date Received:	5/25/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1400	100	500	ug/L	5/27/21 9:32	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	5/27/21 9:32	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	5/27/21 9:32	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	226737.04						
Matrix:	aqueous						
Date Sampled:	5/25/21						
Date Received:	5/25/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.61	0.2	1	ug/L	5/27/21 6:56	8260B SIM	AM
4-Bromofiuorobenzene (surr)	101 %R			%	5/27/21 6:56	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	5/27/21 6:56	8260B SIM	AM

LGAC Out						
226737.05						
aqueous						
5/25/21						
5/25/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
0.43	0.2	1	ug/L	5/27/21 7:27	8260B SIM	AM
102 %R			%	5/27/21 7:27	8260B SIM	AM
101 %R			%	5/27/21 7:27	8260B SIM	AM
	LGAC Out 226737.05 aqueous 5/25/21 5/25/21 Result 0.43 102 %R 101 %R	LGAC Out 226737.05 aqueous 5/25/21 5/25/21 <b>Result RL</b> 0.43 0.2 102 %R 101 %R	LGAC Out 226737.05 aqueous 5/25/21 5/25/21 <b>Dilution</b> <b>Result RL</b> Factor 0.43 0.2 1 102 %R 101 %R	LGAC Out 226737.05 aqueous 5/25/21 5/25/21 <b>Dilution</b> <b>Result</b> <b>Rk</b> Factor Units 0.43 0.2 1 ug/L 102 %R %	LGAC Out 226737.05 aqueous 5/25/21 5/25/21 <b>Dilution</b> Date / Time <b>Result</b> RL Factor Units Analyzed 0.43 0.2 1 ug/L 5/27/21 7:27 102 %R % 5/27/21 7:27 101 %R % 5/27/21 7:27	LGAC Out 226737.05 aqueous 5/25/21 5/25/21 <b>Dilution</b> Date / Time <b>Result</b> RL Factor Units Analyzed Method 0.43 0.2 1 ug/L 5/27/21 7:27 8260B SIM 102 %R % 5/27/21 7:27 8260B SIM 101 %R % 5/27/21 7:27 8260B SIM

# QC REPORT

## EAI ID#: 226737

# Client: GZA GeoEnvironmental, Inc. (NH)

Batch ID: 637577-20335/A052621DIOX2

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.8 (95 %R)	4.0 (80 %R) (18 RPD	) 5/26/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	100 %R	100 %R	101 %F	R 5/26/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	100 %R	101 %R	100 %F	R 5/26/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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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



Laboratory Report for:

Eastern Analytical, Inc. ID: 227441 Client Identification: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1 Date Received: 6/9/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

## Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

## References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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

<u>6.15.21</u> Date



# SAMPLE CONDITIONS PAGE

EAI ID#: 227441

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Temperat Acceptable t	temperature range (°C): 0-6	5.5	Received on ice or cold packs (Yes/No): Υ								
Lab ID	Sample ID	Date Received	Date/ Sam	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)				
227441.01	System Influent	6/9/21	6/7/21	09:35	aqueous		Adheres to Sample Acceptance Policy				
227441.02	System Mid	6/9/21	6/7/21	09:40	aqueous		Adheres to Sample Acceptance Policy				
227441.03	LGAC Out	6/9/21	6/9/21	09:30	aqueous		Adheres to Sample Acceptance Policy				
227441.04	LGAC Mid	6/9/21	6/9/21	09:33	aqueous		Adheres to Sample Acceptance Policy				
227441.05	LGAC In	6/9/21	6/9/21	09:36	aqueous		Adheres to Sample Acceptance Policy				

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

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LABORATORY REPORT

EAI ID#: 227441

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Client Sample ID:	System Influent						
Lab Sample ID:	227441.01						
Matrix:	aqueous						
Date Sampled:	6/7/21						
Date Received:	6/9/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	26	2	10	ug/L	6/10/21 22:12	8260B SIM	AM
4-Bromofluorobenzene (surr)	130 %R			%	6/10/21 22:12	8260B SIM	AM
Toluene-d8 (surr)	104 %R			%	6/10/21 22:12	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	227441.02						
Matrix:	aqueous						
Date Sampled:	6/7/21						
Date Received:	6/9/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	6/10/21 20:08	8260B SIM	AM
4-Bromofluorobenzene (surr)	107 %R			%	6/10/21 20:08	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	6/10/21 20:08	8260B SIM	AM

# $\mathcal{M}$

LABORATORY REPORT

EAI ID#: 227441

# Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Client Sample ID:	LGAC Out						
Lab Sample ID:	227441.03						
Matrix:	aqueous						
Date Sampled:	6/9/21						
Date Received:	6/9/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.44	0.2	1	ug/L	6/10/21 20:39	8260B SIM	AM
4-Bromofluorobenzene (surr)	106 %R			%	6/10/21 20:39	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	6/10/21 20:39	8260B SIM	AM

LGAC Mid						
227441.04						
aqueous						
6/9/21						
6/9/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
11	0.2	1	ug/L	6/10/21 21:09	8260B SIM	AM
104 %R			%	6/10/21 21:09	8260B SIM	AM
102 %R			%	6/10/21 21:09	8260B SIM	AM
	LGAC Mid 227441.04 aqueous 6/9/21 6/9/21 <b>Result</b> 11 104 %R 102 %R	LGAC Mid 227441.04 aqueous 6/9/21 6/9/21 <b>Result RL</b> 11 0.2 104 %R 102 %R	LGAC Mid 227441.04 aqueous 6/9/21 6/9/21 <b>Dilution</b> <b>Result RL Factor</b> 11 0.2 1 104 %R 102 %R	LGAC Mid 227441.04 aqueous 6/9/21 6/9/21 <b>Dilution</b> <b>Result RL Factor Units</b> 11 0.2 1 ug/L 104 %R % 102 %R %	LGAC Mid 227441.04 aqueous 6/9/21 6/9/21 <b>Dilution</b> Date / Time <b>Result</b> RL Factor Units Analyzed 11 0.2 1 ug/L 6/10/21 21:09 104 %R % 6/10/21 21:09 102 %R % 6/10/21 21:09	LGAC Mid 227441.04 aqueous 6/9/21 6/9/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed Method</b> 11 0.2 1 ug/L 6/10/21 21:09 8260B SIM 104 %R % 6/10/21 21:09 8260B SIM 102 %R % 6/10/21 21:09 8260B SIM

Client Sample ID:	LGAC In						
Lab Sample ID:	227441.05						
Matrix:	aqueous						
Date Sampled:	6/9/21						
Date Received:	6/9/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	670	100	500	ug/L	6/10/21 22:43	8260B SIM	AM
4-Bromofluorobenzene (surr)	108 %R			%	6/10/21 22:43	8260B SIM	AM
Toluene-d8 (surr)	103 %R			%	6/10/21 22:43	8260B SIM	AM

# QC REPORT

## EAI ID#: 227441

4

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

Batch ID: 637589-33505/A061021DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method	
1.4 Diovana	< 0.2	4 0 (00 % P)		6/10/2021	ug/l	70 . 130	20	8260B	
I,4-Dioxane	< 0.2	4.9 (99 %R)	4.9 (96 %R) (1 RPD	. 6/10/2021	ug/L	70-150	20	0200B	
4-Bromofluorobenzene (surr)	105 %R	105 %R	105 %F	R 6/10/2021	% Rec	70 - 130	50	8260B	
Toluene-d8 (surr)	103 %R	103 %R	103 %F	R 6/10/2021	% Rec	70 - 130	50	8260B	

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 227526 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 6/10/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

shaw, Lab Director



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## SAMPLE CONDITIONS PAGE

EAI ID#: 227526

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Temperal Acceptable	ture upon receipt (°C): temperature range (°C): 0-6	2.2		R	eceived o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/ Sam	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
227526.01	System Influent	6/10/21	6/10/21	11:00	aqueous		Adheres to Sample Acceptance Policy
227526.02	System Effluent	6/10/21	6/10/21	11:20	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc. www.easternanalytical.com

EAI ID#: 227526

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

Client Sample ID:	System Influent				Date of Prepara	ation:				
Lab Sample ID: 2	227526.01				Ме	thod:	624.1			
Matrix:	aqueous				An	alyst:	SG			
Date Sampled:	3/10/21				L	Jnits:	ug/L			
Data Daasiyada	3/10/21									
Date Received:			Dilution	Date					Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyze
Chloromethane	< 2	2	1	6/11/21	4-Bromofluorobenzene (surr)	105	%R			6/11/21
Vinyl chloride	< 1	1	1	6/11/21	1,2-Dichlorobenzene-d4	98	%R			6/11/21
Bromomethane	< 2	2	1	6/11/21	Toluene-d8 (surr)	91	%R			6/11/21
Chloroethane	< 2	2	1	6/11/21						
Trichlorofluoromethane	< 2	2	1	6/11/21						
Acrolein	< 50	50	1	6/11/21						
Acetone	< 10	10	1	6/11/21						
1,1-Dichloroethene	< 0.5	0.5	1	6/11/21						
Methylene chloride	< 1	1	1	6/11/21						
Acrylonitrile	< 50	50	1	6/11/21						
Methyl-t-butyl ether(MTBE	) <1	1	1	6/11/21						
trans-1,2-Dichloroethene	< 1	1	1	6/11/21						
Vinyl acetate	< 10	10	1	6/11/21						
1,1-Dichloroethane	< 1	1	1	6/11/21						
cis-1,2-Dichloroethene	< 1	1	1	6/11/21						
2-Butanone(MEK)	< 10	10	1	6/11/21						
Chloroform	< 1	1	1	6/11/21						
1,1,1-Trichloroethane	< 1	1	1	6/11/21						
Carbon tetrachloride	< 1	1	1	6/11/21						
Benzene	< 1	1	1	6/11/21						
1,2-Dichloroethane	< 1	1	1	6/11/21						
Trichloroethene	< 1	1	1	6/11/21						
1,2-Dichloropropane	< 1	1	1	6/11/21						
Bromodichloromethane	< 0.5	0.5	1	6/11/21						
2-Chloroethylvinylether	< 2	2	1	6/11/21						
4-Methyl-2-pentanone(MIE	3K) < 10	10	1	6/11/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	6/11/21						
Toluene	< 1	1	1	6/11/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	6/11/21						
1,1,2-Trichloroethane	< 1	1	1	6/11/21						
2-Hexanone	< 10	10	1	6/11/21						
Tetrachloroethene	< 1	1	1	6/11/21						
Dibromochloromethane	< 1	1	1	6/11/21						
Chlorobenzene	< 1	1	1	6/11/21						
Ethylbenzene	< 1	1	1	6/11/21						
mp-Xylene	< 1	1	1	6/11/21						
o-Xylene	< 1	1	1	6/11/21						
Styrene	< 1	1	1	6/11/21						
Bromoform	< 2	2	1	6/11/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	6/11/21						
1,3-Dichlorobenzene	< 1	1	1	6/11/21						
1,4-Dichlorobenzene	< 1	1	1	6/11/21						
1,2-Dichlorobenzene	< 1	1	1	6/11/21						

EAI ID#: 227526

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

Lab Sample ID:       227526.02       Method:       624         Matrix:       aqueous       Analyst:       SG         Date Sampled:       6/10/21       Units:       ug/         Date Received:       6/10/21       Dilution       Date         Result       RL       Factor       Analyzed       Result         Chloromethane       <2	
Lab Sample ID:       221/02/02       Analyst:       SG         Matrix:       aqueous       Analyst:       SG         Date Sampled:       6/10/21       Units:       ug/         Date Received:       6/10/21       Dilution       Date         Result       RL       Factor       Analyzed       Result         Units:       ug/       104 %R       SG         Chloromethane       <2	.1
Matrix:         aqueous         Analyst:         cost           Date Sampled:         6/10/21         Units:         ug/           Date Received:         6/10/21         Dilution         Date           Result         RL         Factor         Analyzed         Result           Chloromethane         < 2	
Date Sampled:         6/10/21         Dilution         Date           Result         RL         Factor         Analyzed         Result         Result           Chloromethane         < 2         2         1         6/11/21         4-Bromofluorobenzene (surr)         104 %R           Chloromethane         < 2         2         1         6/11/21         1,2-Dichlorobenzene (surr)         104 %R           Bromomethane         < 2         2         1         6/11/21         Toluene-d8 (surr)         92 %R           Chloroethane         < 2         2         1         6/11/21         Toluene-d8 (surr)         92 %R           Chloroethane         < 2         2         1         6/11/21         Toluene-d8 (surr)         92 %R           Chloroethane         < 10         10         6/11/21         Factor         Factor         Factor         Factor           Acrolein         < 50         50         1         6/11/21         Factor         Facto	
Date Received:6/10/21ResultRLFactorAnalyzedChloromethane $< 2$ 216/11/214-Bromofluorobenzene (surr)104 %RVinyl chloride $< 1$ 116/11/211,2-Dichlorobenzene.d499 %RBromomethane $< 2$ 216/11/21Toluene-d8 (surr)92 %RChloroethane $< 2$ 216/11/217Acrolein $< 50$ 5016/11/217Accone $< 10$ 106/11/217Acetone $< 10$ 106/11/217Acetone $< 10$ 106/11/217Methylene chloride $< 1$ 16/11/21Methylene chloride $< 1$ 16/11/21Methyl-t-butyl ether(MTBE) $< 1$ 16/11/21Vinyl acetate $< 10$ 1016/11/211,1-Dichloroethane $< 1$ 16/11/21Lins-1,2-Dichloroethane $< 1$ 16/11/21Lin	-
Result         RL         Factor         Analyzed         Result           Chloromethane         <2         2         1         6/11/21         4-Bromofluorobenzene (surr)         104 %R           Vinyl chloride         <1         1         1         6/11/21         1,2-Dichlorobenzene (surr)         104 %R           Bromomethane         <2         2         1         6/11/21         Toluene-d8 (surr)         92 %R           Chloroethane         <2         2         1         6/11/21         Toluene-d8 (surr)         92 %R           Chloroethane         <2         2         1         6/11/21         Toluene-d8 (surr)         92 %R           Acrolein         <50         50         1         6/11/21              Acetone         <10         10         1         6/11/21               Acetone         <10         10         1         6/11/21                Methylene chloride         <1         1         1         6/11/21                Methylene chloride         <1         1         1 <th>Dilution Date</th>	Dilution Date
Chloromethane       < 2	RL Factor Analyze
Vinyl chloride       < 1	6/11/21
Winyi childle         1       1       6/11/21       1/22       1/22       1/22       1/22       1/21       1/22       1/21       1/22       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       1/21       <	6/11/21
Biomomethane $< 2$ $2$ $1$ $611/21$ $1000000000000000000000000000000000000$	6/11/21
Childbertalle $< 2$ $2$ $1$ $6/11/21$ Trichlorofluoromethane $< 2$ $2$ $1$ $6/11/21$ Acrolein $< 50$ $50$ $1$ $6/11/21$ Acetone $< 10$ $10$ $1$ $6/11/21$ 1,1-Dichloroethene $< 0.5$ $0.5$ $1$ $6/11/21$ Methylene chloride $< 1$ $1$ $1$ $6/11/21$ Acrylonitrile $< 50$ $50$ $1$ $6/11/21$ Methyl-t-butyl ether(MTBE) $< 1$ $1$ $1$ $< 1$ $1$ $6/11/21$ Vinyl acetate $< 10$ $10$ $6/11/21$ $1,1$ -Dichloroethene $< 1$ $1$ $1$ $< 1,2$ -Dichloroethene $< 1$ $1$ $6/11/21$ $2$ -Butanone(MEK) $< 10$ $10$ $6/11/21$ $Chloroform$ $< 1$ $1$ $1$ $1,1$ -Trichloroethane $< 1$ $1$ $< 1$ $1$ $6/11/21$	
Acrolein< 50501 $6/11/21$ Acetone< 10	
Acetone       < 10	
Action $(10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -$	
Methylene chloride       < 1	
Acrylonitrile       < 50	
Activitinine       < 30	
Image: Note: Type: For the type: For the type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For type: For typ	
Vinyl acetate       < 10	
1,1-Dichloroethane       < 1	
r, i = Dichloroethane       < 1	
2-Butanone(MEK)     < 10	
Chloroform $< 1$ 1 1 6/11/21 1.1.1-Trichloroethane $< 1$ 1 1 6/11/21	
1.1.1-Trichloroethane <1 1 1 $6/11/21$	
Carbon tetrachloride $\leq 1$ 1 1 6/11/21	
$\frac{1}{1} = \frac{1}{1} = \frac{1}$	
1.2 Dichloroothano $< 1$ 1 1 $6/11/21$	
Trichloroothene $< 1$ 1 1 6/11/21	
1.2 Dichloropropage $< 1$ 1 1 $6/11/21$	
$\frac{1}{2} = \frac{1}{2} = \frac{1}$	
2-Chloroethylyinylether < 2 2 1 6/11/21	
4-Methyl-2-pentanone/MiRK) < 10 10 1 6/11/21	
cis 1.3 Dichloronronene $< 0.5$ $0.5$ $1$ $6/11/21$	
Toluppo $< 1$ 1 1 $6/11/21$	
trans 1.3 Dichloropropene $< 0.5$ $0.5$ $1$ $6/11/21$	
$1.2 - \text{Trichloroethane} < 1 \qquad 1 \qquad 1 \qquad 6/11/21$	
2-Hexanone < 10 10 1 6/11/21	
Tetrachloroethene $< 1$ 1 1 $6/11/21$	
Dibromochloromethane $< 1$ 1 1 $6/11/21$	
Chlorobenzene $< 1$ 1 1 $6/11/21$	
Ethylbenzene $< 1$ 1 1 $6/11/21$	
$m_X Y_{lene}$ <1 1 1 6/11/21	
$-X_{V}$ = $(1 + 1 + 1) = (1 + 1)$	
Styrene <1 1 1 6/11/21	
Bromoform <2 2 1 6/11/21	
1.1.2.2 Tetrachloroethane < 1 1 1 6/11/21	
1.3-Dichlorobenzene $< 1$ 1 1 $6/11/21$	
$1 4-\text{Dichlorobenzene} < 1 \qquad 1 \qquad 6/11/21$	
12-Dichlorobenzene < 1 1 1 6/11/21	

# QC REPORT

#### EAI ID#: 227526

Batch ID: 637590-04477/A061121V6241

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analvsis Date	Units	Limits	RPD	Method
Chloromethane	< 2	< .876	18 (91 %R)		) 6/11/2021	ua/l	1 - 205	60	624 1
Vinyl chloride	- < 1	< .34	23 (114 %R)	23 (116 %R) (1 RPD	) 6/11/2021	ua/L	5 - 195	66	624.1
Bromomethane	< 2	< .554	18 (88 %R)	18 (91 %R) (4 RPD	) 6/11/2021	ua/L	15 - 185	61	624.1
Chloroethane	< 2	< .232	17 (87 %R)	18 (88 %R) (2 RPD	) 6/11/2021	ua/L	40 - 160	78	624.1
Trichlorofluoromethane	< 2	< .375	21 (103 %R)	21 (103 %R) (0 RPD	) 6/11/2021	ua/L	50 - 150	84	624.1
Acrolein	< 50	< .548	< 50 (92 %R)	< 50 (91 %R) (1 RPD	) 6/11/2021	ua/L	60 - 140	60	624.1
Acetone	< 10	< 2.387	19 (96 %R)	18 (90 %R) (6 RPD	, ) 6/11/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethene	< 0.5	< .37	20 (102 %R)	20 (101 %R) (0 RPD	, ) 6/11/2021	ug/L	50 - 150	32	624.1
Methylene chloride	< 1	< .545	18 (92 %R)	18 (92 %R) (0 RPD	) 6/11/2021	ug/L	60 - 140	28	624.1
Acrylonitrile	< 50	< .302	< 50 (88 %R)	< 50 (84 %R) (5 RPD	) 6/11/2021	ug/L	60 - 140	60	624.1
Methyl-t-butyl ether(MTBE)	< 1	< .519	19 (96 %R)	19 (95 %R) (1 RPD	) 6/11/2021	ug/L	70 - 130	20	624.1
trans-1,2-Dichloroethene	< 1	< .298	20 (98 %R)	19 (97 %R) (1 RPD	) 6/11/2021	ug/L	70 - 130	45	624.1
Vinyl acetate	< 10	< .557	18 (89 %R)	18 (88 %R) (1 RPD	) 6/11/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethane	< 1	< .085	20 (100 %R)	20 (100 %R) (0 RPD	) 6/11/2021	ug/L	70 - 130	40	624.1
cis-1,2-Dichloroethene	< 1	< .238	20 (100 %R)	20 (100 %R) (1 RPD	) 6/11/2021	ug/L	70 - 130	20	624.1
2-Butanone(MEK)	< 10	< .206	19 (94 %R)	17 (87 %R) (8 RPD	) 6/11/2021	ug/L	40 - 160	20	624.1
Chloroform	< 1	< .36	20 (102 %R)	20 (101 %R) (0 RPD	) 6/11/2021	ug/L	70 - 135	54	624.1
1,1,1-Trichloroethane	< 1	< .227	21 (105 %R)	21 (104 %R) (1 RPD	) 6/11/2021	ug/L	70 - 130	36	624.1
Carbon tetrachloride	< 1	< .261	21 (103 %R)	20 (102 %R) (2 RPD	) 6/11/2021	ug/L	70 - 130	41	624.1
Benzene	< 1	< .312	19 (97 %R)	19 (96 %R) (1 RPD	) 6/11/2021	ug/L	65 - 135	61	624.1
1,2-Dichloroethane	< 1	< .21	20 (102 %R)	20 (102 %R) (0 RPD	) 6/11/2021	ug/L	70 - 130	49	624.1
Trichloroethene	< 1	< .359	20 (98 %R)	20 (98 %R) (0 RPD	) 6/11/2021	ug/L	65 - 135	48	624.1
1,2-Dichloropropane	< 1	< .285	19 (96 %R)	19 (96 %R) (1 RPD	) 6/11/2021	ug/L	35 - 165	55	624.1
Bromodichloromethane	< 0.5	< .079	21 (104 %R)	21 (105 %R) (1 RPD	) 6/11/2021	ug/L	65 - 135	56	624.1
2-Chloroethylvinylether	< 2	< .493	19 (96 %R)	19 (95 %R) (2 RPD	) 6/11/2021	ug/L	1 - 225	71	624.1
4-Methyl-2-pentanone(MIBK)	< 10	< .411	19 (93 %R)	18 (88 %R) (5 RPD	) 6/11/2021	ug/L	40 - 160	20	624.1
cis-1,3-Dichloropropene	< 0.5	< .101	19 (96 %R)	19 (97 %R) (0 RPD	) 6/11/2021	ug/L	25 - 175	58	624.1
Toluene	< 1	< .19	17 (85 %R)	17 (84 %R) (1 RPD	) 6/11/2021	ug/L	70 - 130	41	624.1
trans-1,3-Dichloropropene	< 0.5	< .08	18 (90 %R)	18 (89 %R) (0 RPD	) 6/11/2021	ug/L	50 - 150	86	624.1
1,1,2-Trichloroethane	< 1	< .203	17 (85 %R)	17 (85 %R) (1 RPD	) 6/11/2021	ug/L	70 - 130	45	624.1
2-Hexanone	< 10	< .28	17 (84 %R)	16 (79 %R) (6 RPD	) 6/11/2021	ug/L	40 - 160	20	624.1
Tetrachloroethene	< 1	< .371	17 (87 %R)	17 (85 %R) (2 RPD	) 6/11/2021	ug/L	70 - 130	39	624.1
Dibromochloromethane	< 1	< .225	18 (88 %R)	17 (87 %R) (1 RPD	) 6/11/2021	ug/L	70 - 135	50	624.1
Chlorobenzene	< 1	< .247	17 (87 %R)	17 (86 %R) (1 RPD	) 6/11/2021	ug/L	65 - 135	53	624.1
Ethylbenzene	< 1	< .213	18 (89 %R)	18 (88 %R) (1 RPD	) 6/11/2021	ug/L	60 - 140	63	624.1
mp-Xylene	< 1	< .476	35 (87 %R)	35 (87 %R) (1 RPD	) 6/11/2021	ug/L	70 - 130	20	624.1
o-Xylene	< 1	< .298	18 (88 %R)	17 (87 %R) (1 RPD	) 6/11/2021	ug/L	70 - 130	20	624.1
Styrene	< 1	< .727	17 (87 %R)	17 (86 %R) (1 RPD	) 6/11/2021	ug/L	70 - 130	20	624.1
Bromoform	< 2	< .282	18 (89 %R)	17 (86 %R) (3 RPD	) 6/11/2021	ug/L	70 - 130	42	624.1
1,1,2,2-Tetrachloroethane	< 1	< .381	16 (79 %R)	15 (75 %R) (5 RPD	) 6/11/2021	ug/L	60 - 140	61	624.1
1,3-Dichlorobenzene	< 1	< .426	17 (83 %R)	16 (81 %R) (3 RPD	) 6/11/2021	ug/L	70 - 130	43	624.1
1,4-Dichlorobenzene	< 1	< .375	16 (82 %R)	16 (80 %R) (2 RPD	) 6/11/2021	ug/L	65 - 135	57	624.1
1,2-Dichlorobenzene	< 1	< .218	16 (82 %R)	16 (80 %R) (3 RPD	) 6/11/2021	ug/L	65 - 135	57	624.1
4-Bromofluorobenzene (surr)	105 %R		106 %R	106 %F	6/11/2021	% Rec	70 - 130		624.1
1,2-Dichlorobenzene-d4 (surr)	99 %R		100 %R	100 %F	6/11/2021	% Rec	70 - 130		624.1
Toluene-d8 (surr)	92 %R		92 %R	92 %F	R 6/11/2021	% Rec	70 - 130		624.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Eastern Analytical, Inc.

#### EAI ID#: 227526

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

Client Sample ID:	System Influent						
Lab Sample ID:	227526.01						
Matrix:	aqueous						
Date Sampled:	6/10/21						
Date Received:	6/10/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
Phenol	< 1	1	1	ug/L	6/14/21 14:01	625.1	JMR
2-Fluorophenol (surr)	38 %R			%	6/14/21 14:01	625.1	JMR
Phenol-d6 (surr)	25 %R			%	6/14/21 14:01	625.1	JMR
2.4.6-Tribromophenol (surr)	92 % P			0/_	6/14/21 14:01	625 1	IMR

Eastern Analytical, Inc.

EAI ID#: 227526

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

Client Sample ID:	System Effluent							
Lab Sample ID:	227526.02							
Matrix:	aqueous							
Date Sampled:	6/10/21							
Date Received:	6/10/21							
	Result	RL	Dilution Factor	Units	Date / T Analyz	īime æd	Method	Analyst
Phenol	< 1	1	1	ug/L	6/14/21	14:22	625.1	JMR
2-Fluorophenol (surr)	43 %R			%	6/14/21	14:22	625.1	JMR
Phenol-d6 (surr)	28 %R			%	6/14/21	14:22	625.1	JMR
2,4,6-Tribromophenol (surr)	86 %R			%	6/14/21	14:22	625.1	JMR

# QC REPORT

#### EAI ID#: 227526

Batch ID: 637592-53013/A061421E6251

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
alpha-Terpineol	< 5	< .17	19 (76 %R)	16 (64 %R) (17 RPI	0) 6/14/2021	ug/L	40 - 140	20	625.1
Phenol	< 1	< .12	15 (30 %R)	12 (24 %R) (24 RPI	0) 6/14/2021	ug/L	5 - 120	64	625.1
2-Chlorophenol	< 1	< .2	33 (66 %R)	25 (50 %R) (27 RPI	0) 6/14/2021	ug/L	23 - 134	61	625.1
2,4-Dichlorophenol	< 1	< .31	36 (73 %R)	30 (61 %R) (18 RPI	0) 6/14/2021	ug/L	39 - 135	50	625.1
2,4,5-Trichlorophenol	< 1	< .33	37 (74 %R)	33 (67 %R) (10 RPI	0) 6/14/2021	ug/L	30 - 130	20	625.1
2,4,6-Trichlorophenol	< 1	< .48	36 (73 %R)	32 (65 %R) (12 RPI	0) 6/14/2021	ug/L	37 - 144	58	625.1
Pentachlorophenol	< 5	< 1.1	34 (68 %R)	31 (63 %R) (8 RPI	0) 6/14/2021	ug/L	14 - 176	86	625.1
2-Nitrophenol	< 5	< .44	41 (81 %R)	31 (63 %R) (25 RPI	0) 6/14/2021	ug/L	29 - 182	55	625.1
4-Nitrophenol	< 5	< .22	14 (29 %R)	14 (28 %R) (4 RPI	0) 6/14/2021	ug/L	1 - 132	131	625.1
2,4-Dinitrophenol	< 10	< 1.5	31 (63 %R)	35 (70 %R) (12 RPI	0) 6/14/2021	ug/L	1 - 191	132	625.1
2-Methylphenol	< 1	< ,4	31 (62 %R)	24 (49 %R) (24 RPD)	! 6/14/2021	ug/L	. 30 - 130	20	625.1
3/4-Methylphenol	< 1	< .42	31 (63 %R)	26 (51 %R) (20 RPI	0) 6/14/2021	ug/L	. 30 - 130	20	625.1
2,4-Dimethylphenol	< 5	< 1.4	35 (70 %R)	29 (58 %R) (18 RPI	0) 6/14/2021	ug/L	. 32 - 120	58	625.1
4-Chloro-3-methylphenol	< 1	< .26	38 (75 %R)	34 (67 %R) (11 RPI	0) 6/14/2021	ug/L	. 22 - 147	73	625.1
4,6-Dinitro-2-methylphenol	< 5	< 3.3	43 (85 %R)	44 (88 %R) (4 RPI	0) 6/14/2021	ug/L	. 1 - 181	203	625.1
Benzoic Acid	< 50	< 5.7	< 50 (22 %R)	< 50 (16 %R) (29 RPI	0) 6/14/2021	ug/L	. 15 - 130	50	625.1
N-Nitrosodimethylamine	< 1	< .11	12 (47 %R)	9.2 (37 %R) (25 RPD)	6/14/2021	ug/L	. 15 - 140	20	625.1
n-Nitroso-di-n-propylamine	< 0.5	< .22	20 (79 %R)	15 (62 %R) (25 RPI	0) 6/14/2021	ug/L	. 1 - 230	87	625.1
n-Nitrosodiphenylamine	< 1	< .068	21 (83 %R)	19 (77 %R) (8 RPI	0) 6/14/2021	ug/L	. 40 - 140	20	625.1
bis(2-Chloroethyl)ether	< 1	< .11	18 (70 %R)	13 (51 %R) (32 RPI	D) 6/14/2021	ug/L	. 12 - 158	108	625.1
bis(2-chloroisopropyl)ether	< 1	< .13	16 (64 %R)	12 (47 %R) (31 RPI	D) 6/14/2021	ug/L	. 36 - 166	76	625.1
bis(2-Chloroethoxy)methane	< 1	< .2	19 (77 %R)	16 (63 %R) (21 RPI	D) 6/14/2021	ug/L	. 33 - 184	54	625.1
1,3-Dichlorobenzene	< 1	< .15	16 (65 %R)	12 (46 %R) (33 RPD)	1 6/14/2021	ug/L	. 40 - 140	20	625.1
Acetophenone	< 10	< 8.8	19 (76 %R)	14 (57 %R) (27 RPD)	9 ! 6/14/2021	ug/L	40 - 140	20	625.1
1,4-Dichlorobenzene	< 1	< .11	16 (63 %R)	11 (45 %R) (33 RPD)	6/14/2021	ug/L	. 40 - 140	20	625.1
1,2-Dichlorobenzene	< 1	< .13	16 (65 %R)	12 (47 %R) (33 RPD)	6/14/2021	ug/L	40 - 140	20	) 625.1
1,2,4-Trichlorobenzene	< 1	< .09	17 (69 %R)	13 (54 %R) (25 RPI	D) 6/14/2021	ug/L	. 44 - 142	50	) 625.1
2-Chloronaphthalene	< 1	< .11	19 (74 %R)	16 (63 %R) (16 RPI	D) 6/14/2021	ug/L	60 - 120	24	625.1
4-Chlorophenyl-phenylether	< 1	< .059	19 (77 %R)	18 (71 %R) (8 RPI	D) 6/14/2021	ug/L	_ 25 - 158	61	625.1
4-Bromophenyl-phenylether	< 1	< .14	21 (84 %R)	19 (77 %R) (8 RPI	D) 6/14/2021	ug/L	- 53 - 127	43	625.1
Hexachloroethane	< 1	< .15	16 (64 %R)	11 (45 %R) (35 RP)	D) 6/14/2021	ug/L	40 - 120	52	2 625.1
Hexachlorobutadiene	< 1	< .073	17 (70 %R)	13 (52 %R) (28 RP	D) 6/14/2021	ug/l	24 - 120	62	2 625.1
Hexachlorocyclopentadiene	< 5	< .21	12 (46 %R)	9.2 (37 %R) (24 RPD	)! 6/14/2021	ug/l	15 - 140	20	) 625.1
Hexachlorobenzene	< 1	< .12	22 (87 %R)	20 (79 %R) (10 RP	D) 6/14/2021	ug/l	_ 1 - 152	. 55	; 625.1
4-Chloroaniline	< 1	< .13	20 (79 %R)	17 (70 %R) (12 RP	D) 6/14/2021	ug/l	- 15 - 140	20	) 625.1
2,3-Dichloroaniline	< 1	< .11	20 (78 %R)	17 (69 %R) (13 RP	D) 6/14/2021	ug/l	40 - 140	) 20	) 625.1
2-Nitroaniline	< 5	< .18	19 (77 %R)	18 (73 %R) (5 RP	D) 6/14/2021	ug/l	_ 40 - 140	) 20	) 625.1
3-Nitroaniline	< 5	< .13	20 (81 %R)	20 (78 %R) (3 RP	D) 6/14/2021	ug/l	_ 40 - 140	20	) 625.1
4-Nitroaniline	< 5	< .23	21 (82 %R)	21 (82 %R) (0 RP	D) 6/14/2021	ug/l	_ 40 - 140	) 20	) 625.1
Aniline	< 1	< .13	18 (72 %R)	15 (61 %R) (16 RP	D) 6/14/2021	ug/l	_ 40 - 140	20	) 625.1
Benzyl alcohol	< 10	< .35	18 (71 %R)	15 (58 %R) (20 RP	D) 6/14/2021	ug/l	_ 40 - 140	20	) 625.1
Nitrobenzene	< 1	< .21	18 (72 %R)	14 (55 %R) (27 RP	D) 6/14/2021	ug/l	L 35 - 180	62	2 625.1
Isophorone	< 1	< .16	20 (79 %R)	17 (66 %R) (17 RP	D) 6/14/2021	ug/l	L 21-196	5 93	3 625.1
2,4-Dinitrotoluene	< 2	< .14	19 (77 %R)	18 (74 %R) (5 RP	D) 6/14/2021	ug/	L 39-139	9 42	2 625.1
2,6-Dinitrotoluene	< 2	< .14	22 (88 %R)	20 (81 %R) (8 RP	D) 6/14/2021	ug/	L 50 - 158	3 ,48	3 625.1
Benzidine (estimated)	< 5	< .41	18 (72 %R)	17 (67 %R) (7 RP	D) 6/14/2021	ug/	L 1 - 200	50	) 625. ⁻

## QC REPORT

#### EAI ID#: 227526

Batch ID: 637592-53013/A061421E6251

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
3,3'-Dichlorobenzidine	< 1	< .27	20 (81 %R)	19 (78 %R) (4 RPD	) 6/14/2021	ug/L	1 - 262	108	625.1
Pyridine	< 5	< .18	13 (51 %R)	11 (42 %R) (19 RPD	) 6/14/2021	ug/L	15 - 140	20	625.1
Azobenzene	< 1	< .14	19 (76 %R)	18 (71 %R) (7 RPD	) 6/14/2021	ug/L	40 - 140	20	625.1
Carbazole	< 1	< .12	20 (81 %R)	20 (79 %R) (2 RPD	) 6/14/2021	ug/L	40 - 140	20	625.1
Dimethylphthalate	< 1	< .11	20 (81 %R)	19 (76 %R) (7 RPD	) 6/14/2021	ug/L	1 - 120	183	625.1
Diethylphthalate	< 5	< .11	21 (85 %R)	20 (81 %R) (5 RPD	) 6/14/2021	ug/L	1 - 120	100	625.1
Di-n-butylphthalate	< 5	< .64	23 (90 %R)	21 (85 %R) (6 RPD	) 6/14/2021	ug/L	1 - 120	47	625.1
Butylbenzylphthalate	< 5	< .14	23 (94 %R)	22 (88 %R) (6 RPD	) 6/14/2021	ug/L	1 - 152	60	625.1
bis(2-Ethylhexyl)phthalate	< 5	< .27	23 (91 %R)	21 (85 %R) (7 RPD	) 6/14/2021	ug/L	8 - 158	82	625.1
Di-n-octylphthalate	< 5	< .2	28 (112 %R)	25 (100 %R) (11 RPD	) 6/14/2021	ug/L	4 - 146	69	625.1
Dibenzofuran	< 1	< .11	19 (75 %R)	17 (69 %R) (9 RPD	) 6/14/2021	ug/L	40 - 140	20	625.1
Naphthalene	< 1	< .088	17 (70 %R)	14 (55 %R) (24 RPD	) 6/14/2021	ug/L	21 - 133	65	625.1
2-Methylnaphthalene	< 1	< .11	18 (73 %R)	15 (58 %R) (22 RPC	) 6/14/2021	ug/L	40 - 140	65	625.1
1-Methylnaphthalene	< 1	< .12	19 (74 %R)	15 (60 %R) (22 RPD	) 6/14/2021	ug/L	40 - 140	65	625.1
Acenaphthylene	< 1	< .11	19 (74 %R)	16 (66 %R) (12 RPC	) 6/14/2021	ug/L	33 - 145	74	625.1
Acenaphthene	< 1	< .11	19 (76 %R)	16 (66 %R) (14 RPC	) 6/14/2021	ug/L	47 - 145	48	625.1
Fluorene	< 1	< .093	19 (75 %R)	17 (70 %R) (7 RPC	) 6/14/2021	ug/L	59 - 121	38	625.1
Phenanthrene	< 1	< .11	19 (74 %R)	18 (71 %R) (4 RPC	) 6/14/2021	ug/L	54 - 120	39	625.1
Anthracene	< 1	< .13	19 (76 %R)	18 (73 %R) (4 RPE	) 6/14/2021	ug/L	27 - 133	66	625.1
Fluoranthene	< 1	< .12	19 (74 %R)	18 (71 %R) (4 RPC	) 6/14/2021	ug/L	26 - 137	66	625.1
Pyrene	< 1	< .11	19 (76 %R)	18 (71 %R) (6 RPC	) 6/14/2021	ug/L	52 - 120	49	625.1
Benzo[a]anthracene	< 1	< .17	19 (78 %R)	19 (74 %R) (5 RPC	) 6/14/2021	ug/L	33 - 143	53	625.1
Chrysene	< 1	< .14	19 (76 %R)	18 (72 %R) (5 RPC	) 6/14/2021	ug/L	17 - 168	87	625.1
Benzo[b]fluoranthene	< 1	< .095	20 (79 %R)	18 (74 %R) (7 RPD	) 6/14/2021	ug/L	24 - 159	71	625.1
Benzo[k]fluoranthene	< 1	< .14	20 (79 %R)	18 (73 %R) (7 RPE	) 6/14/2021	ug/L	. 11 - 162	63	625.1
Benzo[a]pyrene	< 1	< .058	18 (72 %R)	17 (68 %R) (6 RPE	) 6/14/2021	ug/L	. 17 - 163	72	625.1
Indeno[1,2,3-cd]pyrene	< 1	< .13	19 (74 %R)	18 (74 %R) (0 RPE	) 6/14/2021	ug/L	. 1 - 171	99	625.1
Dibenz[a,h]anthracene	< 1	< .16	18 (72 %R)	18 (72 %R) (1 RPE	) 6/14/2021	ug/L	. 1 - 227	126	625.1
Benzo[g,h,i]perylene	< 1	< .14	18 (72 %R)	18 (71 %R) (1 RPE	) 6/14/2021	ug/L	. 1-219	97	625.1
n-Decane	< 5	< .16	14 (56 %R)	* 9.9 (39 %R) (34 RPD)	! 6/14/2021	ug/L	. 40 - 140	20	625.1
n-Octadecane	< 5	< .5	20 (81 %R)	19 (76 %R) (6 RPE	) 6/14/2021	ug/L	. 40 - 140	20	625.1
2-Fluorophenol (surr)	33 %R		41 %R	31 %	R 6/14/2021	% Rec	; 15 - 110	)	625.1
Phenol-d6 (surr)	24 %R		28 %R	22 %	R 6/14/2021	% Rec	: 15 - 110	l.	625.1
2,4,6-Tribromophenol (surr)	83 %R		88 %R	81 %	R 6/14/2021	% Rec	: 15 - 110	J	625.1
Nitrobenzene-D5 (surr)	58 %R		74 %R	57 %	R 6/14/2021	% Rec	: 30 - 130	I	625.1
2-Fluorobiphenyl (surr)	67 %R		75 %R	64 %	R 6/14/2021	% Rec	: 30 - 130	)	625.1
p-Terphenyl-D14 (surr)	82 %R		86 %R	81 %	R 6/14/2021	% Rec	: 30 - 130	ļ	625.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

EAI ID#: 227526

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

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	227526.01	227526.02						
Matrix:	aqueous	aqueous						
Date Sampled:	6/10/21	6/10/21			Ana	alysis		
Date Received:	6/10/21	6/10/21	RL	Units	Date	Time	Method	Analyst
Solids Suspended	< 5	< 5	5	mg/L	6/11/21	15:00	2540D-11	KJD
Chloride	2900	2800	1000	ug/L	6/11/21	11:08	4500CIE-11	ΑΤΑ
Cyanide Total	< 5	< 5	5	ug/L	6/11/21	14:28	ASTM D7511-	09 KD
Cyanide Free	< 5	< 5	5	ug/L	6/16/21	9:12	OIA-1677-09	) KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	6/15/21	10:06	TM NH3-001	SEL

#### EAI ID#: 227526

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

Client Designation: Rennie Farm RGP / 04.0190030.02

			Date of								
Parameter Name	Blank	LCS	LCSD	Units A	nalysis	Limits	RPD	Method			
Solids Suspended	< 5	95 (101 %R)	98 (104 %R) (3 RPD)	mg/L	6/11/21	90 - 110	20	2540D-11			
Chloride	< 1000	26000 (104 %R)	26000 (103 %R) (1 RPD)	ug/L	6/11/21	90 - 110	20	4500CIE-11			
Cyanide Total	< 5	110 (106 %R)	110 (110 %R) (3 RPD)	ug/L	6/11/21	84 - 116	20	ASTM D7511-09			
Cyanide Free	< 5	220 (89 %R)	250 (99 %R) (10 RPD)	ug/L	6/16/21	82 - 132	20	OIA-1677-09			
Ammonia-N	< 0.05	2.1 (104 %R)	2.0 (98 %R) (6 RPD)	mg/L	6/15/21	87 - 104	20	TM NH3-001			

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc. www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com 0

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## LABORATORY REPORT

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	227526.01	227526.02						
Matrix:	aqueous	aqueous						
Date Sampled:	6/10/21	6/10/21		A 1 (*		A b		
Date Received:	6/10/21	6/10/21	RL	Analytica Matrix	ı Units	Analysis Date	Method A	nalyst
Chromium (VI)	< 10	< 10	10	AqTot	ug/L	6/10/21	7196A	HEH
Antimony	< 0.5	< 0.5	0.5	AqTot	ug/L	6/15/21	200.8	DS
Arsenic	< 0.5	< 0.5	0.5	AqTot	ug/L	6/15/21	200.8	DS
Cadmium	< 0.1	< 0.1	0.1	AqTot	ug/L	6/15/21	200.8	DS
Chromium	< 0.5	< 0.5	0.5	AqTot	ug/L	6/15/21	200.8	DS
Copper	0.97	< 0.1	0.1	AqTot	ug/L	6/15/21	200.8	DS
Iron	540	< 50	50	AqTot	ug/L	6/15/21	200.8	DS
Lead	< 0.1	< 0.1	0.1	AqTot	ug/L	6/15/21	200.8	DS
Mercury	< 0.1	< 0.1	0.1	AqTot	ug/L	6/15/21	200.8	DS
Nickel	0.74	0.29	0.1	AqTot	ug/L	6/15/21	200.8	DS
Selenium	< 0.5	< 0.5	0.5	AqTot	ug/L	6/15/21	200.8	DS
Silver	< 0.1	< 0.1	0.1	AqTot	ug/L	6/15/21	200.8	DS
Zinc	7.1	2.5	1	AqTot	ug/L	6/15/21	200.8	DS
Chromium (III)	< 10	< 10	10	AqTot	mg/L	6/15/21	200.8	DS

#### EAI ID#: 227526

#### 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	< 0.0005	1.1 (112 %R)		NA	ma/L 6/15/21	85 - 115	20	200.8
Arsenic	< 0.0005	1.0 (104 %R)		NA	mg/L 6/15/21	85 - 115	20	200.8
Cadmium	< 0.0001	1.0 (101 %R)		NA	mg/L 6/15/21	85 - 115	20	200.8
Chromium	< 0.0005	1.1 (106 %R)		NA	mg/L 6/15/21	85 - 115	20	200.8
Copper	< 0.0001	1.0 (101 %R)		NA	mg/L 6/15/21	85 - 115	20	200.8
Iron	< 0.05	11 (99 %R)		NA	mg/L 6/15/21	85 - 115	20	200.8
Lead	< 0.0001	1.1 (106 %R)		NA	mg/L 6/15/21	85 - 115	20	200.8
Mercury	< 0.0001	0.0011 (107 %R)		NA	mg/L 6/15/21	85 - 115	20	200.8
Nickei	< 0.0001	1.0 (102 %R)		NA	mg/L 6/15/21	85 - 115	20	200.8
Selenium	< 0.0005	1.1 (105 %R)		NA	mg/L 6/15/21	85 - 115	20	200.8
Silver	< 0.0001	0.011 (106 %R)		NA	mg/L 6/15/21	85 - 115	20	200.8
Zinc	< 0.001	1.0 (104 %R)		NA	mg/L 6/15/21	85 - 115	20	200.8
Chromium (VI)	< 0.01	0.29 (94 %R)		NA	mg/L 6/10/21	85 - 115	20	7196A

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc.



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

June 17, 2021

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

RE: Project: 227526 6/10 Pace Project No.: 70176517

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on June 11, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack.

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures



#### REPORT OF LABORATORY ANALYSIS



#### CERTIFICATIONS

 Project:
 227526 6/10

 Pace Project No.:
 70176517

#### Pace Analytical Services Long Island

575 Broad Hollow Rd, Meiville, NY 11747 Connecticut Certification #: PH-0435 Delaware Certification # NY 10478 Maryland Certification #: 208 Massachusetts Certification #: M-NY026 New Hampshire Certification #: 2987 New Jersey Certification #: NY158 New York Certification #: 10478 Primary Accrediting Body Pennsylvania Certification #: 68-00350 Rhode Island Certification #: LAO00340 Virginia Certification # 460302

#### **REPORT OF LABORATORY ANALYSIS**



#### ANALYTICAL RESULTS

Project: 227526 6/10

Pace Project No.: 70176517

Sample: SYSTEM INFLUENT	Lab ID: 70176517001		Collected: 06/10/2	1 11:00	Received: (	06/11/21 10:00 N	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
1624B MSV	Analytical Me Pace Analytic	ethod: EPA 16 cal Services -	24B Melville						
Acetone Surrogates	<0.010	mg/L	0.010	1		06/16/21 12:46	67-64-1		
1,2-Dichloroethane-d4 (S)	96	%	78-114	1		06/16/21 12:46	17060-07-0		
4-Bromofluorobenzene (S)	94	%	83-111	1		06/16/21 12:46	460-00-4		
Toluene-d8 (S)	1 <b>01</b>	%	80-131	1		06/16/21 12:46	2037-26-5	•	

#### REPORT OF LABORATORY ANALYSIS

^sace Analytical www.pacelabs.com

#### ANALYTICAL RESULTS

# Project: 227526 6/10 Pace Project No.: 70176517

Sample: SYSTEM EFFLUENT	Lab ID: 70176517002		Collected: 06/10/2	1 11:20	Received: 0	06/11/21 10:00 N	latrix: Water	
Parameters			Report Limit	DF Prepared		Analyzed	CAS No.	Qual
1624B MSV	Analytical Me Pace Analytic	ethod: EPA 16 cal Services -	24B Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		06/16/21 12:24	67-64-1	
1,2-Dichloroethane-d4 (S)	101	%	78-114	1		06/16/21 12:24	17060-07-0	
4-Bromofluorobenzene (S)	94	%	83-111	1		06/16/21 12:24	460-00-4	
Toluene-d8 (S)	99	%	80-131	1		06/16/21 12:24	2037-26-5	

#### REPORT OF LABORATORY ANALYSIS



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#### QUALITY CONTROL DATA

Project:	227526 6/10						
Pace Project No.:	70176517						
QC Batch:	213801	······································	Analysis Meth	nod: E	PA 1624B	· _ · · · · · · · · · · · · · · ·	-, <u>m r. m</u>
QC Batch Method:	EPA 1624B		Analysis Des	cription: 1	624B MSV		
Associated Lab Samples: 70176517001, 70176517002			Laboratory:	F	ace Analytical Servi	ces - Melville	
METHOD BLANK:	1074302		Matrix:	Water			
Associated Lab Sam	pies: 70176517	001, 70176517002					
			Blank	Reporting			
Param	eter	Units	Result	Limit	Analyzed	Qualifiers	
Acetone		mg/L	<0.010	0.010	06/16/21 11:41		
1,2-Dichloroethane-d	14 (S)	%	102	78-114	06/16/21 11:41		
4-Bromofluorobenze	ne (S)	%	86	83-111	06/16/21 11:41		
Toluene-d8 (S)		%	96	80-131	06/16/21 11:41		
LABORATORY CON	TROL SAMPLE:	1074303					
			Spike	CS	109 %1	Rec	

Parameter	Units	Units Conc. R		% Rec	% Rec Limits	Qualifiers
Acetone	mg/L	0.05	0.050	100	20-200	
1,2-Dichloroethane-d4 (S)	%			94	78-114	
4-Bromofluorobenzene (S)	%			96	83-111	
Toluene-d8 (S)	%			93	80-131	

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:
 227526 6/10

 Pace Project No.:
 70176517

#### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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:
 227526 6/10

 Pace Project No.:
 70176517

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70176517001 70176517002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	213801 213801		

#### **REPORT OF LABORATORY ANALYSIS**

# **CHAIN-OF-CUSTODY RECORD**

Eastern Analytical, Inc. professional laboratory and drilling services^N

Sample ID	Date Sampled Matrix aParameters	EAI ID# 227526 Page 1 Sample Notes
System Influent	6/10/2021 aqueous Subcontract - EPA Method 1624 Isotope Dilution 11:00	WO#:70176517
System Effluent	6/10/2021 aqueous Subcontract - EPA Method 1624 Isotope Dilution 11:20	70176517

EAI ID# 2	27526	Project State: NH	Results Needed: Preferred Date: Standard RUSH Due Date:	PO #:55111 EAI ID# <b>227526</b>
Company	PACE AN	IALYTICAL	□ A □ A+ ⊠ B □ B+ □ C □ MA MCP Notes about project:	Excel NH EMD EQuIS ME EGAD
Address	575 BRO	AD HOLLOW ROAD	Email login confirmation, pdf of results and invoice to customerservice@easternanalvtical.com.	Call prior to analyzing, if RUSH charges will be applied.
Address	MELVILL	E, NY 11747	1624 Acetone Only	Jan John 6/10/21 1630 UPS
Account # Phone #	(631)694	-3040		Relinquished by Date/Time Received by
Page 8 Eastern	Analytical, In	c. 25 Chenell Dr. Concord.	NH 03301 Phone: (603)228-0525 1-800-2	Relinquished by Date/Time Received by
् sasubcontract	lab to EAI, you	will defend, indemnify and hold E	astern Analytical, Inc., its officers, employees, and agents harml	ess from and against any and all liability loss expense or claims for injury or day

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

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<b>1</b>	Sa	ample	Conditio	on Upo	n Receipt	WO#:701	76517
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Temp should be above freezing to 6.0°C		ion por ac		<u>(), 1</u>	·		
USDA Regulated Soil $\left[ \Box N/A \right]$ water sample	}			Date and	l Initials of per	son examining content	EMN G/HBI
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Sample Labels match COC-			Law/A	12	Note il Sedin		
Includes date (time (ID Matrix SI (10))		LINU		14.			
All containers aceding proceptation have bee			HIN TA	17			
All contaillers needing preservation have bee	II Lives	LINU	AMA	10.			
DH paper l ot #							
All containers needing preservation are found	l to be		,	Sample	#		
in compliance with method recommendation	?						
(HNO3, H2SO4, HCI, NaOH>9 Sulfide,	⊡Yes	⊡No	ΔN/A				
NAOH>12 Cyanide)							
Exceptions: VOA, Coliform, TOC/DOC, Oil and G	rease,		1				
DR0/8015 (water).				Initial wh	en completed:	Lot # of added	Date/Time preservative
Per Method, VOA pH is checked after analysis			<i>.</i> .		•	preservative:	added:
Samples checked for dechlorination:	⊡Yes	⊡No	dN/A	14.			·
KI starch test strips Lot #							
Residual chlorine strips Lot #					Positive for Re	s. Chlorine? Y N	
SM 4500 CN samples checked for sulfide?	⊡Yes	⊡No	ctin/A	15.			
Lead Acetate Strips Lot #		ە.					
Headspace in VOA Vials [ >6mm):	⊡Yes	<b>DNO</b>	CN/A	16.			
Trip Blank Present:	⊡Yes	(No	⊡N/A	17.		na an an an an an an an an an an an an a	
Trip Blank Custody Seals Present	⊡Yes	μ.No	DN/A				
Pace Trip Blank Lot # (if applicable);		L					
Client Notification/ Resolution:			A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR A CONTRACTOR	Field Dat	a Required?	Y / N	
Person Contacted:					Date/Time:	•	
Comments/ Resolution:					4.	**************************************	······································
						<u> </u>	

^{*} PM (Project Manager) review is documented electronically in LIMS,



Monday, June 21, 2021

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

Project ID: 227526 SDG ID: GCI54777 Sample ID#s: CI54777 - CI54778

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Stille

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 UT Lab Registration #CT00007 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

# Sample Id Cross Reference

June 21, 2021

SDG I.D.: GCI54777

Project ID: 227526

Client Id	Lab Id	Matrix	
SYSTEM INFLUENT	CI54777	WATER	
SYSTEM EFFLUENT	CI54778	WATER	



NY# 11301

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

Analysis June 2 ⁷	Report 1, 2021		F	Attn: Front Office Eastern Analytic 25 Chenell Drive Concord, NH 03	9 al 301	01		
Sample Inform Matrix: Location Code: Rush Request:	<u>nation</u> WATER EASTANAL Standard	NH	<u>Custody li</u> Collected b Received b Analyzed b	nforma oy: oy: oy:	tion SW	<u>Date</u> 06/10 06/18	<u>e</u> )/21 5/21	<u>Time</u> 11:00 11:33
P.O.#:	55112		Laboratory Data			Si Phoe	DG IE nix IE	D: GCI54777 D: CI54777
Project ID: Client ID: Parameter	227526 SYSTEM INFI	LUENT	RL/ POL	Unit	s Dilution	Date/Time	Bv	Reference
<b>1,4-dioxane</b> 1,4-dioxane		16	0.20	ug/l	1	06/17/21	AW	EPA522
QA/QC Surrogat % 1,4-dioxane-d8 Extraction for 1,4-	<u>es</u> Dioxane	71 Completed		%	1	06/17/21 06/16/21	AW G/G	70 - 130 % EPA522

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

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

#### Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director June 21, 2021 Reviewed and Released by: Rashmi Makol, Project Manager



NY # 11301

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

Analysis June 2	Report 1, 2021		F	Attn: Front Offic Eastern Analytic 25 Chenell Drive Concord, NH 03	e al è 301				
Sample Inform	nation		Custody Information			Date	Date		
Matrix:	WATER		Collected by:			06/10	0/21	11:20	
Location Code:	EASTANA	L-NH	Received by: SW			06/1	5/21	11:33	
Rush Request:	Standard		Analyzed by: see "By" below						
P.O.#:	55112		Laboratory Data			S Phoe	DG II enix II	D: GCI54777 D: CI54778	
Proiect ID:	227526								
Client ID:	SYSTEM EFF	LUENT							
Parameter		Result	RL/ PQL	Unit	s Dilution	Date/Time	Ву	Reference	
1,4-dioxane									
1,4-dioxane		ND	0.20	ug/l	1	06/17/21	AW	EPA522	
QA/QC Surrogat	es								
% 1,4-dioxane-d8		77		%	1	06/17/21	AW	70 - 130 %	
Extraction for 1,4-Dioxane		Completed	ompleted			06/16/21	6/6	EPA522	

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

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

#### **Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis, Shiller, Laboratory Director June 21, 2021 Reviewed and Released by: Rashmi Makol, Project Manager





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

June 21, 2021

## QA/QC Data

SDG I.D.: GCI54777

Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 579770 (L	ıg/l), QC Sample	No: CI53547	(CI54777, CI54	1778)								
1,4dioxane - Water												
1,4-dioxane	ND	0.20		87	91	4.5	87			70 <b>-</b> 130	20	
% 1,4-dioxane-d8	87	%		93	93	0.0	90			70 - 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 June 21, 2021

Monday, June 21, 2021 Sample Criteria Exceedances Report									
Criteria:	None		GCI	4777 - FASTANAL NH				•	, .
State:	NH		0010				RL	Analysis	
SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria	Units	

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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.



NY # 11301

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

# Analysis Comments

June 21, 2021

SDG I.D.: GCI54777

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

#### 4-7° wc M Eastern Analytical, Inc. **CHAIN-OF-CUSTODY RECORD** professional laboratory and drilling services EAI ID# 227526 Page 1 Sample iD **Date Sampled Matrix** aParameters Sample Notes 54777 System Influent 6/10/2021 aqueous Subcontract - 1,4 Dioxane EPA Method 522 11:00 54778 aqueous Subcontract - 1,4 Dioxane EPA Method 522 System Effluent 6/10/2021 11:20

Rud-1 802 amber persample.

EAI ID# 2	27526 Project State: NH Project ID: 4968	Results Needed: Preferred Date: Standard         RUSH Due Date:         QC Deliverables	PO #:55112 EALID# 227526 Data Deliverable (circle) Excel NH EMD EQUIS ME EGAD
Company Address Address Account # Phone #	Phoenix Environmental Labs 587 East Middle Turnpike Manchester , CT 06040 (860) 645-1102	Notes about project: Email login confirmation, pdf of results and invoice to customerservice@easternanalytical.com.	Call prior to analyzing, if RUSH charges will be applied. Samples Collected by: <u>Jan Jamme (a)(H)(2)</u> Relinquished by Date/Time Received by <u>UPS</u> <u>Muchan</u> (1)(SD)( <u>1)'33</u> Relinquished by Date/Time Received by
Eastern /	Analytical, Inc. 25 Chenell Dr. Conc	ord, NH 03301 Phone: (603)228-0525 1-800-	-287-0525 customerservice@easternanalytical.com

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

### CHAIN-OF-CUSTODY RECORD

GLANH

30

227526

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes # of con	ntainers
System Influent	6-10-21 11:00	aqueous Grabor Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg.Pb.Ni. Se.Ag.Zn/Cr6/Cr3/CyanFree	13
Sampler confirm	ns ID and parameters	are accurate	Circle preservative/s:HCU HNO, H2SO, NaOH MEOH Na2S2O, ICE Dissolved Sample Field Filtere	id 🗌
System Effluent	6-10-21 11:20	aqueous Grab or Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg.Pb.Ni. Se.Ag.Zn/Cr6/Cr3/CyanFree	13
Sampler confirm	ı ns ID and parameters	are accurate	Circle preservative/s.HCI HNO3 H2SO4 NaOH MEOH Na2S203 (ICE) Dissolved Sample Field Filtere	ed [

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 4965	Results Needed by: Preferred date	ReportingOptions
Project Name Rennie Farm RGP / 04.0190030.02	Notes:	HC INO FAX PO# verbal
State NH		Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system     Image: Second system
Client (Pro Mgr) Jim Wieck	1624 Acetone Only	$\square$ PDF prelim, NO FAX $\square$ EQUIS $-2 2 2 \circ \mathbf{C}$
Customer GZA GeoEnvironmental, Inc. (NH)		☑ e-mail Login Confirmation   Iemp
Address 5 Commerce Park North, Suite 201		Samples Collected by: <u>AVJ</u>
City Bedford NH 03110		al Jacobson 6-10-21
Phone 623-3600 Fax 624-9463 (37)		Relinquished by Date/Time Received by
Email: James.Wieck@gza.com Direct 232-8732	$\Box A \Box A + \Box B \Box B + \Box C \Box MA MCP$	Relinquished by Date/Time Received by



Eastern Analytical, Inc.

professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 228084 Client Identification: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1 Date Received: 6/23/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

(manilashan

6.29.21



Lorraine Olashaw, Lab Director

# of pages (excluding cover letter)

## SAMPLE CONDITIONS PAGE

EAI ID#: 228084

1

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

<b>Temperature upon receipt (°C):</b> Acceptable temperature range (°C): 0-6		1.5			Received on ice or cold packs (Yes/No): $\gamma$				
Lab ID	Sample ID	Date Received	Date/ Sam	Time oled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)		
228084.01	System Influent	6/23/21	6/22/21	10:44	aqueous		Adheres to Sample Acceptance Policy		
228084.02	System Mid	6/23/21	6/22/21	10:48	aqueous		Adheres to Sample Acceptance Policy		
228084.03	LGAC In	6/23/21	6/23/21	09:48	aqueous		Adheres to Sample Acceptance Policy		
228084.04	LGAC Mid	6/23/21	6/23/21	09:44	aqueous		Adheres to Sample Acceptance Policy		
228084.05	LGAC Out	6/23/21	6/23/21	09:40	aqueous		Adheres to Sample Acceptance Policy		
228084.06	7 Renni <b>e</b> Rd	6/23/21	6/22/21	14:05	aqueous		Adheres to Sample Acceptance Policy		

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc. www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com

EAI ID#: 228084

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Client Sample ID:	System Influent						
Lab Sample ID:	228084.01						
Matrix:	aqueous						
Date Sampled:	6/22/21						
Date Received:	6/23/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	23	. 2	10	ug/L	6/25/21 18:49	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	6/25/21 18:49	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	6/25/21 18:49	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	228084.02						
Matrix:	aqueous						
Date Sampled:	6/22/21						
Date Received:	6/23/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	6/24/21 14:03	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	6/24/21 14:03	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	6/24/21 14:03	8260B SIM	AM

EAI ID#: 228084

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Client Sample ID:	LGAC In						
Lab Sample ID:	228084.03						
Matrix:	aqueous						
Date Sampled:	6/23/21						
Date Received:	6/23/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	2000	100	500	ug/L	6/25/21 19:50	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	6/25/21 19:50	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	6/25/21 19:50	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	228084.04						
Matrix:	aqueous						
Date Sampled:	6/23/21						
Date Received:	6/23/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	98	20	100	ug/L	6/25/21 19:19	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	6/25/21 19:19	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	6/25/21 19:19	8260B SIM	AM

Client Sample ID:	LGAC Out						
Lab Sample ID:	228084.05						
Matrix:	aqueous						
Date Sampled:	6/23/21						
Date Received:	6/23/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.95	0.2	1	ug/L	6/24/21 14:34	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	6/24 <b>/</b> 21 14:34	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	6/24/21 14:34	8260B SIM	AM

EAI ID#: 228084

#### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Client Sample ID:	7 Rennie Rd							
Lab Sample ID:								
Matrix:	aqueous							
Date Sampled:	6/22/21							
Date Received:	6/23/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	6/24/21	15:05	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	6/24/21	15:05	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	6/24/21	15:05	8260B SIM	AM


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

Batch ID: 637601-39229/A062421DIOX1

Rennie Farm | 04.0190030.02 Task No: 22 - ST-1 Client Designation:

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	5.2 (103 %R)	4.8 (97 %R) (6 RPD	) 6/24/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	99 %R	99 %R	98 %F	R 6/24/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	101 %R	100 %R	100 %F	R 6/24/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

## QC REPORT

#### EAI ID#: 228084

Client: GZA GeoEnvironmental, Inc. (NH)

Batch ID: 637602-34847/A062521DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 - ST-1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.8 (96 %R)	5.0 (100 %R) (4 RPD	) 6/25/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	101 %R	99 %R	102 %F	R 6/25/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	102 %R	101 %R	102 %F	R 6/25/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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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



Laboratory Report for:

Eastern Analytical, Inc. ID: 228909 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 7/12/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

IN MARKE CLAR Lorraine Olashaw, Lab Director

Date



## SAMPLE CONDITIONS PAGE

EAI ID#: 228909

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Temperat Acceptable	ture upon receipt (°C): temperature range (°C): 0-6	1.3	Received on ice or cold packs (Yes/No)								
Lab ID	Sample ID	Date Received	Date/ Sam	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)				
228909.01	System Influent	7/12/21	7/12/21	11:25	aqueous		Adheres to Sample Acceptance Policy				
228909.02	System Effluent	7/12/21	7/12/21	11:45	aqueous		Adheres to Sample Acceptance Policy				

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

# LABORATORY REPORT

#### EAI ID#: 228909

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

Client Sample ID: Lab Sample ID: Matrix:	System Influent 228909.01 aqueous				Date of Prepara Me مە	ation: thod: alvst:	624.1 SG			
Date Sampled:	7/12/21				1	Inite	ua/i			
Date Sampleu.	7/12/21					mio.	ug/L			
Date Received:	11   Z/Z		Dilution	Date					Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyze
Chloromethane	< 2	2	1	7/12/21	4-Bromofluorobenzene (surr)	100	%R			7/12/21
Vinyl chloride	< 1	1	1	7/12/21	1.2-Dichlorobenzene-d4	98	%R			7/12/21
Bromomethane	< 2	2	1	7/12/21	Toluene-d8 (surr)	103	%R			7/12/21
Chloroethane	< 2	2	1	7/12/21						
Trichlorofluoromethane	< 2	2	1	7/12/21						
Acrolein	< 50	50	1	7/12/21						
Acetone	< 10	10	1	7/12/21						
1,1-Dichloroethene	< 0.5	0.5	1	7/12/21						
Methylene chloride	<1	1	1	7/12/21						
Acrylonitrile	< 50	50	1	7/12/21						
Methyl-t-butyl ether(MTB	3E) < 1	1	1	7/12/21						
trans-1.2-Dichloroethene	e < 1	1	1	7/12/21						
Vinvl acetate	< 10	10	1	7/12/21						
1.1-Dichloroethane	< 1	1	1	7/12/21						
cis-1.2-Dichloroethene	< 1	1	1	7/12/21						
2-Butanone(MEK)	< 10	10	1	7/12/21						
Chloroform	< 1	1	1	7/12/21						
1.1.1-Trichloroethane	< 1	1	1	7/12/21						
Carbon tetrachloride	< 1	1	1	7/12/21						
Benzene	< 1	1	1	7/12/21						
1.2-Dichloroethane	< 1	1	1	7/12/21						
Trichloroethene	< 1	1	1	7/12/21						
1.2-Dichloropropane	< 1	1	1	7/12/21						
Bromodichloromethane	< 0.5	0.5	1	7/12/21						
2-Chloroethylvinylether	< 2	2	1	7/12/21						
4-Methvi-2-pentanone(M	(IBK) < 10	10	1	7/12/21						
cis-1.3-Dichloropropene	< 0.5	0.5	1	7/12/21						
Toluene	< 1	1	1	7/12/21						
trans-1.3-Dichloroproper	ne < 0.5	0.5	1	7/12/21						
1.1.2-Trichloroethane	< 1	1	1	7/12/21						
2-Hexanone	< 10	10	1	7/12/21						
Tetrachloroethene	< 1	.0	1	7/12/21						
Dibromochloromethane	< 1	1	1	7/12/21						
Chlorobenzene	< 1	1	1	7/12/21						
Ethvibenzene	< 1	1	1	7/12/21						
mp-Xvlene	< 1	1	1	7/12/21						
o-Xvlene	< 1	1	1	7/12/21						
Styrene	< 1	1	1	7/12/21						
Bromoform	< 2	2	1	7/12/21						
1 1 2 2-Tetrachloroethan	e <1	1	1	7/12/21						
1.3-Dichlorobenzene	<1	1	1	7/12/21						
1 4-1 //CDID//DP0/2000	< 1	1	1	(/12/21						

# LABORATORY REPORT

#### EAI ID#: 228909

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

Client Sample ID: 5 Lab Sample ID: 2 Matrix: 6 Date Sampled: 7	System Effluent 228909.02 aqueous 7/12/21				Date of Prepara Me Ana U	ation: thod: alyst: Inits:	624.1 SG ug/L			
Date Received:	7/12/21									
Date Received.			Dilution	Date		_			Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyzed
Chloromethane	< 2	2	1	7/12/21	4-Bromofluorobenzene (surr)	99	%R			7/12/21
Vinyl chloride	< 1	1	1	7/12/21	1,2-Dichlorobenzene-d4	97	%R			7/12/21
Bromomethane	< 2	2	1	7/12/21	Toluene-d8 (surr)	102	%R			7/12/21
Chloroethane	< 2	2	1	7/12/21						
Trichlorofluoromethane	< 2	2	1	7/12/21						
Acrolein	< 50	50	1	7/12/21						
Acetone	< 10	10	1	7/12/21						
1,1-Dichloroethene	< 0.5	0.5	1	7/12/21						
Methylene chloride	< 1	1	1	7/12/21						
Acrylonitrile	< 50	50	1	7/12/21						
Methyl-t-butyl ether(MTBE	) <1	1	1	7/12/21						
trans-1,2-Dichloroethene	< 1	1	1	7/12/21						
Vinyl acetate	< 10	10	1	7/12/21						
1,1-Dichloroethane	< 1	1	1	7/12/21						
cis-1,2-Dichloroethene	< 1	1	1	7/12/21						
2-Butanone(MEK)	< 10	10	1	7/12/21						
Chloroform	< 1	1	1	7/12/21						
1,1,1-Trichloroethane	< 1	1	[`] 1	7/12/21						
Carbon tetrachloride	< 1	1	1	7/12/21						
Benzene	< 1	1	1	7/12/21						
1,2-Dichloroethane	< 1	1	1	7/12/21						
Trichloroethene	< 1	1	1	7/12/21						
1,2-Dichloropropane	< 1	1	1	7/12/21						
Bromodichloromethane	< 0.5	0.5	1	7/12/21						
2-Chloroethylvinylether	< 2	2	1	7/12/21						
4-Methyl-2-pentanone(MIE	3K) < 10	10	1	7/12/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	7/12/21						
Toluene	< 1	1	1	7/12/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	7/12/21						
1,1,2-Trichloroethane	< 1	1	1	7/12/21						
2-Hexanone	< 10	10	1	7/12/21						
Tetrachloroethene	< 1	1	1	7/12/21						
Dibromochloromethane	< 1	1	1	7/12/21						
Chlorobenzene	< 1	1	1	7/12/21						
Ethylbenzene	< 1	1	1	7/12/21						
mp-Xylene	< 1	1	1	7/12/21						
o-Xylene	< 1	1	1	7/12/21						
Styrene	< 1	1	1	7/12/21						
Bromoform	< 2	2	1	7/12/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	7/12/21						
1,3-Dichlorobenzene	< 1	1	1	7/12/21						
1,4-Dichlorobenzene	< 1	1	1	7/12/21						
1,2-Dichlorobenzene	< 1	1	1	7/12/21						

## QC REPORT

#### EAI ID#: 228909

Batch ID: 637617-02770/A071221V6241

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name         (RL)         (MDL)         LCSD         Analysis Date         Units         LImits         RPD Method           Chloromethane         < 2         < 8.76         25 (124 %R)         24 (113 %R) (4 RPD)         7/122021         uglt         1 - 205         60         624.1           Bromomethane         < 2         < 5.54         27 (173 %R)         22 (103 %R) (4 RPD)         7/122021         uglt         45 - 155         61         624.1           Chloromethane         < 2         < 5.54         27 (105 %R)         22 (100 %R) (4 RPD)         7/122021         uglt         40 - 160         78         624.1           Accibiein         < 60         < 5.54         < 600 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)         60 (91 %R)		Blank	Blank							
Chloromethane         < 2	Parameter Name	(RL)	(MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Vinyl chloride         < 1         < 34         23 (117 %R)         22 (110 %R) (6 RPD)         7/12/2021         ug/L         5 - 195         66         624.1           Brommethane         < 2	Chloromethane	< 2	< .876	25 (124 %R)	24 (118 %R) (4 RPD	) 7/12/2021	ug/L	1 - 205	60	624.1
Bromomethane         < 2         < .554         27 (135 %R)         26 (130 %R) (4 RPD)         7/12/2021         ug/L         15 - 185         61         624.1           Chloreshane         < 2	Vinyl chloride	< 1	< .34	23 (117 %R)	22 (110 %R) (6 RPD	) 7/12/2021	ug/L	5 - 195	66	624.1
Chloroethane       <2	Bromomethane	< 2	< .554	27 (135 %R)	26 (130 %R) (4 RPD	) 7/12/2021	ug/L	15 - 185	61	624.1
Trichiorofluoromethane       < 2	Chloroethane	< 2	< .232	22 (112 %R)	22 (108 %R) (4 RPD	) 7/12/2021	ug/L	40 - 160	78	624.1
Acrolein       < 50	Trichlorofluoromethane	< 2	< .375	21 (105 %R)	21 (103 %R) (2 RPD	) 7/12/2021	ug/L	50 - 150	84	624.1
Acetone       <10	Acrolein	< 50	< .548	< 50 (91 %R)	< 50 (91 %R) (0 RPD	) 7/12/2021	ug/L	60 - 140	60	624.1
1,1-Dichloroethene       < 0.5	Acetone	< 10	< 2.387	19 (94 %R)	19 (93 %R) (1 RPD	) 7/12/2021	ug/L	40 - 160	20	624.1
Methylene chloride       <1	1,1-Dichloroethene	< 0.5	< .37	20 (100 %R)	19 (96 %R) (4 RPD	) 7/12/2021	ug/L	50 - 150	32	624.1
Acrylonitrile       < 50	Methylene chloride	< 1	< .545	19 (95 %R)	18 (91 %R) (4 RPD	) 7/12/2021	ug/L	60 - 140	28	624.1
Methyl-t-butyl ether(MTBE)       <1	Acrylonitrile	< 50	< .302	< 50 (93 %R)	< 50 (92 %R) (1 RPD	) 7/12/2021	ug/L	60 - 140	60	624.1
trans-1,2-Dichloroethene       <1	Methyl-t-butyl ether(MTBE)	< 1	< .519	20 (98 %R)	19 (95 %R) (3 RPD	) 7/12/2021	ug/L	70 - 130	20	624.1
Vinyl acetate       < 10       < .557       20 (102 % R)       20 (101 % R) (1 RPD)       7/12/2021       ug/L       40 - 160       20       624.1         1,1-Dichloroethane       < 1	trans-1,2-Dichloroethene	< 1	< .298	20 (98 %R)	19 (95 %R) (3 RPD	) 7/12/2021	ug/L	. 70 - 130	45	624.1
1,1-Dichloroethane       <1	Vinyl acetate	< 10	< .557	20 (102 %R)	20 (101 %R) (1 RPD	) 7/12/2021	ug/L	40 - 160	20	624.1
cis-1,2-Dichloroethene       < 1	1,1-Dichloroethane	< 1	< .085	20 (100 %R)	20 (98 %R) (3 RPD	) 7/12/2021	ug/L	70 - 130	40	624.1
2-Butanone(MEK)       < 10	cis-1,2-Dichloroethene	< 1	< .238	20 (99 %R)	20 (99 %R) (1 RPD	) 7/12/2021	ug/L	. 70 - 130	20	624.1
Chloroform       < 1       < .36       20 (100 %R)       20 (99 %R) (1 RPD)       7/12/2021       ug/L       70 - 135       54       624.1         1,1,1-Trichloroethane       < 1	2-Butanone(MEK)	< 10	< .206	19 (94 %R)	19 (93 %R) (1 RPD	) 7/12/2021	ug/L	. 40 - 160	20	624.1
1,1,1-Trichloroethane       <1	Chloroform	< 1	< .36	20 (100 %R)	20 (99 %R) (1 RPD	) 7/12/2021	ug/L	. 70 - 135	54	624.1
Carbon tetrachloride<1<.26120 (100 %R)20 (99 %R) (1 RPD)7/12/2021ug/L70 - 13041624.1Benzene<1	1,1,1-Trichloroethane	< 1	< .227	20 (101 %R)	20 (99 %R) (1 RPD	) 7/12/2021	ug/L	. 70 - 130	36	624.1
Benzene       < 1	Carbon tetrachloride	< 1	< .261	20 (100 %R)	20 (99 %R) (1 RPD	) 7/12/2021	ug/L	. 70 - 130	41	624.1
1,2-Dichloroethane       < 1	Benzene	< 1	< .312	20 (99 %R)	20 (98 %R) (1 RPD	) 7/12/2021	ug/L	. 65 - 135	61	624.1
Trichloroethene< 1< 3.5519 (97 %R)19 (97 %R)19 (97 %R) (0 RPD)7/12/2021ug/L65 - 13548624.11,2-Dichloropropane< 1	1,2-Dichloroethane	< 1	< .21	20 (101 %R)	20 (99 %R) (1 RPD	) 7/12/2021	ug/L	. 70 - 130	49	624.1
1,2-Dichloropropane       <1	Trichloroethene	< 1	< .359	19 (97 %R)	19 (97 %R) (0 RPD	) 7/12/2021	ug/L	. 65 - 135	48	624.1
Bromodichloromethane< 0.5< 0.07921 (106 %R)21 (104 %R) (2 RPD)7/12/2021ug/L65 - 13556624.72-Chloroethylvinylether< 2	1,2-Dichloropropane	< 1	< .285	20 (101 %R)	20 (100 %R) (1 RPD	) 7/12/2021	ug/L	. 35 - 165	55	624.1
2-Chloroethylvinylether       < 2	Bromodichloromethane	< 0.5	< .079	21 (106 %R)	21 (104 %R) (2 RPD	) 7/12/2021	ug/L	. 65 - 135	56	624.1
4-Methyl-2-pentanone(MIBK)       < 10	2-Chloroethylvinylether	< 2	< .493	21 (103 %R)	21 (103 %R) (0 RPD	) 7/12/2021	ug/L	. 1 - 225	71	624.1
cis-1,3-Dichloropropene       < 0.5	4-Methyl-2-pentanone(MIBK)	< 10	< .411	18 (92 %R)	19 (93 %R) (0 RPD	) 7/12/2021	ug/L	40 - 160	20	624.1
Toluene< 1< .1920 (98 %R)20 (100 %R) (2 RPD)7/12/2021ug/L70 - 13041624.1trans-1,3-Dichloropropene< 0.5	cis-1,3-Dichloropropene	< 0.5	< .101	20 (102 %R)	20 (100 %R) (1 RPD	) 7/12/2021	ug/L	. 25 - 175	58	624.1
trans-1,3-Dichloropropene< 0.5< .0822 (108 %R)22 (109 %R) (1 RPD)7/12/2021ug/L50 - 15086624.11,1,2-Trichloroethane< 1	Toluene	< 1	< .19	20 (98 %R)	20 (100 %R) (2 RPD	) 7/12/2021	ug/L	. 70 - 130	41	624.1
1,1,2-Trichloroethane       < 1	trans-1,3-Dichloropropene	< 0.5	< .08	22 (108 %R)	22 (109 %R) (1 RPD	) 7/12/2021	ug/L	. 50 - 150	86	624.1
2-Hexanone       < 10	1,1,2-Trichloroethane	< 1	< .203	20 (101 %R)	20 (102 %R) (1 RPD	) 7/12/2021	ug/L	. 70 - 130	45	624.1
Tetrachloroethene       < 1	2-Hexanone	< 10	< .28	19 (94 %R)	19 (96 %R) (2 RPD	) 7/12/2021	ug/L	. 40 - 160	20	624.1
Dibromochloromethane       < 1	Tetrachloroethene	< 1	< .371	19 (95 %R)	19 (96 %R) (2 RPD	) 7/12/2021	ug/L	70 - 130	39	624.1
Chlorobenzene       < 1	Dibromochloromethane	< 1	< .225	21 (103 %R)	21 (104 %R) (1 RPD	) 7/12/2021	ug/L	. 70 - 135	50	624.1
Ethylbenzene       < 1	Chlorobenzene	< 1	< .247	20 (99 %R)	20 (100 %R) (1 RPC	) 7/12/2021	ug/L	. 65 - 135	53	624.1
mp-Xylene <1 < .476 41 (102 %R) 41 (102 %R) (0 RPD) 7/12/2021 ug/L 70 - 130 20 624.1	Ethylbenzene	< 1	< .213	20 (102 %R)	21 (103 %R) (1 RPD	) 7/12/2021	ug/L	. 60 - 140	63	624.1
	mp-Xylene	< 1	< .476	41 (102 %R)	41 (102 %R) (0 RPD	) 7/12/2021	ug/L	70 - 130	20	624.1
o-Xylene <1 < .298 20 (102 %R) 20 (102 %R) (0 RPD) 7/12/2021 ug/L 70 - 130 20 624.4	o-Xylene	< 1	< .298	20 (102 %R)	20 (102 %R) (0 RPD	) 7/12/2021	ug/L	- 70 - 130	20	624.1
Styrene <1 < .727 21 (104 %R) 21 (104 %R) (0 RPD) 7/12/2021 ug/L 70 - 130 20 624.	Styrene	< 1	< .727	21 (104 %R)	21 (104 %R) (0 RPD	) 7/12/2021	ug/L	70 - 130	20	624.1
Bromoform <2 < .282 22 (108 %R) 22 (108 %R) (0 RPD) 7/12/2021 ug/L 70 - 130 42 624.	Bromoform	< 2	< .282	22 (108 %R)	22 (108 %R) (0 RPD	) 7/12/2021	ug/L	- 70 - 130	42	624.1
1,1,2,2-Tetrachloroethane <1 < .381 20 (101 %R) 20 (102 %R) (1 RPD) 7/12/2021 ug/L 60 - 140 61 624.	1,1,2,2-Tetrachloroethane	< 1	< .381	20 (101 %R)	20 (102 %R) (1 RPD	) 7/12/2021	ug/l	_ 60 - 140	61	624.1
1,3-Dichlorobenzene <1 < .426 20 (102 %R) 20 (102 %R) (0 RPD) 7/12/2021 ug/L 70 - 130 43 624.	1,3-Dichlorobenzene	< 1	< .426	20 (102 %R)	20 (102 %R) (0 RPC	) 7/12/2021	ug/l	_ 70 - 130	43	624.1
1,4-Dichlorobenzene <1 < .375 20 (100 %R) 20 (101 %R) (1 RPD) 7/12/2021 ug/L 65 - 135 57 624.	1.4-Dichlorobenzene	< 1	< .375	20 (100 %R)	20 (101 %R) (1 RPC	) 7/12/2021	ug/l	65 - 135	5 57	624.1
1,2-Dichlorobenzene <1 < .218 20 (101 %R) 20 (102 %R) (0 RPD) 7/12/2021 ug/L 65 - 135 57 624.	1,2-Dichlorobenzene	< 1	< .218	20 (101 %R)	20 (102 %R) (0 RPD	) 7/12/2021	ug/L	- 65 - 135	5 57	624.1
4-Bromofluorobenzene (surr) 101 %R 101 %R 101 %R 7/12/2021 % Rec 70 - 130 624.	4-Bromofluorobenzene (surr)	101 %R		101 %R	101 %	R 7/12/2021	% Red	c 70 - 130	)	624.1
1,2-Dichlorobenzene-d4 (surr) 102 %R 100 %R 99 %R 7/12/2021 % Rec 70 - 130 624.	1,2-Dichlorobenzene-d4 (surr)	102 %R		100 %R	99 %	R 7/12/2021	% Red	c 70 - 130	)	624.1
Toluene-d8 (surr) 100 %R 99 %R 101 %R 7/12/2021 % Rec 70 - 130 624.	Toluene-d8 (surr)	100 %R		99 %R	101 %	R 7/12/2021	% Red	c 70 - 130	)	624.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Eastern Analytical, Inc.

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# LABORATORY REPORT

#### EAI ID#: 228909

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

Client Sample ID:	System Influent							
Lab Sample ID:	228909.01							
Matrix:	aqueous							
Date Sampled:	7/12/21							
Date Received:	7/12/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
Phenol	< 1	1	1	ug/L	7/13/21	15:10	625.1	JMR
2-Fluorophenol (surr)	41 %R			%	7/13/21	15:10	625.1	JMR
Phenol-d6 (surr)	27 %R			%	7/13/21	15:10	625.1	JMR

# LABORATORY REPORT

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

Client Sample ID:	System Effluent							
Lab Sample ID:	228909.02							
Matrix:	aqueous							
Date Sampled:	7/12/21							
Date Received:	7/12/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
Phenol	< 1	1	1	ug/L	7/13/21	15:32	625.1	JMR
2-Fluorophenol (surr)	42 %R			%	7/13/21	15:32	625.1	JMR
Phenol-d6 (surr)	28 %R			%	7/13/21	15:32	625.1	JMR

EAI ID#: 228909

## QC REPORT

#### EAI ID#: 228909

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Batch ID: 637616-75019/A071221E6251

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
alpha-Terpineol	< 5	< .17	19 (77 %R)	19 (75 %R) (2 RPI	) 7/12/2021	ug/L	40 - 140	20	625.1
Phenol	< 1	< .12	15 (30 %R)	15 (30 %R) (2 RPI	) 7/12/2021	ug/L	5 - 120	64	625.1
2-Chlorophenoi	< 1	< .2	32 (63 %R)	31 (62 %R) (1 RPI	) 7/12/2021	ug/L	23 - 134	61	625.1
2,4-Dichlorophenol	< 1	< .31	37 (74 %R)	36 (73 %R) (2 RPI	) 7/12/2021	ug/L	39 - 135	50	625,1
2,4,5-Trichlorophenol	< 1	< .33	38 (77 %R)	38 (76 %R) (1 RPI	) 7/12/2021	ug/L	30 - 130	20	625.1
2,4,6-Trichlorophenol	< 1	< .48	39 (78 %R)	38 (76 %R) (2 RPI	) 7/12/2021	ug/L	37 - 144	58	625.1
Pentachlorophenol	< 5	< 1.1	38 (77 %R)	39 (79 %R) (2 RPI	) 7/12/2021	ug/L	14 - 176	86	625.1
2-Nitrophenol	< 5	< .44	36 (72 %R)	35 (70 %R) (2 RPI	) 7/12/2021	ug/L	29 - 182	55	625.1
4-Nitrophenol	< 5	< .22	17 (34 %R)	17 (34 %R) (2 RPI	) 7/12/2021	ug/L	1 - 132	131	625.1
2,4-Dinitrophenol	< 10	< 1.5	41 (81 %R)	42 (84 %R) (3 RPI	) 7/12/2021	ug/L	1 - 191	132	625.1
2-Methylphenol	< 1	< .4	31 (62 %R)	31 (61 %R) (2 RPI	) 7/12/2021	ug/L	30 - 130	20	625.1
3/4-Methylphenol	< 1	< .42	31 (62 %R)	31 (61 %R) (1 RPI	) 7/12/2021	ug/L	30 - 130	20	625.1
2,4-Dimethylphenol	< 5	< 1.4	35 (71 %R)	35 (69 %R) (2 RPI	) 7/12/2021	ug/L	32 - 120	58	625.1
4-Chloro-3-methylphenol	< 1	< .26	37 (74 %R)	37 (73 %R) (2 RPI	) 7/12/2021	ug/L	22 - 147	73	625.1
4,6-Dinitro-2-methylphenol	< 5	< 3.3	42 (84 %R)	43 (86 %R) (2 RPI	) 7/12/2021	ug/L	1 - 181	203	625.1
Benzoic Acid	< 50	< 5.7	< 50 (21 %R)	< 50 (23 %R) (13 RPI	) 7/12/2021	ug/L	15 - 130	50	625.1
N-Nitrosodimethylamine	< 1	< .11	12 (47 %R)	12 (47 %R) (1 RPI	) 7/12/2021	ug/L	15 - 140	20	625.1
n-Nitroso-di-n-propylamine	< 0.5	< .22	18 (73 %R)	18 (72 %R) (2 RPI	) 7/12/2021	ug/L	1 - 230	87	625.1
n-Nitrosodiphenylamine	< 1	< .068	20 (79 %R)	20 (80 %R) (1 RPI	) 7/12/2021	ug/L	40 - 140	20	625.1
bis(2-Chloroethyl)ether	< 1	< .11	17 (70 %R)	17 (68 %R) (3 RPI	) 7/12/2021	ug/L	12 - 158	108	625.1
bis(2-chloroisopropyl)ether	< 1	< .13	17 (69 %R)	17 (67 %R) (2 RPI	D) 7/12/2021	ug/L	36 - 166	76	625.1
bis(2-Chloroethoxy)methane	< 1	< .2	19 (75 %R)	18 (73 %R) (2 RPI	) 7/12/2021	ug/L	33 - 184	54	625.1
1,3-Dichlorobenzene	< 1	< .15	15 (60 %R)	15 (60 %R) (0 RPI	D) 7/12/2021	ug/L	40 - 140	20	625.1
Acetophenone	< 10	< 8.8	18 (74 %R)	18 (72 %R) (2 RPI	) 7/12/2021	ug/L	40 - 140	20	625.1
1,4-Dichlorobenzene	< 1	< .11	15 (61 %R)	15 (61 %R) (0 RPI	D) 7/12/2021	ug/L	40 - 140	20	625.1
1,2-Dichlorobenzene	< 1	< .13	15 (62 %R)	15 (62 %R) (0 RPI	D) 7/12/2021	ug/L	40 - 140	20	625.1
1,2,4-Trichlorobenzene	< 1	< .09	17 (67 %R)	17 (67 %R) (1 RPI	0) 7/12/2021	ug/L	. 44 - 142	50	625.1
2-Chloronaphthalene	< 1	< .11	19 (76 %R)	19 (74 %R) (2 RPI	D) 7/12/2021	ug/L	. 60 - 120	24	625.1
4-Chlorophenyl-phenylether	< 1	< .059	20 (80 %R)	20 (79 %R) (1 RPI	) 7/12/2021	ug/L	. 25 - 158	61	625.1
4-Bromophenyl-phenylether	< 1	< .14	20 (80 %R)	20 (80 %R) (0 RPI	) 7/12/2021	ug/L	. 53 <b>-</b> 127	43	625.1
Hexachloroethane	< 1	< .15	16 (62 %R)	16 (63 %R) (1 RPI	0) 7/12/2021	ug/L	. 40 - 120	52	625.1
Hexachlorobutadiene	< 1	< .073	16 (66 %R)	16 (66 %R) (0 RPI	D) 7/12/2021	ug/L	. 24 - 120	62	. 625.1
Hexachlorocyclopentadiene	< 5	< .21	18 (70 %R)	17 (69 %R) (1 RPI	D) 7/12/2021	ug/L	. 15 - 140	20	) 625.1
Hexachlorobenzene	< 1	< .12	20 (80 %R)	20 (80 %R) (1 RPI	0) 7/12/2021	ug/L	. 1 - 152	55	625.1
4-Chloroaniline	< 1	< .13	20 (80 %R)	20 (79 %R) (2 RPI	0) 7/12/2021	ug/L	. 15 - 140	20	) 625.1
2,3-Dichloroaniline	< 1	< .11	19 (77 %R)	19 (75 %R) (2 RP	D) 7/12/2021	ug/L	. 40 - 140	20	) 625.1
2-Nitroaniline	< 5	< .18	21 (83 %R)	21 (83 %R) (1 RP	D) 7/12/2021	ug/L	. 40 - 140	20	) 625.1
3-Nitroaniline	< 5	< .13	21 (83 %R)	21 (82 %R) (1 RP	D) 7/12/2021	ug/L	40 - 140	20	) _, 625.1
4-Nitroaniline	< 5	< .23	21 (84 %R)	21 (84 %R) (1 RP	D) 7/12/2021	ug/L	40 - 140	20	) 625.1
Aniline	< 1	< .13	18 (73 %R)	18 (72 %R) (1 RP	D) 7/12/2021	ug/L	40 - 140	20	) 625.1
Benzyl alcohol	< 10	< .35	18 (73 %R)	18 (70 %R) (3 RP	D) 7/12/2021	ug/L	40 - 140	20	) 625.1
Nitrobenzene	< 1	< .21	18 (71 %R)	17 (70 %R) (2 RP	D) 7/12/2021	ug/L	35 - 180	62	2 625.1
Isophorone	< 1	< .16	19 (78 %R)	19 (76 %R) (2 RP	D) 7/12/2021	ug/l	_ 21 - 196	93	3 625.1
2,4-Dinitrotoluene	< 2	< .14	22 (86 %R)	22 (87 %R) (0 RP	D) 7/12/2021	ug/L	_ 39 - 139	) 42	2 625.1
2,6-Dinitrotoluene	< 2	< .14	21 (83 %R)	21 (82 %R) (1 RP	D) 7/12/2021	ug/l	_ 50 - 158	3 48	3 625.1
Benzidine (estimated)	< 5	< .41	18 (71 %R)	17 (68 %R) (5 RP	D) 7/12/2021	ug/l	_ 1 - 200	) 50	) 625.1

Eastern Analytical, Inc.

## QC REPORT

#### EAI ID#: 228909

Client: GZA GeoEnvironmental, Inc. (NH)

Batch ID: 637616-75019/A071221E6251

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
3,3'-Dichlorobenzidine	< 1	< .27	20 (79 %R)	20 (81 %R) (2 RPI	) 7/12/2021	ug/L	1 - 262	108	625.1
Pyridine	< 5	< .18	11 (42 %R)	10 (41 %R) (3 RPI	) 7/12/2021	ug/L	15 - 140	20	625.1
Azobenzene	< 1	< .14	20 (81 %R)	20 (82 %R) (0 RPI	) 7/12/2021	ug/L	40 - 140	20	625.1
Carbazole	< 1	< .12	20 (82 %R)	21 (83 %R) (2 RPI	) 7/12/2021	ug/L	40 - 140	20	625.1
Dimethylphthalate	< 1	< .11	20 (82 %R)	20 (81 %R) (1 RPI	) 7/12/2021	ug/L	1 - 120	183	625.1
Diethylphthalate	< 5	< . <b>1</b> 1	22 (87 %R)	22 (87 %R) (0 RPE	) 7/12/2021	ug/L	1 - 120	100	625.1
Di-n-butylphthalate	< 5	< .64	22 (90 %R)	23 (90 %R) (1 RPI	) 7/12/2021	ug/L	1 - 120	47	625.1
Butylbenzylphthalate	< 5	< .14	22 (88 %R)	22 (88 %R) (0 RPI	) 7/12/2021	ug/L	1 - 152	60	625.1
bis(2-Ethylhexyl)phthalate	< 5	< .27	22 (87 %R)	22 (88 %R) (1 RPI	) 7/12/2021	ug/L	8 - 158	82	625.1
Di-n-octylphthalate	< 5	< .2	22 (89 %R)	23 (90 %R) (1 RPI	) 7/12/2021	ug/L	4 - 146	69	625.1
Dibenzofuran	< 1	< .11	20 (79 %R)	19 (78 %R) (2 RPI	) 7/12/2021	ug/L	40 - 140	20	625.1
Naphthalene	< 1	< .088	17 (67 %R)	17 (67 %R) (1 RPI	) 7/12/2021	ug/L	21 - 133	65	625.1
2-Methylnaphthalene	< 1	< .11	17 (70 %R)	17 (69 %R) (2 RPI	) 7/12/2021	ug/L	40 - 140	65	625.1
1-Methylnaphthalene	< 1	< .12	18 (71 %R)	17 (69 %R) (3 RPI	) 7/12/2021	ug/L	40 - 140	65	625.1
Acenaphthylene	< 1	< .11	18 (71 %R)	17 (70 %R) (2 RPI	) 7/12/2021	ug/L	33 - 145	74	625.1
Acenaphthene	< 1	< .11	22 (86 %R)	21 (85 %R) (2 RPI	) 7/12/2021	ug/L	47 - 145	48	625.1
Fluorene	< 1	< .093	18 (74 %R)	18 (73 %R) (1 RPI	) 7/12/2021	ug/L	59 - 121	38	625.1
Phenanthrene	< 1	< .11	19 (74 %R)	19 (75 %R) (1 RPI	) 7/12/2021	ug/L	54 - 120	39	625.1
Anthracene	< 1	< .13	18 (74 %R)	19 (75 %R) (1 RPI	) 7/12/2021	ug/L	27 <b>-</b> 133	66	625.1
Fluoranthene	< 1	< .12	18 (73 %R)	19 (75 %R) (2 RPI	0) 7/12/2021	ug/L	26 - 137	66	625.1
Pyrene	< 1	< .11	18 (74 %R)	18 (73 %R) (1 RPI	0) 7/12/2021	ug/L	52 - 120	49	625.1
Benzo[a]anthracene	< 1	< .17	18 (73 %R)	19 (74 %R) (1 RPI	0) 7/12/2021	ug/L	33 - 143	53	625.1
Chrysene	< 1	< .14	19 (75 %R)	19 (75 %R) (0 RPI	D) 7/12/2021	ug/L	17 - 168	87	625.1
Benzo[b]fluoranthene	< 1	< .095	19 (76 %R)	19 (76 %R) (0 RPI	0) 7/12/2021	ug/L	24 - 159	71	625.1
Benzo[k]fluoranthene	< 1	< .14	19 (77 %R)	19 (77 %R) (0 RPI	0) 7/12/2021	ug/L	11 - 162	63	625.1
Benzo[a]pyrene	< 1	< .058	19 (75 %R)	19 (76 %R) (0 RPI	D) 7/12/2021	ug/L	. 17 - 163	72	625.1
Indeno[1,2,3-cd]pyrene	< 1	< .13	19 (76 %R)	19 (76 %R) (0 RPI	0) 7/12/2021	ug/L	. 1 - 171	99	625.1
Dibenz[a,h]anthracene	< 1	< .16	19 (75 %R)	19 (75 %R) (0 RPI	D) 7/12/2021	ug/L	. 1 - 227	126	625.1
Benzo[g,h,i]perylene	< 1	< .14	19 (74 %R)	18 (74 %R) (0 RPI	D) 7/12/2021	ug/L	. 1 - 219	97	625.1
n-Decane	< 5	< .16	13 (54 %R)	14 (54 %R) (1 RPI	D) 7/12/2021	ug/L	. 40 - 140	20	625.1
n-Octadecane	< 5	< .5	21 (82 %R)	21 (82 %R) (0 RPI	0) 7/12/2021	ug/L	. 40 - 140	20	625.1
2-Fluorophenol (surr)	32 %R		38 %R	38 %	R 7/12/2021	% Rec	: 15 - 110		625.1
Phenol-d6 (surr)	23 %R		28 %R	28 %	R 7/12/2021	% Rec	: 15 - 110		625.1
2,4,6-Tribromophenol (surr)	71 %R		79 %R	79 %	R 7/12/2021	% Rec	: 15 <b>- 1</b> 10		625.1
Nitrobenzene-D5 (surr)	61 %R		71 %R	70 %	R 7/12/2021	% Rec	30 - 130		625.1
2-Fluorobiphenyl (surr)	66 %R		76 %R	74 %	R 7/12/2021	% Rec	30 - 130		625.1
p-Terphenyl-D14 (surr)	78 %R		82 %R	82 %	R 7/12/2021	% Rec	; 30 - 130		625.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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## LABORATORY REPORT

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

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	228909.01	228909.02						
Matrix:	aqueous	aqueous						
Date Sampled:	7/12/21	7/12/21			An	alysis		
Date Received:	7/12/21	7/12/21	RL	Units	Date	Time	Method	Analyst
Solids Suspended	< 5	< 5	5	mg/L	7/14/21	16:21	2540D-11	HEH
Chloride	2400	2500	1000	ug/L	7/13/21	14:52	300.0	ΑΤΑ
Cyanide Total	< 5	< 5	5	ug/L	7/20/21	17:50	ASTM D7511	-09 KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	7/15/21	9:35	TM NH3-00	1 SEL
Cyanide Free	< 5	< 5	5	ug/L	7/14/21	15:57	OIA-1677-0	9 KD

#### EAI ID#: 228909

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

Client Designation: Rennie Farm RGP / 04.0190030.02

				Da	te of				
Parameter Name	Blank	LCS	LCSD	Units Analysis		Limits RPD		Method	
Solids Suspended	< 5	89 (95 %R)	91 (97 %R) (2 RPD)	mg/L 7/*	14/21	90 - 110	20	2540D-11	
Chloride	< 1000	20 (98 %R)	19 (96 %R) (3 RPD)	ug/L 7/*	13/21	90 - 110	20	300.0	
Cyanide Total	< 5	110 (114 %R)	110 (114 %R) (0 RPD)	ug/L 7/2	20/21	84 <b>-</b> 116	20	ASTM D7511-09	
Cyanide Free	< 5	260 (104 %R)	210 (82 %R) (23 RPD)	ug/L 7/1	14/21	82 - 132	20	OIA-1677-09	
Ammonia-N	< 0.05	2.0 (99 %R)	1.9 (97 %R) (2 RPD)	mg/L 7/1	15/21	87 - 104	20	TM NH3-001	

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

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:	228909.01	228909.02						
Matrix:	aqueous	aqueous						
Date Sampled:	7/12/21	7/12/21		Analytica	1	Analysis		
Date Received:	7/12/21	7/12/21	RL	Matrix	Units	Date	Method Ar	nalyst
Chromium (VI)	< 10	< 10	10	AqTot	ug/L	7/13/21	7196A	RJ
Antimony	< 0.5	< 0.5	0.5	AqTot	ug/L	7/13/21	200.8	DS
Arsenic	< 0.5	< 0.5	0.5	AqTot	ug/L	7/13/21	200.8	DS
Cadmium	< 0.1	< 0.1	0.1	AqTot	ug/L	7/13/21	200.8	DS
Chromium	< 0.5	< 0.5	0.5	AqTot	ug/L	7/13/21	200.8	DS
Copper	1.1	< 0.1	0.1	AqTot	ug/L	7/13/21	200.8	DS
Iron	500	< 50	50	AqTot	ug/L	7/13/21	200.8	DS
Lead	< 0.1	< 0.1	0.1	AqTot	ug/L	7/13/21	200.8	DS
Mercury	< 0.1	< 0.1	0.1	AqTot	ug/L	7/13/21	200.8	DS
Nickel	0.74	0.24	0.1	AqTot	ug/L	7/13/21	200.8	DS
Selenium	< 0.5	< 0.5	0.5	AqTot	ug/L	7/13/21	200.8	DS
Silver	< 0.1	< 0.1	0.1	AqTot	ug/L	7/13/21	200.8	DS
Zinc	1.5	1.9	1	AqTot	ug/L	7/13/21	200.8	DS
Chromium (III)	< 10	< 10	10	Aq⊤ot	ug/L	7/13/21	200.8	DS

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Units Analysis	S Limits RPD	N
		Method
mg/L 7/13/21	85 - 115 20	200.8
mg/L 7/13/21	85 - 115 20	200.8
mg/L 7/13/21	85 - 115 20	200.8
mg/L 7/13/21	85 - 115 20	200.8
. mg/L 7/13/21	85 - 115 20	200.8
. mg/L 7/13/21	l 85 - 115 20	200.8
. mg/L 7/13/21	l 85 - 115 20	200.8
mg/L 7/13/2	85 - 115 20	200.8
mg/L 7/13/21	85 - 115 20	200.8
mg/L 7/13/21	1 85 - 115 20	200.8
mg/L 7/13/2	1 85 - 115 20	200.8
mg/L 7/13/2	1 85 - 115 20	200.8
mg/L 7/13/2	1 85 - 115 20	7196A
	mg/L 7/13/21 mg/L 7/13/21 mg/L 7/13/21 mg/L 7/13/21 mg/L 7/13/21 mg/L 7/13/21 mg/L 7/13/22 mg/L 7/13/22 mg/L 7/13/22 mg/L 7/13/22 mg/L 7/13/22 mg/L 7/13/22 mg/L 7/13/22	mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L         7/13/21         85 - 115         20           mg/L

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc.



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

July 22, 2021

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

RE: Project: 228909 Pace Project No.: 70180744

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on July 16, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures



#### **REPORT OF LABORATORY ANALYSIS**

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Page 1 of 9



#### CERTIFICATIONS

 Project:
 228909

 Pace Project No.:
 70180744

...

#### Pace Analytical Services Long Island

575 Broad Hollow Rd, Melville, NY 11747 Connecticut Certification #: PH-0435 Delaware Certification # NY 10478 Maryland Certification #: 208 Massachusetts Certification #: M-NY026 New Hampshire Certification #: 2987

New Jersey Certification #: NY158 New York Certification #: 10478 Primary Accrediting Body Pennsylvania Certification #: 68-00350 Rhode Island Certification #: LAO00340 Virginia Certification # 460302

#### **REPORT OF LABORATORY ANALYSIS**

ace Analytical www.pacelabs.com

#### ANALYTICAL RESULTS

 Project:
 228909

 Pace Project No.:
 70180744

Sample: SYSTEM INFLUENT	Lab ID: 70	180744001	Collected: 07/12/2	1 11:25	Received: (	07/16/21 10:20 N	/latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Me Pace Analytic	thod: EPA 16 al Services -	024B Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		07/21/21 12:25	67-64-1	
1,2-Dichloroethane-d4 (S)	85	%	78-114	1		07/21/21 12:25	17060-07-0	
4-Bromofluorobenzene (S)	94	%	83-111	1		07/21/21 12:25	460-00-4	
Toluene-d8 (S)	97	%	80-131	1		07/21/21 12:25	2037-26-5	

#### **REPORT OF LABORATORY ANALYSIS**



#### ANALYTICAL RESULTS

 Project:
 228909

 Pace Project No.:
 70180744

Sample: SYSTEM EFFLUENT	Lab ID: 701	80744002	Collected: 07/12/2	1 11:45	Received: 07	7/16/21 10:20 N	Natrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Meth Pace Analytica	nod: EPA 16 I Services -	S24B Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		07/21/21 12:03	67-64-1	
1,2-Dichloroethane-d4 (S)	87	%	78-114	1		07/21/21 12:03	17060-07-0	
4-Bromofluorobenzene (S)	95	%	83-111	1		07/21/21 12:03	460-00-4	
Toluene-d8 (S)	94	%	80-131	1		07/21/21 12:03	2037-26-5	

#### **REPORT OF LABORATORY ANALYSIS**



4-Bromofluorobenzene (S)

Toluene-d8 (S)

%

%

#### QUALITY CONTROL DATA

Project:	228909								
Pace Project No.:	70180744								
QC Batch:	218725		Analysis	Method:	EF	PA 1624B	<u></u>	• • <u></u>	\
QC Batch Method:	EPA 1624B		Analysis	Description:	16	624B MSV			
			Laborato	ry:	Pa	ace Analytical	Services - Mel	lville	
Associated Lab San	nples: 701807	44001, 70180744002							
METHOD BLANK:	1102833		Mat	rix: Water					
Associated Lab San	nples: 701807	44001, 70180744002							
			Blank	Reporti	ng				
Paran	neter	Units	Result	Limit		Analyzed	d Quali	fiers	
Acetone		mg/L	<0.0	10 0	.010	07/21/21 11	:20		
1,2-Dichloroethane-	d4 (S)	%	i	89 78	-114	07/21/21 11	:20		
4-Bromofluorobenze	ene (S)	%	1	89 83	3-111	07/21/21 11	:20		
Toluene-d8 (S)		%	!	95 80	-131	07/21/21 11	:20		
LABORATORY CON	ITROL SAMPLE	: 1102834					<u></u>	· · <u>· </u>	
			Spike	LCS		LCS	% Rec		
Param	eter	Units	Conc.	Result	0	% Rec	Limits	Qualifiers	
Acetone		mg/L	0.05	0.049		98	20-200		
1,2-Dichloroethane-o	d4 (S)	%				85	78-114		

95

91

83-111

80-131

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:
 228909

 Pace Project No.:
 70180744

#### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

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#### QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 228909

 Pace Project No.:
 70180744

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70180744001 70180744002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	218725 218725		

REPORT OF LABORATORY ANALYSIS

# **CHAIN-OF-CUSTODY RECORD**

Eastern Analytical, Inc. professional laboratory and drilling services

EALID# 228000

Sample ID	Date Sampled Matrix aParameters	EAI ID# 228909 Page 1 Sample Notes
System Influent	7/12/2021 aqueous Subcontract - EPA Method 1624 Isotope Dilution 11:25	ĩ
System Effluent	7/12/2021 aqueous Subcontract - EPA Method 1624 Isotope Dilution 11:45	
	anna an an an an an an an an an an an an	WO#:70180744

Results Needed: Preferred Date: Standard EAI ID# 228909 PO #:55296 EAHD# 228909 **Project State: NH RUSH Due Date: QC Deliverables** Data Deliverable (circle) Project ID: 4965 Excel NH EMD EQuIS ME EGAD PACE ANALYTICAL Company Notes about project: Call prior to analyzing, if RUSH charges will be applied. Email login confirmation, pdf of results and 575 BROAD HOLLOW ROAD Address invoice to customerservice@easternanalytical.com. Samples Collected by: MELVILLE, NY 11747 Address **1624 Acetone Only** Jehne 15/21 Account# **Relinquished** by Date/Time **Received** by Phone # (631)694-3040 Page **Relinquished by** Date/Time **Received** by 7/14/21 10:20 Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 customerservice@easternanalytical.com Phone: (603)228-0525 1-800-287-0525 ω 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

	Sar	nple	e Condit	ion Upon Reg		0744
Pace Analytical	lient Nan	ne-		Profe	MOT · / ULU	
	Mone Hon	10.			PM: KMM Due	Date: 07/23/21
Courier: Fed Ex DUPS USPS Client	Commer	cial [	Pace 🗆 Ot	her	CLIENT: EASTA	
Tracking #: 7 12 ×46 59	90	1	9646	6429		
Custody Seal on Cooler/Box Present: Yes		Seals	intact: Y	es No	Temperature Blank P	resent: Yes No
Packing Material: 🗆 Bubble Wrap 🔄 Bubble Ba	ags 🗆 Zij	oloc j	None 🗆 C	)ther	Type of Ice: Wet	lue None
Thermometer Used: TH091 C	orrection	Fact	or: 70	.0	Samples on ice, cooling	j process has begun
Cooler Temperature(°C):	ooler Ter	npera	ture Correc	ted[°C]: 5-C	Date/Time 5035A kits	placed in freezer
Temp should be above freezing to 6.0°C USDA Regulated Soil { [] N/A, water sample]				Date and Initials	of person examining conter	ts: CH 7/16/21
Did samples originate in a guarantine zone with	n the lloit	ad Sta	tes AL AR C	A FL GA ID LA MS	NC Did samples orignate f	rom a foreign source
NM. NY. OK OR SC TN TX or VA (check man)?		⊐N∩			including Hawaii and Pi	ierto Ricol? Ves X No
If Yes to either question fill out a Regulated	Soil Chec	klist l	F-I I-C-010)	and include with S	CUR/COC nanerwork	
					COMMENTS:	
Chain of Custody Present:	Nes t	⊐No		1.		
Chain of Custody Filled Out:	Yes [	DNo		2.		
Chain of Custody Relinquished:	Ves (	⊐No	and the second second second second second second second second second second second second second second second	3.		
Sampler Name & Signature on COC:	iyes [	⊐No	⊡N#A	4.		
Samples Arrived within Hold Time:	Yes C	No		5.		
Short Hold Time Analysis (<72hr):	iYes C	No		6.		
Rush Turn Around Time Requested:	Yes 🖌	No		7	and a second second second second second second second second second second second second second second second	
Sufficient Volume: (Triple volume provided for p	Yes C	JNo		8.		n de la companya de la companya de la companya de la companya de la companya de la companya de la companya de l La companya de la companya de la companya de la companya de la companya de la companya de la companya de la comp
Correct Containers Used:	Yes D	٦No		9.		
-Pace Containers Used:	Yes C	No				1.5
Containers Intact:	Yes [	JNo		10.,		
Filtered volume received for Dissolved tests	Yes C	No	ZN/A	11. Note i	f sediment is visible in the diss	olved container,
Sample Labels match COC:	Yes C	No	t 🥵 all i ghair an air	12.		
-Includes date/time/ID, Matrix: SL (WI) DIL			<u> </u>		- <del>,</del> ilan o	ant for the second second second second second second second second second second second second second second s
All containers needing preservation have been	Yes C	INO	AN/A	13. 🗆 HNG	$D_3 \Box H_2 SO_4 \Box NaOH$	
checked?			Я,			
pH paper Lot #	h			Comolo #		
All containers needing preservation are found to	De			Sample #		
		a la	THE A			
$[(\Pi NO_3, \Pi_2 SU_4, \Pi U), NOUH>9 SUITUE, []$	res L	UNIL	DIN/A			
Exercises VOA Caliform TOC/DOC Oil and Crook			/			
DDD / 2015 (water)	SE,			Initial when compl	otod. Not # of oddod	Data /Time preservative
Per Mathad VOA all is checked after analysis				initial when compl	mracenyative	bite/ nine preservative
Samples checked for decolorination		No		14		
KI starch test strins Lot #	103 L	JINO .	7	11-		
Residual chlorine strips Lot #				Positive	for Res Chlorine? Y N	
SM 4500 CN samples checked for sulfide?	les r	Nn	TIN/A	15.		
Lead Acetate Strips Lot #						
Headspace in VOA Vials [>6mm]	/es 📧	Ko	2NHA	16. CITA	Ga	
Trip Blank Present:	les 🗖	No	ZN/A	17.		
Trip Blank Custody Seals Present	íes □	No	ÆN/A			
Pace Trip Blank Lot # (if applicable)	•		· · · · .	· · ·	<u> </u>	e <u>te l'anna an an an an an</u> an an
Client Notification/ Resolution:	1996 - F. 1996 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 19			Field Data Require	d? Y ∦ N	
Person Contacted:				Date/T	ime:	-
Comments/ Resolution:			<u></u>			
		2022 - ²⁰ 10				
					and and an and an and an and an and an and an and an and an and an and an and an and an and an and an and an an	

• PM (Project Manager) review is documented electronically in LIMS,



Friday, July 23, 2021

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

Project ID: 228909 SDG ID: GCI73116 Sample ID#s: CI73116 - CI73117

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Stille

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 UT Lab Registration #CT00007 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

# Sample Id Cross Reference

July 23, 2021

SDG I.D.: GCI73116

Project ID: 228909

Client Id	Lab Id	Matrix
SYSTEM INFLUENT	CI73116	WATER
SYSTEM EFFLUENT	CI73117	WATER





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



Analysis Report July 23, 2021	FOR:	Attn: Front Office Eastern Analytical 25 Chenell Drive Concord, NH 03301	

72

Completed

Sample Inform	<u>nation</u>		<u>Custody In</u>	<u>formatio</u>	<u>n</u>	Date	<u> </u>	lime
Matrix:	WATER		Collected by	/:		07/12	2/21	11:25
Location Code:	EASTANAL	-NH	Received by	r: S	W	07/14	4/21	11:02
Rush Request:	Standard		Analyzed by	: s	ee "By" below			
P.O.#:	55297		Laborato	Si Phoe	DG II nix II	D: GCI73116 D: CI73116		
Project ID:	228909							
Client ID:	SYSTEM INFL	UENT						
Parameter		Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
1 A diaxana				·				
1,4-dioxane		5.9	0.20	ug/l	1	07/21/21	AW	EPA522
QA/QC Surrogat	es	72		%	1	07/21/21	AW	70 - 130 %

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.

%

G/G EPA522

07/20/21

#### Comments:

% 1,4-dioxane-d8

Extraction for 1,4-Dioxane

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director July 23, 2021 Reviewed and Released by: Rashmi Makol, Project Manager



Laboratories, Inc.



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

Analysis July 23	Report , 2021		FOR: Attn: Front Office Eastern Analytica 25 Chenell Drive Concord, NH 033				e :al ⊛ :301			
Sample_Inform	Custody Information			Date	Time					
Matrix:	WATER		Collect	ed by:			07/12	2/21	11:45	
Location Code:	EASTANA	L-NH	Receiv	ed by:	SW		07/14	4/21	11:02	
Rush Request:StandardP.O.#:55297			Analyzed by: see "By" below Laboratory Data							
						SDG ID: GCI73 [.] Phoenix ID: CI7311				
Project ID:	228909									
Client ID:	SYSTEM EF	FLUENT								
Parameter		Result	RL/ PQL	Uni	ts	Dilution	Date/Time	Ву	Reference	
1,4-dioxane				. <u></u> <u></u>						
1,4-dioxane		0.21	0.20	ug	1	1	07/21/21	AW	EPA522	
QA/QC Surrogat % 1,4-dioxane-d8	tes }	75		%		1	07/21/21	AW	70 - 130 %	
Extraction for 1,4-	-Dioxane	Completed					07/20/21	G/G	EPA522	

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

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

#### Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

July 23, 2021 Reviewed and Released by: Rashmi Makol, Project Manager





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

## OA/OC Data

July 23, 2021		<u>(</u>	QA/QC Data				SDG I.D.: GCI73116				
Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
		No: CI73116 (CI7	3116 (173117)								
QAVQC Batch 364206 (ug/l)	, ao oampio		3110, 01/311/)								
<u>1,4dioxane - Water</u>	, do oampro		5110, 0 <i>1</i> /3117)								
<u>1,4dioxane - Water</u> 1,4-dioxane	ND	0.20	95	92	3.2	103			70 - 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 July 23, 2021

Friday, July	23, 2021	2021 Sample Criteria Exceedances Reput							
Criteria:	None		CC172116						
State:	NH		GCI/3110-1	LAS I ANAL-INIT			RI	1911	
SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria	Units	

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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.

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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



# Analysis Comments

July 23, 2021

SDG I.D.: GCI73116

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**

H. LOWCIP Eastern Analytical, Inc.⁵⁰ professional laboratory and drilling services

#### EALID# 222000 Dago 1

Sample ID	Date Sampled	l Matrix	aParameters		Sample Notes
System Influent	7/12/2021 11:25	aqueous	Subcontract - 1,4 Dioxane EPA Method 522	73	(l\$0
System Effluent	7/12/2021 11:45	aqueous	Subcontract - 1,4 Dioxane EPA Method 522	13	,117
			·		
EALID# 228 Company Pl Address 58 Address M Account # Phone # (8	909 Project Sta Project hoenix Environmen 37 East Middle Turr anchester , CT 060 60) 645-1102	ate: NH ID: 4965 tal Labs npike D40	Results Needed: Preferred Date: Standa RUSH Due Date: QC Deliverables A A+ X B B+ C A+ Notes about project: Email login confirmation, pdf of results and invoice to customerservice@easternanalytical.co	ird PC Da MCP Ex om. Ca	elinguished by Date/Time Collected by Relinguished by Date/Time Received by Relinguished by Date/Time Received by Relinguished by Date/Time Received by Received by Relinguished by Date/Time Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received by Received
Eastern Ana	lytical, Inc. 25 Chenell I to EAI, you will defend, inden	D <i>r. Concor</i> nnify and hold	d, NH 03301 Phone: (603)228-0525 1	-800-287-0	25 customerservice@easternanalytical.com
ising out of the perf ts or omissions of y	ormance against this chain o you as a subcontract lab, you	f custody but r officers, age	only in proportion to and to the extent such liability, loss, each age only in proportion to and to the extent such liability, loss, each age of the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the such as the s	expense, or clai	ns for injury or damages are caused by or result from the negligent or inte

## CHAIN-OF-CUSTODY RECORD

228909

GLAND

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
System Influent	7-12-21 11:25	aqueous Grabor Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg Se.Ag.Zn/Cr6/Cr3/CyanFree	.Pb.Ni. 13
Sampler confir	ms ID and parameters	s are accurate	Circle preservative/stHCL/HNOTH2SO/NaOH/MEOH Na2S203 (CE) Dissolved Sample Fie	eld Filtered
System Effluent	7-12-21 11:45	aqueous Grabor Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg Se.Ag.Zn/Cr6/Cr3/CyanFree	.Pb.Ni. 13
Sampler confir	ہ ms ID and parameter	s are accurate	Circle preservative/s(HC)(HNO(H ₂ SO)NaOH) MEOH Na ₂ S ₂ O ₃ (ICE) Dissolved Sample Field	eld Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 4965	Results Needed by: Preferred date $5 Davel{eq:product}$	ReportingOptions
Project Name Rennie Farm RGP / 04.0190030.02	Notes:	HC INO FAX PO# verbal
		EDD PDF Partial FAX Quote#:
State NH	1694 Acotono Only	EDD email PDF Invoice
Client (Pro Mgr) Jim Wieck	1624 Acetone Only	$\square$ PDF prelim, NO FAX $\square$ EQUIS
Customer GZA GeoEnvironmental. Inc. (NH)		e-mail Login Confirmation
Address 5 Commerce Park North, Suite 201		Samples Collected by: <u>/ T y U</u>
City Bedford NH 03110		al Jacolson 7-12-21
Phone 612 2000 Eav. 004 0402 (87)		Relinquished by Date/Time Received by
Phone 623-3600 Fax 624-9463 (37)	QC deliverables	1 10gh 7/12/21/453 (halm
Email: James.Wieck@gza.com		Relinquished by Date/Time Received by
Direct 232-8732		



Eastern Analytical, Inc.

professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 229151 Client Identification: Rennie Farm | 04.0190030.00 Date Received: 7/15/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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#: 229151

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

Client Designation: Rennie Farm | 04.0190030.00

Temperat Acceptable t	ure upon receipt (°C): 5 emperature range (°C): 0-6	.5	Received on ice or cold packs (Yes/No): Y						
Lab ID	Sample ID	Date Received	Date/1 Samp	Fime bled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)		
229151.01	System Mid	7/15/21	7/14/21	09:00	aqueou <b>s</b>		Adheres to Sample Acceptance Policy		
229151.02	System Influent	7/15/21	7/14/21	09:05	aqueous		Adheres to Sample Acceptance Policy		
229151.03	LGAC Effluent	7/15/21	7/15/21	08:30	aqueous		Adheres to Sample Acceptance Policy		
229151.04	LGAC Mid	7/15/21	7/15/21	08:35	aqueous		Adheres to Sample Acceptance Policy		
229151.05	LGAC Influent	7/15/21	7/15/21	08:40	aqueous		Adheres to Sample Acceptance Policy		
229151.06	7 Rennie Rd	7/15/21	7/15/21	11:40	aqueous		Adheres to Sample Acceptance Policy		
229151.07	9 Rennie Rd	7/15/21	7/15/21	12:00	aqueous		Adheres to Sample Acceptance Policy		

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.
## 

EAI ID#: 229151

Client Sample ID:	System Mid						
Lab Sample ID:	229151.01						
Matrix:	aqueous						
Date Sampled:	7/14/21						
Date Received:	7/15/21						
	Result	RL	Dilution Factor	Units	Date / Time Analvzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	7/16/21 17:48	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	7/16/21 17:48	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	7/16/21 17:48	8260B SIM	AM

Client Sample ID:	System Influent						
Lab Sample ID:	229151.02						
Matrix:	aqueous						
Date Sampled:	7/14/21						
Date Received:	7/15/21						
	<b>.</b>	Ξ.	Dilution	11	Date / Time	Mathad	Analyst
	Result	RL	Factor	Units	Analyzed	wiethoa	Analyst
1,4-Dioxane	7.1	2	10	ug/L	7/16/21 19:52	8260B SIM	AM
4-Bromofluorobenzene (surr)	105 %R			%	7/16/21 19:52	8260B SIM	AM
Toluene-d8 (surr)	103 %R			%	7/16/21 19:52	8260B SIM	AM

Client Sample ID:	LGAC Effluent						
Lab Sample ID:	229151.03						
Matrix:	aqueous						
Date Sampled:	7/15/21						
Date Received:	7/15/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.83	0.2	1	ug/L	7/16/21 18:19	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	7/16/21 18:19	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	7/16/21 18:19	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	229151.04						
Matrix:	aqueous						
Date Sampled:	7/15/21						
Date Received:	7/15/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	570	10	50	ug/L	7/16/21 20:23	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	7/16/21 20:23	8260B SIM	AM
Toluene-d8 (surr)	103 %R			%	7/16/21 20:23	8260B SIM	AM

Client Sample ID:	LGAC Influent						
Lab Sample ID:	229151.05						
Matrix:	aqueous						
Date Sampled:	7/15/21						
Date Received:	7/15/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1700	100	500	ug/L	7/16/21 20:54	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	7/16/21 20:54	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	7/16/21 20:54	8260B SIM	AM

Client Sample ID:	7 Rennie Rd			·				
Lab Sample ID:	229151.06							
Matrix:	aqueous							
Date Sampled:	7/15/21							
Date Received:	7/15/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	7/16 <b>/</b> 21	18:50	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	7/16/21	18:50	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	7/16/21	18:50	8260B SIM	AM

EAI ID#: 229151

Client Sample ID:	9 Rennie Rd							
Lab Sample ID:	229151.07							
Matrix:	aqueous							
Date Sampled:	7/15/21							
Date Received:	7/15/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	14	0.2	1	ug/L	7/16/21	19:21	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	7/16/21	19:21	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	7/16/21	19:21	8260B SIM	AM

#### EAI ID#: 229151

#### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.00

Batch ID: 637620-39164/A071621DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	5.0 (101 %R)	5.1 (102 %R) (1 RPD	) 7/16/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	103 %R	102 %R	102 %F	R 7/16/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	103 %R	103 %R	103 %F	R 7/16/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Page _____ of _____

#### CHAIN-OF-CUSTODY RECORD

#### BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

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System MID	7/14/21 0900																·								X		2		
System INFLLENT	7/14/21 0905																								X		2		
LGAC EFFluent	7/15/21 0830																								$\times$		2		
LGAC MID	7/15/21 0835												i												$\times$		2		
LGAC Influent	7/15/21 0840																								X		2		
7 Ronnie Rd	7/15/21 1140																								X		2		
9 Rennie Rd	7/15/21 1200																								×		2		
Matrix: A-Air; S-Soile GW-Ground Water WW-Waste water	r; SW-Surface Water; DW-Drini	king V	VATER;																								Gui		
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(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



Laboratory Report for:

Eastern Analytical, Inc. ID: 229674 Client Identification: Rennie Farm | 04.0190030.02 Task No: 22 ST-1 Date Received: 7/26/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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

## $\mathcal{M}$

SAMPLE CONDITIONS PAGE

EAI ID#: 229674

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 ST-1

#### Temperature upon receipt (°C): 2.6

Acceptable temperature range (°C): 0-6

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

Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)		
229674.01	System Mid	7/26/21	7/26/21 11:50	) aqueous		Adheres to Sample Acceptance Policy		
229674.02	System Effluent	7/26/21	7/26/21 11:45	aqueous		Adheres to Sample Acceptance Policy		

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc. www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com

EAI ID#: 229674

#### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 ST-1

Client Sample ID:	System Mid						
Lab Sample ID:	229674.01						
Matrix:	aqueous						
Date Sampled:	7/26/21						
Date Received:	7/26/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	7/26/21 17:33	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	7/26/21 17:33	8260B SIM	AM
Toluene-d8 (surr)	103 %R			%	7/26/21 17:33	8260B SIM	AM

Client Sample ID:	System Effluent						
Lab Sample ID:	229674.02						
Matrix:	aqueous						
Date Sampled:	7/26/21						
Date Received:	7/26/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	7/26/21 17:02	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			. %	7/26/21 17:02	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	7/26/21 17:02	8260B SIM	AM

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#### EAI ID#: 229674

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

Batch ID: 637628-95633/A072621DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22 ST-1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	5.4 (108 %R)	5.4 (108 %R) (0 RPD	) 7/26/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	102 %R	102 %R	102 %F	R 7/26/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	104 %R	104 %R	104 %F	<b>R</b> 7/26/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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#### CHAIN-OF-CUSTODY RECORD

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 229953 Client Identification: Rennie Farm | 04.0190030.00 Date Received: 7/30/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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#: 229953

1

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

Client Designation: Rennie Farm | 04.0190030.00

Temperat Acceptable t	ure upon receipt (°C): //	2.1			Received o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/ Samp	Time oled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
229953.01	System Mid	7/30/21	7/29/21	08:00	aqueous		Adheres to Sample Acceptance Policy
229953.02	System Influent	7/30/21	7/29/21	08:05	aqueous		Adheres to Sample Acceptance Policy
229953.03	3 Dairy Lane	7/30/21	7/29/21	10:10	aqueous		Adheres to Sample Acceptance Policy
229953.04	LGAC Effluent	7/30/21	7/30/21	08:00	aqueous		Adheres to Sample Acceptance Policy
229953.05	LGAC Mid	7/30/21	7/30/21	08:05	aqueous		Adheres to Sample Acceptance Policy
229953.06	LGAC Influent	7/30/21	7/30/21	08:10	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

# $\mathcal{M}$

LABORATORY REPORT

EAI ID#: 229953

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

Client Designation: Rennie Farm | 04.0190030.00

Client Sample ID:	System Mid						
Lab Sample ID:	229953.01						
Matrix:	aqueous						
Date Sampled:	7/29/21						
Date Received:	7/30/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	8/4/21 15:18	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	8/4/21 15:18	8260B SIM	AM
Toluene-d8 (surr)	103 %R			%	8/4/21 15:18	8260B SIM	AM

Client Sample ID:	System Influent						
Lab Sample ID:	229953.02						
Matrix:	aqueous						
Date Sampled:	7/29/21						
Date Received:	7/30/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	6.3	0.2	1	ug/L	8/4/21 16:51	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	8/4/21 16:51	8260B SIM	AM
Toluene-d8 (surr)	104 %R			%	8/ <b>4</b> /21 16:51	8260B SIM	AM

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LABORATORY REPORT

EAI ID#: 229953

#### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.00

Client Sample ID:	3 Dairy Lane							
Lab Sample ID:	229953.03							
Matrix:	aqueous							
Date Sampled:	7/29/21							
Date Received:	7/30/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time /zed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	8/4/21	15:49	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	8/4/21	15:49	8260B SIM	AM
Toluene-d8 (surr)	103 %R			%	8/4/21	15:49	8260B SIM	AM

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LABORATORY REPORT

#### EAI ID#: 229953

4

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

Client Designation: Rennie Farm | 04.0190030.00

Client Sample ID:	LGAC Effluent						
Lab Sample ID:	229953.04						
Matrix:	aqueous						
Date Sampled:	7/30/21						
Date Received:	7/30/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	5.3	0.2	1	ug/L	8/4/21 16:20	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	8/4/21 16:20	8260B SIM	AM
Toluene-d8 (surr)	104 %R			%	8/4 <b>/</b> 21 16:20	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	229953.05						
Matrix:	aqueous						
Date Sampled:	7/30/21						
Date Received:	7/30/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1500	20	100	ug/L	8/4/21 17:22	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	8/4/21 17:22	8260B SIM	AM
Toluene-d8 (surr)	103 %R			%	8/4/21 17:22	8260B SIM	AM

Client Sample ID:	LGAC Influent						
Lab Sample ID:	229953.06						
Matrix:	aqueous						
Date Sampled:	7/30/21						
Date Received:	7/30/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	960	100	500	ug/L	8/4/21 17:53	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	8/4/21 17:53	8260B SIM	AM
Toluene-d8 (surr)	104 %R			%	8/4/21 17:53	8260B SIM	AM

#### EAI ID#: 229953

5

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

Batch ID: 637636-82748/A080421DIOX1

Client Designation: Rennie Farm | 04.0190030.00

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	5.2 (104 %R)	5.3 (105 %R) (1 RPD	) 8/4/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	103 %R	103 %R	102 %F	R 8/4/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	104 %R	104 %R	103 %F	R 8/4/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Page _____ of ____

#### CHAIN-OF-CUSTODY RECORD

#### BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

229953

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SAMPLE I.D.	Sampling Date / Time *If Composite, Indicate Both Start & Finish Date / Time	AATRIX (SEE BELOW)	SRAB/*COMPOSITE	24.2 24.2 BTEX 524.2 MTBE ONLY 260B 6.24 VTICS 4 Dioxare	021B BTEX HALOS	DISB GRO MAVPH	270D 625 SVTICs EDB DBCP BN A BN PAH	PH8100 LI L2	OISB DRO MAEPH	EST 608 PCB 608 EST 8081A PCB 8082	IL & GREASE 1664 TPH 1664	CLP 1311 ABN METALS DC PEST HERB	ISSOLVED METALS (LIST BELOW)	DTAL METALS (LIST BELOW)	S TSS TDS SPEE. CON.	8 CI F SO4 02 NO3 NO3NO2	OD CBOD T. ALK.	KN NH3 T. PHOS. O. PHOS.	H T. Res. Chlorine	OD PHENOLS TOC DOC	dtal Cvanide Total Sulfide	eactive Cyanide Reactive Sulfide Ashpoint Ignitability	dal Colform E. Coli ecal Colform	eterococci eterotrophic Plate Count	, 4 dx low lovel		t of fourtheses	l Mi	Notes Oh Vial #
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MATRIX: A-AIR; S-SOIL; GW-GROUND WATER WW-WASTE WATER PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; N	 r; SW-Surface Water; DW-Drin  a-NaOH; M-MEOH Nのぬ	king V	 /ATER;																								2	P	
PROJECT MANAGER: Jawney COMPANY: GZA Geos ADDRESS: <u>5 commerce</u> CITY: Bed Ford	S Wieck Environmental Park North STATE NH	ZIP:	03	5110	D. QA Re	ATE /QC PORT	NE	EDER Leve B	): L	c		<b>Repo</b> Prelin	DRTINO	<b>G OF</b> S OR	<b>PTION</b> No	 IS	T	емр СЕ? <b>(</b>	Ø. Yes	) No	°C	Me Oth Sai	TALS: er Met M <b>PLES</b>	8 ALS: FIEL	RCRA D FIL	3   TERED	PP 	FE, N	1N Рв, Cu 
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M Eastern Analy	Metrical No. 25 Chenell Drive Concord, NH 03301 Tel: 603.228.0525 I.800.287.0525 E-Mail: CustomerService@EasternAnalytical.com www.EasternAnalytical.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



Laboratory Report for:

Eastern Analytical, Inc. ID: 230511 Client Identification: Rennie Farm | 04.0190030.02 Task No: 22, ST 1 Date Received: 8/11/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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



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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22, ST 1

Temperat Acceptable t	ture upon receipt (°C): 4 emperature range (°C): 0-6	.6		ļ	Received o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/ Samj	Time oled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
230511.01	System Influent	8/11/21	8/10/21	09:40	aqueous		Adheres to Sample Acceptance Policy
230511.02	System Mid	8/11/21	8/10/21	09:45	aqueous		Adheres to Sample Acceptance Policy
230511.03	LGAC Effluent	8/11/21	8/11/21	08:30	aqueous		Adheres to Sample Acceptance Policy
230511.04	LGAC Mid	8/11/21	8/11/21	08:35	aqueous		Adheres to Sample Acceptance Policy
230511.05	LGAC Influent	8/11/21	8/11/21	08:40	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

EAI ID#: 230511

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22, ST 1

Client Sample ID:	System Influent						
Lab Sample ID:	230511.01						
Matrix:	aqueous						
Date Sampled:	8/10/21						
Date Received:	8/11/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	18	0.2	1	ug/L	8/17/21 15:06	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	8/17/21 15:06	8260B SIM	AM
Toluene-d8 (surr)	104 %R			%	8/17/21 15:06	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	230511.02						
Matrix:	aqueous						
Date Sampled:	8/10/21						
Date Received:	8/11/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	8/17/21 14:35	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	8/17/21 14:35	8260B SIM	AM
Toluene-d8 (surr)	104 %R			%	8/17/21 14:35	8260B SIM	AM

EAI ID#: 230511

Client Sample ID:	LGAC Effluent			·			
Lab Sample ID:	230511.03						
Matrix:	aqueous						
Date Sampled:	8/11/21						
Date Received:	8/11/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.52	0.2	1	ug/L	8/17/21 15:37	8260B SIM	AM
4-Bromofluorobenzene (surr)	103 %R			%	8/17/21 15:37	8260B SIM	AM
Toluene-d8 (surr)	104 %R			%	8/17/21 15:37	8260B SIM	AM

LGAC Mid						
230511.04						
aqueous						
8/11/21						
8/11/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
77	20	100	ug/L	8/17/21 16:08	8260B SIM	AM
105 %R			%	8/17/21 16:08	8260B SIM	AM
104 %R			%	8/17/21 16:08	8260B SIM	AM
	LGAC Mid 230511.04 aqueous 8/11/21 8/11/21 Result 77 105 %R 104 %R	LGAC Mid 230511.04 aqueous 8/11/21 8/11/21 <b>Result RL</b> 77 20 105 %R 104 %R	LGAC Mid 230511.04 aqueous 8/11/21 8/11/21 <b>Result RL Factor</b> 77 20 100 105 %R 104 %R	LGAC Mid 230511.04 aqueous 8/11/21 8/11/21 <b>Dilution</b> <b>Result</b> <b>77</b> 20 100 ug/L 105 %R %	LGAC Mid 230511.04 aqueous 8/11/21 8/11/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed</b> 77 20 100 ug/L 8/17/21 16:08 105 %R % 8/17/21 16:08	LGAC Mid 230511.04 aqueous 8/11/21 8/11/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed Method</b> <b>77</b> 20 100 ug/L 8/17/21 16:08 8260B SIM <b>105 %R</b> % 8/17/21 16:08 8260B SIM <b>104 %R</b> % 8/17/21 16:08 8260B SIM

LGAC Influent						
230511.05						
aqueous						
8/11/21						
8/11/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
1000	100	500	ug/L	8/17/21 16:39	8260B SIM	AM
103 %R			%	8/17/21 16:39	8260B SIM	AM
104 %R			%	8/17/21 16:39	8260B SIM	AM
	LGAC Influent 230511.05 aqueous 8/11/21 8/11/21 Result 1000 103 %R 104 %R	LGAC Influent 230511.05 aqueous 8/11/21 8/11/21 Result RL 1000 100 103 %R 104 %R	LGAC Influent 230511.05 aqueous 8/11/21 8/11/21 <b>Dilution</b> <b>Result RL Factor</b> 1000 100 500 103 %R 104 %R	LGAC Influent 230511.05 aqueous 8/11/21 8/11/21 <b>Dilution</b> <b>Result RL Factor Units</b> 1000 100 500 ug/L 103 %R %	LGAC Influent 230511.05 aqueous 8/11/21 8/11/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed</b> 1000 100 500 ug/L 8/17/21 16:39 103 %R % 8/17/21 16:39 104 %R % 8/17/21 16:39	LGAC Influent 230511.05 aqueous 8/11/21 8/11/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed Method</b> <b>1000</b> 100 500 ug/L 8/17/21 16:39 8260B SIM <b>103 %R</b> % 8/17/21 16:39 8260B SIM <b>104 %R</b> % 8/17/21 16:39 8260B SIM

#### EALID#: 230511

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

Batch ID: 637648-86442/A081721DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22, ST 1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	5.0 (100 %R)	5.2 (103 %R) (3 RPD	) 8/17/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	103 %R	104 %R	103 %F	R 8/17/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	104 %R	104 %R	104 %F	R 8/17/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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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



Laboratory Report for:

Eastern Analytical, Inc. ID: 230704 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 8/16/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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

<u>8.30.2</u> Date



EAI ID#: 230704

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#### 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	1.9		Received on ice or cold packs (Yes/No):									
Lab ID	Sample ID	Date Received	Date/ Samj	Time oled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)						
230704.01	System Influent	8/16/21	8/16/21	12:50	aqueous		Adheres to Sample Acceptance Policy						
230704.02	System Effluent	8/16/21	8/16/21	13:10	aqueous		Adheres to Sample Acceptance Policy						

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

#### EAI 1D#: 230704

Client Sample ID: Lab Sample ID:	System Influent 230704.01				Date of Prepara Me	ation: thod:	624.1			
Matrix:	aqueous				An	alvst:	AM			
Date Sampled:	8/16/21					Inite	ua/l			
Date Sampled.	8/16/21					mits.	uy/c			
Date Received:	0/10/21		Dilution	Date					Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyzed
Chloromethane	< 2	2	1	8/16/21	1 2-Dichlorobenzene		< 1	1	1	8/16/21
Vinvl chloride	< 1	1	1	8/16/21	4-Bromofluorobenzene (surr)	103	%R		•	8/16/21
Bromomethane	< 2	2	1	8/16/21	1 2-Dichlorobenzene-d4	101	%R			8/16/21
Chloroethane	< 2	2	1	8/16/21	Toluene-d8 (surr)	93	%R			8/16/21
Trichlorofluoromethane	< 2	2	1	8/16/21		00	/01			
Acrolein	< 50	50	1	8/16/21						
Acetone	< 10	10	1	8/16/21						
1 1-Dichloroethene	< 0.5	0.5	1	8/16/21						
Methylene chloride	< 0.0	0.5	1	8/16/21						
Acrylonitrilo	< 50	50	1	9/16/21						
Methyd t hytyl ether/MTRE	< 50 > 1	50	1	9/16/21						
trong 1.2 Dichlargethong	) <1	1	1	0/10/21						
Vinul apoteto	< 10	10	1	0/10/21						
1 1 Dichlereethene	< 10	10	1	0/10/21						
i, I-Dichloroethane	< 1	1	1	0/10/21						
	< 1	1	1	8/16/21						
	< 10	10	1	8/16/21 0/4/0/04						
	< 1	1	1	8/16/21						
	< ]	1	1	8/16/21						
Carbon tetrachioride	< 1	1	1	8/16/21						
	< 1	1	1	8/16/21						
1,2-Dichloroethane	< 1	1	1	8/16/21						
I richloroethene	< 1	1	1	8/16/21						
1,2-Dichloropropane	< 1	1	1	8/16/21						
Bromodichloromethane	< 0.5	0.5	1	8/16/21						
2-Chloroethylvinylether	< 2	2	1	8/16/21						
1,4-Dioxane	< 50	50	1	8/16/21						
4-Methyl-2-pentanone(MIE	3K) < 10	10	1	8/16/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	8/16/21						
Toluene	< 1	1	1	8/16/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	8/16/21						
1,1,2-I richloroethane	< 1	1	1	8/16/21						
2-Hexanone	< 10	10	1	8/16/21						
letrachloroethene	< 1	1	1	8/16/21						
Dibromochloromethane	< 1	1	1	8/16/21						
Chlorobenzene	< 1	1	1	8/16/21						
Ethylbenzene	< 1	1	1	8/16/21						
mp-Xylene	< 1	1	1	8/16/21			•			
o-Xylene	< 1	1	1	8/16/21						
Styrene	< 1	1	1	8/16/21						
Bromoform	< 2	2	1	8/16/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	8/16/21						
1,3-Dichlorobenzene	< 1	1	1	8/16/21						
1,4-Dichlorobenzene	< 1	1	1	8/16/21						

#### EAI ID#: 230704

Client Sample ID:	System Effluent			-	Date of Prepara	ation:			x	
Lab Sample ID:	230704.02				Met	thod:	624.1			
Matrix:	aqueous				Ana	alyst:	AM			
Date Sampled:	B/16/21				U	Inits:	ug/L			
Data Basaiyadı	8/16/21									
Date Received.			Dilution	Date		_			Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyzed
Chloromethane	< 2	2	1	8/16/21	1,2-Dichlorobenzene		< 1	1	1	8/16/21
Vinyl chloride	< 1	1	1	8/16/21	4-Bromofluorobenzene (surr)	103	%R			8/16/21
Bromomethane	< 2	2	1	8/16/21	1,2-Dichlorobenzene-d4	100	%R			8/16/21
Chloroethane	< 2	2	1	8/16/21	Toluene-d8 (surr)	91	%R			8/16/21
Trichlorofluoromethane	< 2	2	1	8/16/21						
Acrolein	< 50	50	1	8/16/21						
Acetone	< 10	10	1	8/16/21						
1,1-Dichloroethene	< 0.5	0.5	1	8/16/21						
Methylene chloride	< 1	1	1	8/16/21						
Acrylonitrile	< 50	50	1	8/16/21						
Methyl-t-butyl ether(MTBE	i) <1	1	1	8/16/21						
trans-1,2-Dichloroethene	< 1	1	1	8/16/21						
Vinyl acetate	< 10	10	1	8/16/21						
1,1-Dichloroethane	< 1	1	1	8/16/21						
cis-1,2-Dichloroethene	< 1	1	1	8/16/21	·					
2-Butanone(MEK)	< 10	10	1	8/16/21						
Chloroform	< 1	1	1	8/16/21						
1,1,1-Trichloroethane	< 1	1	1	8/16/21						
Carbon tetrachloride	< 1	1	1	8/16/21						
Benzene	< 1	1	1	8/16/21						
1,2-Dichloroethane	< 1	1	1	8/16/21						
Trichloroethene	< 1	1	1	8/16/21						
1,2-Dichloropropane	< 1	1	1	8/16/21						
Bromodichloromethane	< 0.5	0.5	1	8/16/21						
2-Chloroethylvinylether	< 2	2	1	8/16/21						
1,4-Dioxane	< 50	50	1	8/16/21						
4-Methyl-2-pentanone(MIE	3K) < 10	10	1	8/16/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	8/16/21						
Toluene	< 1	1	1	8/16/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	8/16/21						
1,1,2-Trichloroethane	< 1	1	1	8/16/21						
2-Hexanone	< 10	10	1	8/16/21						
Tetrachloroethene	< 1	1	1	8/16/21						
Dibromochloromethane	< 1	1	1	8/16/21						
Chlorobenzene	< 1	1	1	8/16/21						
Ethylbenzene	< 1	1	1	8/16/21						
mp-Xylene	< 1	1	1	8/16/21						
o-Xylene	< 1	1	1	0/10/21						
Styrene	< 1	1	1	0/10/21						
Bromotorm	< 2	2	1	0/10/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	0/10/21						
1,3-Dichlorobenzene	< 1	1	1	0/10/21						
1,4-Dichlorobenzene	< 1	1	1	8/16/21						

### QC REPORT

EAI ID#: 230704

4

Batch ID: 637647-31265/A081621V6241

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	(RL)	(MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	< .876	32 (162 %R)	32 (162 %R) (0 RPD)	) 8/16/2021	ug/L	1 - 205	60	624.1
Vinyl chloride	< 1	< .34	31 (157 %R)	31 (157 %R) (0 RPD)	) 8/16/2021	ug/L	5 - 195	66	624.1
Bromomethane	< 2	< .554	28 (138 %R)	28 (139 %R) (0 RPD)	) 8/16/2021	ug/L	15 - 185	61	624.1
Chloroethane	< 2	< .232	28 (140 %R)	27 (137 %R) (2 RPD)	) 8/16/2021	ug/L	40 - 160	78	624.1
Trichlorofluoromethane	< 2	< .375	27 (135 %R)	26 (129 %R) (4 RPD)	) 8/16/2021	ug/L	50 - 150	84	624.1
Acrolein	< 50	< .548	* < 50 (156 %	* < 50 (153 %R) (2 RPD)	) 8/16/2021	ug/L	60 - 140	60	624.1
Acetone	< 10	< 2.387	24 (122 %R)	24 (120 %R) (2 RPD)	) 8/16/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethene	< 0.5	< .37	23 (113 %R)	22 (108 %R) (5 RPD)	) 8/16/2021	ug/L	50 - 150	32	624.1
Methylene chloride	< 1	< .545	22 (109 %R)	21 (106 %R) (3 RPD)	) 8/16/2021	ug/L	60 - 140	28	624.1
Acrylonitrile	< 50	< .302	< 50 (123 %R)	< 50 (121 %R) (2 RPD)	) 8/16/2021	ug/L	60 - 140	60	624.1
Methyl-t-butyl ether(MTBE)	< 1	< .519	23 (114 %R)	22 (109 %R) (4 RPD)	) 8/16/2021	ug/L	70 - 130	20	624.1
trans-1,2-Dichloroethene	< 1	< .298	22 (112 %R)	22 (108 %R) (4 RPD)	) 8/16/2021	ug/L	70 - 130	45	624.1
Vinyl acetate	< 10	< .557	26 (130 %R)	25 (125 %R) (4 RPD)	) 8/16/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethane	< 1	< .085	23 (116 %R)	22 (111 %R) (4 RPD)	8/16/2021	ug/L	70 - 130	40	624.1
cis-1,2-Dichloroethene	< 1	< .238	23 (115 %R)	22 (111 %R) (3 RPD)	) 8/16/2021	ug/L	70 - 130	20	624.1
2-Butanone(MEK)	< 10	< .206	24 (120 %R)	23 (117 %R) (2 RPD)	) 8/16/2021	ug/L	40 - 160	20	624.1
Chloroform	< 1	< .36	22 (108 %R)	21 (106 %R) (2 RPD)	) 8/16/2021	ug/L	70 - 135	54	624.1
1,1,1-Trichloroethane	< 1	< .227	23 (114 %R)	22 (112 %R) (2 RPD)	) 8/16/2021	ug/L	70 - 130	36	624.1
Carbon tetrachloride	< 1	< .261	22 (112 %R)	22 (109 %R) (2 RPD)	) 8/16/2021	ug/L	70 - 130	41	624.1
Benzene	< 1	< .312	22 (112 %R)	22 (110 %R) (2 RPD)	) 8/16/2021	ug/L	65 - 135	61	624.1
1,2-Dichloroethane	< 1	< .21	24 (118 %R)	23 (117 %R) (1 RPD)	) 8/16/2021	ug/L	70 - 130	49	624.1
Trichloroethene	< 1	< .359	22 (111 %R)	22 (109 %R) (2 RPD)	) 8/16/2021	ug/L	65 - 135	48	624.1
1,2-Dichloropropane	< 1	< .285	23 (115 %R)	23 (113 %R) (2 RPD)	) 8/16/2021	ug/L	35 - 165	55	624.1
Bromodichloromethane	< 0.5	< .079	24 (118 %R)	23 (116 %R) (2 RPD)	) 8/16/2021	ug/L	65 - 135	56	624.1
2-Chloroethylvinylether	< 2	< .493	26 (128 %R)	25 (126 %R) (2 RPD)	) 8/16/2021	ug/L	1 - 225	71	624.1
1,4-Dioxane	< 50	<	< 50 (118 %R)	< 50 (119 %R) (1 RPD)	) 8/16/2021	ug/L	40 - 160	20	624.1
4-Methyl-2-pentanone(MIBK)	< 10	< .411	23 (117 %R)	23 (115 %R) (1 RPD)	8/16/2021	ug/L	40 - 160	20	624.1
cis-1,3-Dichloropropene	< 0.5	< .101	23 (117 %R)	23 (114 %R) (2 RPD)	8/16/2021	ug/L	25 - 175	58	624.1
Toluene	< 1	< .19	19 (97 %R)	19 (94 %R) (3 RPD)	8/16/2021	ug/L	70 - 130	41	624.1
trans-1,3-Dichloropropene	< 0.5	< .08	22 (108 %R)	21 (106 %R) (3 RPD)	8/16/2021	ug/L	50 - 150	86	624.1
1,1,2-Trichloroethane	< 1	< .203	20 (102 %R)	20 (100 %R) (3 RPD)	8/16/2021	ug/L	70 - 130	45	624.1
2-Hexanone	< 10	< .28	21 (104 %R)	20 (102 %R) (2 RPD)	8/16/2021	ug/L	40 - 160	20	624.1
Tetrachioroethene	< 1	< .371	19 (94 %R)	18 (90 %R) (4 RPD)	8/16/2021	ug/L	70 - 130	39	624.1
Dibromochloromethane	< 1	< .225	18 (91 %R)	18 (89 %R) (2 RPD)	8/16/2021	ug/L	70 - 135	50	624.1
Chlorobenzene	< 1	< .247	20 (98 %R)	20 (98 %R) (0 RPD)	8/16/2021	ug/L	65 - 135	53	624.1
Ethylbenzene	< 1	< .213	20 (99 %R)	20 (99 %R) (0 RPD)	8/16/2021	ug/L	60 - 140	63	624.1
mp-Xylene	< 1	< .476	39 (98 %R)	39 (98 %R) (0 RPD)	8/16/2021	ug/L	70 - 130	20	624.1
o-Xylene	< 1	< .298	20 (102 %R)	21 (103 %R) (1 RPD)	8/16/2021	ug/L	70 - 130	20	624.1
Styrene	< 1	< .727	20 (101 %R)	21 (103 %R) (1 RPD)	8/16/2021	ug/L	70 - 130	20	624.1
Bromoform	< 2	< .282	19 (94 %R)	19 (96 %R) (1 RPD)	8/16/2021	ug/L	70 - 130	42	624.1
1,1,2,2-Tetrachloroethane	< 1	< .381	19 (97 %R)	19 (95 %R) (2 RPD)	8/16/2021	ug/L	60 - 140	61	624.1
1,3-Dichlorobenzene	< 1	< .426	19 (93 %R)	19 (93 %R) (0 RPD)	8/16/2021	ug/L	70 - 130	43	624.1
1,4-Dichlorobenzene	< 1	< .375	18 (92 %R)	18 (92 %R) (0 RPD)	8/16/2021	ug/L	65 - 135	57	624.1
1,2-Dichlorobenzene	< 1	< .218	19 (93 %R)	19 (93 %R) (0 RPD)	8/16/2021	ug/L	65 - 135	57	624.1
4-Bromofluorobenzene (surr)	104 %R		107 %R	108 %R	8/16/2021	% Rec	70 - 130		624.1
1,2-Dichlorobenzene-d4 (surr)	102 %R		100 %R	100 %R	8/16/2021	% Rec	70 - 130		624.1
Toluene-d8 (surr)	92 %R		91 %R	90 %R	8/16/2021	% Rec	70 - 130		624.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Eastern Analytical, Inc.

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#### EAI ID#: 230704

Client Sample ID:	System Influent					·		
Lab Sample ID:	230704.01							
Matrix:	aqueous							
Date Sampled:	8/16/21							
Date Received:	8/16/21							
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	, N	Nethod	Analyst
Phenol	< 1	1	1	ug/L	8/20/21 12::	27	625.1	JMR
2-Fluorophenol (surr)	43 %R			%	8/20/21 12:	27	625.1	JMR
Phenol-d6 (surr)	<b>29</b> %R			%	8/20/21 12:	27	625.1	JMR
2,4,6-Tribromophenol (surr)	83 %R			%	8/20/21 12:	27	625.1	JMR

EAI ID#: 230704

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

Client Sample ID:	System Effluent						
Lab Sample ID:	230704.02						
Matrix:	aqueous						
Date Sampled:	8/16/21						
Date Received:	8/16/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
Phenol	< 1	1	1	ug/L	8/20/21 12:50	625.1	JMR
2-Fluorophenol (surr)	45 %R			%	8/20/21 12:50	625.1	JMR
Phenol-d6 (surr)	31 %R			%	8/20/21 12:50	625.1	JMR
2,4,6-Tribromophenol (surr)	82 %R			%	8/20/21 12:50	625.1	JMR

## QC REPORT

#### EAI ID#: 230704

Batch ID: 637649-56911/A081921625A1

Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
alpha-Terpineol	< 5	< .17	19 (76 %R)	18 (72 %R) (6 RPD	) 8/20/2021	ug/L	40 - 140	20	625.1
Phenol	< 1	< .12	16 (32 %R)	15 (31 %R) (6 RPD	) 8/20/2021	ug/L	5 - 120	64	625.1
2-Chlorophenol	< 1	< .2	36 (71 %R)	33 (67 %R) (6 RPD	) 8/20/2021	ug/L	23 - 134	61	625.1
2,4-Dichlorophenol	< 1	< .31	39 (78 %R)	36 (73 %R) (7 RPD	) 8/20/2021	ug/L	39 - 135	50	625.1
2,4,5-Trichlorophenol	< 1	< .33	39 (79 %R)	37 (73 %R) (7 RPD	) 8/20/2021	ug/L	30 - 130	20	625.1
2,4,6-Trichlorophenol	< 1	< .48	40 (80 %R)	37 (74 %R) (8 RPD	) 8/20/2021	ug/L	37 - 144	58	625.1
Pentachlorophenol	< 5	< 1.1	39 (77 %R)	36 (71 %R) (8 RPD	) 8/20/2021	ug/L	14 - 176	86	625.1
2-Nitrophenol	< 5	< .44	39 (79 %R)	37 (74 %R) (6 RPD	) 8/20/2021	ug/L	29 - 182	55	625.1
4-Nitrophenol	< 5	< .22	17 (35 %R)	16 (32 %R) (8 RPD	) 8/20/2021	ug/L	1 - 132	131	625.1
2,4-Dinitrophenol	< 10	< 1.5	43 (87 %R)	39 (77 %R) (11 RPD	) 8/20/2021	ug/L	1 - 191	132	625.1
2-Methylphenol	< 1	< .4	33 (67 %R)	31 (63 %R) (6 RPD	) 8/20/2021	ug/L	30 - 130	20	625.1
3/4-Methylphenol	< 1	< .42	34 (67 %R)	32 (63 %R) (6 RPD	) 8/20/2021	ug/L	30 - 130	20	625.1
2,4-Dimethylphenol	< 5	< 1.4	37 (74 %R)	35 (69 %R) (7 RPD	) 8/20/2021	ug/L	32 - 120	58	625.1
4-Chloro-3-methylphenol	< 1	< .26	39 (78 %R)	36 (73 %R) (7 RPD	) 8/20/2021	ug/L	22 - 147	73	625.1
4,6-Dinitro-2-methylphenol	< 5	< 3.3	43 (87 %R)	40 (80 %R) (8 RPC	) 8/20/2021	ug/L	1 - 181	203	625.1
N-Nitrosodimethylamine	< 1	< .11	13 (51 %R)	12 (47 %R) (7 RPD	) 8/20/2021	ug/L	15 - 140	20	625.1
n-Nitroso-di-n-propylamine	< 0.5	< .22	19 (78 %R)	18 (74 %R) (6 RPD	) 8/20/2021	úg/L	1 - 230	87	625.1
n-Nitrosodiphenylamine	< 1	< .068	21 (82 %R)	19 (75 %R) (9 RPC	) 8/20/2021	ug/L	40 - 140	20	625,1
bis(2-Chloroethyl)ether	< 1	< .11	19 (74 %R)	17 (70 %R) (6 RPD	) 8/20/2021	ug/L	12 - 158	108	625.1
bis(2-chloroisopropyl)ether	< 1	< .13	17 (67 %R)	16 (64 %R) (6 RPE	) 8/20/2021	ug/L	36 - 166	76	625.1
bis(2-Chloroethoxy)methane	< 1	< .2	19 (76 %R)	18 (73 %R) (5 RPE	) 8/20/2021	ug/L	33 - 184	54	625.1
1.3-Dichlorobenzene	< 1	< .15	17 (70 %R)	16 (65 %R) (7 RPE	) 8/20/2021	ug/L	40 - 140	20	625.1
Acetophenone	< 10	< 8.8	20 (80 %R)	19 (76 %R) (6 RPD	) 8/20/2021	ug/L	40 - 140	20	625.1
1.4-Dichlorobenzene	< 1	< .11	19 (74 %R)	17 (69 %R) (8 RPD	) 8/20/2021	ug/L	40 - 140	20	625.1
1.2-Dichlorobenzene	< 1	< .13	18 (71 %R)	17 (67 %R) (7 RPE	) 8/20/2021	ug/L	40 - 140	20	625.1
1,2,4-Trichlorobenzene	< 1	< .09	19 (75 %R)	18 (70 %R) (7 RPD	) 8/20/2021	ug/L	44 - 142	50	625.1
2-Chloronaphthaiene	< 1	< .11	20 (79 %R)	19 (74 %R) (6 RPD	) 8/20/2021	ug/L	60 - 120	24	625.1
4-Chlorophenyl-phenylether	< 1	< .059	20 (82 %R)	19 (76 %R) (7 RPE	) 8/20/2021	ug/L	25 - 158	61	625.1
4-Bromophenyl-phenylether	< 1	< .14	21 (83 %R)	19 (77 %R) (7 RPE	) 8/20/2021	ug/L	53 - 127	43	625.1
Hexachloroethane	< 1	< .15	19 (74 %R)	17 (69 %R) (7 RPI	) 8/20/2021	ug/L	40 - 120	52	625.1
Hexachlorobutadiene	< 1	< .073	19 (75 %R)	18 (71 %R) (5 RPI	) 8/20/2021	ug/L	24 - 120	62	625.1
Hexachlorocyclopentadiene	< 5	< .21	17 (69 %R)	16 (63 %R) (8 RPI	) 8/20/2021	ug/L	15 - 140	20	625.1
Hexachlorobenzene	< 1	< .12	22 (86 %R)	20 (80 %R) (8 RPE	) 8/20/2021	ug/L	. 1 - 152	55	625.1
4-Chloroaniline	< 1	< .13	21 (82 %R)	19 (78 %R) (6 RPE	) 8/20/2021	ug/L	. 15 - 140	20	625.1
2,3-Dichloroaniline	< 1	< .11	20 (80 %R)	19 (75 %R) (8 RPI	) 8/20/2021	ug/L	. 40 - 140	20	625.1
2-Nitroaniline	< 5	< .18	21 (84 %R)	20 (78 %R) (8 RPI	) 8/20/2021	ug/L	. 40 - 140	20	625.1
3-Nitroaniline	< 5	< .13	21 (85 %R)	20 (79 %R) (7 RPI	) 8/20/2021	ug/L	. 40 - 140	20	625.1
4-Nitroaniline	< 5	< .23	22 (88 %R)	20 (82 %R) (7 RPI	) 8/20/2021	ug/L	. 40 - 140	20	625.1
Aniline	< 1	< .13	18 (70 %R)	17 (66 %R) (5 RPI	) 8/20/2021	ug/L	. 40 - 140	20	625.1
Benzyl alcohol	< 10	< .35	19 (77 %R)	18 (72 %R) (7 RPI	) 8/20/2021	ug/L	40 - 140	20	625.1
Nitrobenzene	< 1	< .21	19 (74 %R)	17 (70 %R) (6 RPI	) 8/20/2021	ug/L	. 35 - 180	62	625.1
Isophorone	< 1	< .16	20 (79 %R)	18 (74 %R) (7 RPI	) 8/20/2021	ug/L	. 21 - 196	93	625.1
2,4-Dinitrotoluene	< 2	< .14	22 (87 %R)	20 (81 %R) (8 RPI	0) 8/20/2021	ug/L	. 39 - 139	42	625.1
2,6-Dinitrotoluene	< 2	< .14	21 (86 %R)	20 (79 %R) (8 RPI	0) 8/20/2021	ug/L	50 - 158	48	625.1
Benzidine (estimated)	< 5	< .41	19 (78 %R)	17 (67 %R) (14 RPI	) 8/20/2021	ug/L	1 - 200	50	625.1
3,3'-Dichlorobenzidine	< 1	< .27	20 (82 %R)	19 (76 %R) (8 RPI	0) 8/20/2021	ug/l	1 - 262	108	625.1

## 

EAI ID#: 230704

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

Batch ID: 637649-56911/A081921625A1

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Pyridine	< 5	< .18	11 (43 %R)	9.8 (39 %R) (10 RPE	) 8/20/2021	ug/L	15 - 140	20	625.1
Azobenzene	< 1	< .14	20 (78 %R)	18 (72 %R) (8 RPI	) 8/20/2021	ug/L	40 - 140	20	625.1
Carbazole	< 1	< .12	21 (83 %R)	20 (78 %R) (6 RPE	) 8/20/2021	ug/L	40 - 140	20	625.1
Dimethylphthalate	< 1	< .11	20 (82 %R)	19 (77 %R) (6 RPI	) 8/20/2021	ug/L	1 - 120	183	625.1
Diethylphthalate	< 5	< .11	22 (87 %R)	20 (82 %R) (6 RPI	) 8/20/2021	ug/L	1 - 120	100	625.1
Di-n-butylphthalate	< 5	< .64	22 (90 %R)	21 (84 %R) (6 RPI	) 8/20/2021	ug/L	1 - 120	47	625.1
Butylbenzylphthalate	< 5	< .14	22 (89 %R)	21 (83 %R) (7 RPI	) 8/20/2021	ug/L	1 - 152	60	625.1
bis(2-Ethylhexyl)phthalate	< 5	< .27	22 (89 %R)	21 (84 %R) (6 RPI	) 8/20/2021	ug/L	8 - 158	82	625.1
Di-n-octylphthalate	< 5	< .2	23 (90 %R)	21 (85 %R) (6 RPI	) 8/20/2021	ug/L	4 - 146	69	625.1
Dibenzofuran	< 1	< .11	20 (81 %R)	19 (76 %R) (7 RPI	) 8/20/2021	ug/L	40 - 140	20	625.1
Naphthalene	< 1	< .088	18 (72 %R)	17 (68 %R) (6 RPI	) 8/20/2021	ug/L	21 - 133	65	625.1
2-Methylnaphthalene	< 1	< .11	19 (75 %R)	18 (70 %R) (7 RPI	) 8/20/2021	ug/L	40 - 140	65	625.1
1-Methylnaphthalene	< 1	< .12	19 (75 %R)	18 (71 %R) (6 RPI	) 8/20/2021	ug/L	40 - 140	65	625.1
Acenaphthylene	< 1	< .11	18 (74 %R)	17 (69 %R) (7 RPE	) 8/20/2021	ug/L	33 - 145	74	625.1
Acenaphthene	< 1	< .11	19 (74 %R)	17 (70 %R) (6 RPI	) 8/20/2021	ug/L	47 - 145	48	625.1
Fluorene	< 1	< .093	19 (76 %R)	18 (71 %R) (7 RPI	) 8/20/2021	ug/L	59 - 121	38	625.1
Phenanthrene	< 1	< .11	19 (75 %R)	17 (69 %R) (8 RPI	) 8/20/2021	ug/L	54 - 120	39	625.1
Anthracene	< 1	< .13	19 (75 %R)	17 (70 %R) (8 RPI	) 8/20/2021	ug/L	27 - 133	66	625.1
Fluoranthene	< 1	< .12	18 (74 %R)	17 (69 %R) (6 RPE	) 8/20/2021	ug/L	26 - 137	66	625.1
Pyrene	< 1	< .11	18 (73 %R)	17 (69 %R) (6 RPE	) 8/20/2021	ug/L	52 - 120	49	625.1
Benzo[a]anthracene	< 1	< .17	19 (74 %R)	18 (70 %R) (6 RPE	) 8/20/2021	ug/L	33 - 143	53	625.1
Chrysene	< 1	< .14	19 (76 %R)	18 (71 %R) (7 RPI	) 8/20/2021	ug/L	17 - 168	87	625.1
Benzo[b]fluoranthene	< 1	< .095	19 (78 %R)	18 (72 %R) (8 RPI	) 8/20/2021	ug/L	24 - 159	71	625.1
Benzo[k]fluoranthene	< 1	< .14	19 (78 %R)	18 (73 %R) (7 RPI	0) 8/20/2021	ug/L	11 - 162	63	625.1
Benzo[a]pyrene	< 1	< .058	19 (77 %R)	18 (72 %R) (7 RPI	0) 8/20/2021	ug/L	17 <b>-</b> 163	72	625.1
Indeno[1,2,3-cd]pyrene	< 1	< ,13	20 (81 %R)	19 (75 %R) (7 RPI	0) 8/20/2021	ug/L	1 - 171	99	625.1
Dibenz[a,h]anthracene	< 1	< .16	20 (80 %R)	19 (75 %R) (6 RPI	0) 8/20/2021	ug/L	1 - 227	126	625.1
Benzo[g,h,i]perylene	< 1	< .14	19 (76 %R)	18 (71 %R) (7 RPI	) 8/20/2021	ug/L	1 - 219	97	625.1
n-Decane	< 5	< .16	15 (60 %R)	14 (56 %R) (7 RPI	) 8/20/2021	ug/L	40 - 140	20	625.1
n-Octadecane	< 5	< .5	20 (78 %R)	18 (73 %R) (7 RPI	0) 8/20/2021	ug/L	40 - 140	20	625.1
2-Fluorophenol (surr)	40 %R		44 %R	41 %	R 8/20/2021	% Rec	15 - 110		625.1
Phenol-d6 (surr)	29 %R		31 %R	29 %	R 8/20/2021	% Rec	15 - 110		625.1
2,4,6-Tribromophenol (surr)	87 %R		86 %R	78 %	R 8/20/2021	% Rec	15 - 110		625.1
Nitrobenzene-D5 (surr)	70 %R		75 %R	70 %	R 8/20/2021	% Rec	30 - 130		625.1
2-Fluorobiphenyl (surr)	79 %R		80 %R	74 %	R 8/20/2021	% Rec	30 - 130		625.1
p-Terphenyl-D14 (surr)	87 %R		86 %R	79 %	R 8/20/2021	% Rec	30 - 130		625.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	230704.01	230704.02						
Matrix:	aqueous	aqueous						
Date Sampled:	8/16/21	8/16/21			Ana	alysis		
Date Received:	8/16/21	8/16/21	RL	Units	Date	Time	Method A	nalyst
Solids Suspended	< 5	< 5	5	mg/L	8/18/21	12:10	2540D-11	CF
Chloride	3100	3300	1000	ug/L	8/17/21	14:16	300.0	KD
Cvanide Total	< 5	< 5	5	ug/L	8/23/21	12:28	ASTM D7511-0	9 KD
Cvanide Free	< 5	< 5	5	ug/L	8/24/21	13:24	OIA-1677-09	KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	8/18/21	15:04	TM NH3-001	SEL

QC REPORT

#### EAI ID#: 230704

#### 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)	92 (99 %R) (7 RPD)	mg/L	8/18/21	90 - 110	20	2540D-11	
Chloride	< 1000	20000 (98 %R)	19000 (97 %R) (1 RPD)	ug/L	8/17/21	90 - 110	20	300.0	
Cyanide Total	< 5	100 (103 %R)	110 (114 %R) (10 RPD)	ug/L	8/23/21	84 - 116	20	ASTM D7511-09	
Cyanide Free	< 5	220 (89 %R)	230 (90 %R) (1 RPD)	ug/L	8/24/21	82 - 132	20	OIA-1677-09	
Ammonia-N	< 0.05	2.0 (100 %R)	1.9 (94 %R) (5 RPD)	mg/L	8/18/21	87 - 104	20	TM NH3-001	

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	230704.01	230704.02						
Matrix:	aqueous	aqueous						
Date Sampled:	8/16/21	8/16/21		A		• · · • • · • · • ·		
Date Received:	8/16/21	8/16/21	RL	Matrix	u Units	Analysis Date	Method A	nalys
Chromium (VI)	< 10	< 10	10	AqTot	ug/L	8/16/21	7196A	HEF
Antimony	< 0.5	< 0.5	0.5	AqTot	ug/L	8/17/21	200.8	DS
Arsenic	< 0.5	< 0.5	0.5	AqTot	ug/L	8/17/21	200.8	DS
Cadmium	< 0.1	< 0.1	0.1	AqTot	ug/L	8/17/21	200.8	DS
Chromium	< 0.5	< 0.5	0.5	AqTot	ug/L	8/17/21	200.8	DS
Copper	1.0	0.14	0.1	AqTot	ug/L	8/17/21	200.8	DS
Iron	550	< 50	50	AqTot	ug/L	8/17/21	200.8	DS
Lead	< 0.1	< 0.1	0.1	Aq⊤ot	ug/L	8/17/21	200.8	DS
Mercury	< 0.1	< 0.1	0.1	AqTot	ug/L	8/17/21	200.8	DS
Nickel	0.77	0.29	0.1	AqTot	ug/L	8/17/21	200.8	DS
Selenium	< 0.5	< 0.5	0.5	AqTot	ug/L	8/17/21	200.8	DS
Silver	< 0.1	< 0.1	0.1	AqTot	ug/L	8/17/21	200.8	DS
Zinc	1.6	2.6	1	AqTot	ug/L	8/17/21	200.8	DS
Chromium (III)	< 10	< 10	10	AqTot	ug/L	8/17/21	200.8	DS
### Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm RGP / 04.0190030.02

					L L	Date of			
Parameter Name	Blank	LCS	LCSD		Units Ar	nalysis	Limits	RPD	Method
Antimony	< 0.0005	1.3 (133 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Arsenic	< 0.0005	1.1 (106 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Cadmium	< 0.0001	1.0 (101 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Chromium	< 0.0005	1.1 (108 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Copper	< 0.0001	1.1 (109 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Iron	< 0.05	11 (104 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Lead	< 0.0001	1.1 (110 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Mercury	< 0.0001	0.0011 (108 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Nickel	< 0.0001	1.1 (106 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Selenium	< 0.0005	1.1 (113 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Silver	< 0.0001	0.011 (109 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Zinc	< 0.001	1.0 (105 %R)		NA	mg/L	8/17/21	85 - 115	20	200.8
Chromium (VI)	< 0.01	0.29 (95 %R)		NA	mg/L	8/16/21	85 - 115	20	7196A

The laboratory control sample for Antimony did not meet the acceptance criteria. The high bias has no impact on the data reported as no Antimony was found in any of the samples.

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc.



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

August 25, 2021

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

RE: Project: 230704 Pace Project No.: 70184475

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on August 18, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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Page 1 of 9



#### CERTIFICATIONS

 Project:
 230704

 Pace Project No.:
 70184475

Pace Analytical Services Long Island 575 Broad Hollow Rd, Melville, NY 11747 Connecticut Certification #: PH-0435 Delaware Certification # NY 10478 Maryland Certification #: 208 Massachusetts Certification #: M-NY026 New Hampshire Certification #: 2987

New Jersey Certification #: NY158 New York Certification #: 10478 Primary Accrediting Body Pennsylvania Certification #: 68-00350 Rhode Island Certification #: LAO00340 Virginia Certification # 460302

### **REPORT OF LABORATORY ANALYSIS**

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#### ANALYTICAL RESULTS

 Project:
 230704

 Pace Project No.:
 70184475

Sample: SYSTEM INFLUENT	Lab ID: 701	84475001	Collected: 08/16/2	1 12:50	Received: 08	3/18/21 10:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Met Pace Analytica	hod: EPA 16 al Services -	624B - Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		08/24/21 13:42	67-64-1	
1,2-Dichloroethane-d4 (S)	101	%	78-114	1		08/24/21 13:42	17060-07-0	
4-Bromofluorobenzene (S)	102	%	83- <b>11</b> 1	1		08/24/21 13:42	460-00-4	
Toluene-d8 (S)	108	%	80-131	1		08/24/21 13:42	2037-26-5	



#### ANALYTICAL RESULTS

## Project: 230704 Pace Project No.: 70184475

Sample: SYSTEM EFFLUENT	Lab ID: 701	84475002	Collected: 08/16/2	21 13:10	Received:	08/18/21 10:00 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Met Pace Analytica	hod: EPA 16 al Services -	624B - Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		08/24/21 13:20	67-64-1	
1,2-Dichloroethane-d4 (S)	100	%	78-114	1		08/24/21 13:20	17060-07-0	
4-Bromofluorobenzene (S)	101	%	83-111	1		08/24/21 13:20	460-00-4	
Toluene-d8 (S)	106	%	80-131	1		08/24/21 13:20	2037-26-5	



### QUALITY CONTROL DATA

Project:	23070	4							
Pace Project No.:	70184	475							
QC Batch:	2232	46	Analysis Method:		EPA 1624B				
QC Batch Method:	C Batch Method: EPA 1624B		Analysis Des	cription:	1624B MSV				
			Laboratory:	I	Pace Analytical Servi				
Associated Lab Sar	nples:	70184475001, 70184475002							
METHOD BLANK:	27	Matrix:	Water		·				
Associated Lab Sar	nples:	70184475001, 70184475002							
			Blank	Reporting					
Parar	neter	Units	Result	Limit	Analyzed	Qualifiers			
Acetone		mg/L	<0.010	0.01	0 08/24/21 12:12				
1,2-Dichloroethane-	-d4 (S)	%	106	78-11	4 08/24/21 12:12				
4-Bromofluorobenze	ene (S)	%	104	83-11	1 08/24/21 12:12				
Toluene-d8 (S)		%	107	80-13	1 08/24/21 12:12				
LABORATORY CO	NTROL	SAMPLE: 1125428							

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	mg/L	0.05	0.051	102	20-200	
1,2-Dichloroethane-d4 (S)	%			102	78-114	
4-Bromofluorobenzene (S)	%			110	83-111	
Toluene-d8 (S)	%			103	80~131	

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.



#### QUALIFIERS

 Project:
 230704

 Pace Project No.:
 70184475

#### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.



### QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 230704

 Pace Project No.:
 70184475

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70184475001 70184475002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	223246 223246		

# **CHAIN-OF-CUSTODY RECORD**

Eastern Analytical, Inco professional laboratory and drilling services

FALID# 230704 Page 1

Sample ID	Date Sampled Matrix	aParameters	Sample Notes
System Influent	8/16/2021 aqueous 12:50	Subcontract - EPA Method 1624 Isotope Dilution	
System Effluent	8/16/2021 aqueous 13:10	Subcontract - EPA Method 1624 Isotope Dilution	
			WO <b># : 70184475</b> WW III W W W
EAI ID# <b>23070</b> 4	Project State: NH	Results Needed: Preferred Date: Standard	PO #: 55524 EAI ID# <b>230704</b>
	Project ID: 4965	QC Deliverables	Data Deliverable (circle)
			Excel NH EMD EQUIS ME EGAD
Address 575		Email login confirmation, pdf of results and	Call prior to analyzing, if RUSH charges will be applied.
Address MFI V	/ILE NY 11747	invoice to customerservice@easternanalytical.com.	Samples Collected by:
Account #	1 yan baa baa yi 1 1 1 1 1 1 1 1 1 1	1624 VOC Acetone Only	- Jan Jana 8/12/21 1500 CPS
Phone # (631)	394-3040		Relinquished by Date/Time Received by
р В	and and the second second second second second second second second second second second second second second s		Relinguished by Date/Time Received by
[®] Eastern Analytica	al. Inc. 25 Chenell Dr. Concorr	d NH 03301 Phone: (603)228-0525 1-800-3	287-0525 customersenvice@costomanclutical as 2/18/2/
As a subcontract lab to EAI	, you will defend, indemnify and hold	Eastern Analytical, Inc., its officers, employees, and agents harm	nless from and against any and all liability, loss, expense or claims for iniury or damag
arising out of the performar acts or omissions of you as	ce against this chain of custody but of subcontract lab, your officers, age	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 intention

<b>9</b> 7	S	ample	e Conditi	ion Upoi	n Recein	t	
Face Analytical *	Client	Name:			Proj∈	<u> 10#:70</u>	184475
4						M: KMM	Due Date: 08/25/21-
Courier: Fed Ex UPS USPS Clier	nt 🗆 Comr	nercial [	Pace 🗆 Otl	her		LIENT: EASTA	
Tracking #: 🔰 🔀 🗶 🕊	599 0	1 91	15 5	394			
Custody Seal on Cooler/Box Present:	Yes ZN	Seals	intact: 🗆 🕅	esg-Ho		Temperature Bla	nk Present: Ves No.
Packing Material: Bubble Wrap D Bubb	le Bags 🖸	Ziploc	None 🗖 C	Other		Type of Ice:	Blue None
Thermometer Used: TH091	Correc	tion Fact	or 💑 ס	.0	г	Samples on ice. co	onling process has begun
Cooler Temperature(°C)	Cooler	Tempera	ture Correc	ted]°C}	, A A	Date/Time 5035A	kits placed in freezer
Temp should be above freezing to 6 0°C		Tompord					
USDA Regulated Soil ( DN/A water same	اما			± Date and	Initials of no		notanta alto Sista
CODA Regulated Son ( EM/A, water Samp	10				unuais or pe		intents. Cr 418
Uld samples originate in a quarantine zone	within the	United Sta	ites: AL, AR, C	:a, fl, ga, id,	la, MS,∗NC,	Did samples orign	ate from a foreign source
NM, NY, OK, OR, SC, TN, TX, or VA [check map	]? L] Ye	es L'No				including Hawaii a	nd Puerto Rico)? 🗆 YeslXI No
If Yes to either question, fill out a Regula	ited Soil C	hecklist	F-LI-C-010)	and include	with SCUR/	COC paperwork.	
		an an ann an an an an an an an an an an			· · · · · · · · · · · · · · · · · · ·	COMMENTS	<b>}:</b>
Chain of Custody Present:	Ølles	DNo		11		·····	
Chain of Custody Filled Out:	ZYes	DN0.		2.		· · · · · · · · · · · · · · · · · · ·	
Chain of Custody Relinquished:	ZIYes	۵No	. ::*	3.		Construction of the second second second second second second second second second second second second second	and the second second second second second second second second second second second second second second second
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Containers Intact:	ZYes			10.			
Filtered volume received for Dissolved tests	□Yes	⊡No	jzn/a	11.	Note if sedi	ment is visible in the	dissolved container.
Sample Labels match COC:	⊠ĭĭes	⊡No	an <b>an</b> an an an an an an an an an an an an an	12.			
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checked?			1	the second second second second second second second second second second second second second second second s			
pH paper Lot #		~					
All containers needing preservation are four	nd to be			Sample #			
in compliance with method recommendatio	n?						
[HNO ₃ , H _z SO ₄ , HCl, NaOH>9 Sulfide,	⊡Yes	⊡No	⊐ <b>x</b> /A				*
NAOH>12 Cyanide)			/				:
Exceptions: VOA, Coliform, TOC/DOC, Oil and	Grease.						1
DR0/8015 (water)				Initial when	n completed:	I of # of added	Inate/Time preservative
Per Method, VDA nH is checked after analysi	č.					nreservative-	added
Samples checked for dechloripation			CALLA	14			
KI starch test strins Lot #	L100		Taxy of				
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The Black Present	⊡Yes	⊡No	ZIN/A	11.			
Inp Blank Custody Seals Present	□Yes	⊡No	DN/A				
Pace Imp Blank Lot # [if applicable]:	, 	alayaa ahaa ah	/	<u> </u>			
Client Notification/ Resolution:	· · · ·			Field Data	Required?	Y /	N
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* PM (Project Manager) review is documented	electronica	ally in LIMS					ENV-FRM-MELV-0024 00

Page 9 of 9



Monday, August 30, 2021

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

Project ID: 230704 SDG ID: GCJ00022 Sample ID#s: CJ00022 - CJ00023

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Stille

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 UT Lab Registration #CT00007 VT Lab Registration #VT11301





## Sample Id Cross Reference

August 30, 2021

SDG I.D.: GCJ00022

Project ID: 230704

Client Id	Lab Id	Matrix
SYSTEM INFLUENT	CJ00022	WATER
SYSTEM EFFLUENT	CJ00023	WATER





Analysis _{August}	<b>Report</b> 30, 2021		FOR: Attn: Front Office Eastern Analytical 25 Chenell Drive Concord, NH 03301						
Sample Information			Custody Information				Date		Time
Matrix:	WATER		Collected by	y:			08/16/2	1	12:50
Location Code:	EASTANAL	NH	Received by	y:	В		08/18/2	1	16:39
Rush Request:	Standard		Analyzed by	/:	see "By" be	low			
P.O.#:	55523		Laborate	ory I	<u>Data</u>		SDC Phoenix	) ID x ID	: GCJ00022
Proiect ID:	230704								
Client ID:	SYSTEM INFI	UENT							
Parameter		Result	RL/ PQL	Unit	s Dilutio	n Date/T	ime E	3y	Reference
1,4-dioxane									
1,4-dioxane		5.5	0.20	ug/l	1	08/26/21	1 A	W	EPA522
QA/QC Surrogate % 1,4-dioxane-d8 Extraction for 1,4-l	<b>es</b> Dioxane	90 Completed		%	1	08/26/2 08/25/2	1 A 1 G	W /G	70 - 130 % EPA522

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

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

## **Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director August 30, 2021 Reviewed and Released by: Rashmi Makol, Project Manager





Analysis August	<b>Report</b> 30, 2021		FOR: Attn: Front Office Eastern Analytical 25 Chenell Drive Concord, NH 0330			e sal 3301	D1		
Sample Inform	ation		Custody Inf	orma	ition	Date	2	Time	
Matrix: Location Code: Rush Request:	WATER EASTANAL Standard	NH	Collected by Received by Analyzed by:	:	B see "By" below	08/16 08/18	3/21 3/21	13:10 16:39	
P.O.#:	55523		Laborato	ory I	<u>Data</u>	SI Phoe	DG IE nix IE	D: GCJ00022 D: CJ00023	
Project ID: Client ID:	230704 SYSTEM EFF	LUENT							
Parameter		Result	RL/ PQL	Unit	s Dilution	Date/Time	Ву	Reference	
1,4-dioxane									
1,4-dioxane	96	ND	0.20	ug/l	1	08/26/21	AW	EPA522	
% 1,4-dioxane-d8 Extraction for 1,4-	Dioxane	92 Completed		%	1	08/26/21 08/25/21	AW G/G	70 - 130 % EPA522	

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

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

## **Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director August 30, 2021 Reviewed and Released by: Rashmi Makol, Project Manager





## QA/QC Report

August 30, 2021

## QA/QC Data

SDG	I.D.:	GCJ	00022

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 589238 (u	g/l), QC Sample	No: Cl99852 (C	J00022, CJ00023)	• •						
<u>1,4dioxane - Water</u>										
1,4-dioxane	ND	0.20	96	108	11.8	102			70 - 130	20
% 1,4-dioxane-d8	104	%	93	102	9.2	92			70 - 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 30, 2021

Monday, August 30, 2021 Sample Criteria Exceedances Report								
Criteria: None		GC.100022 - FASTANAL-NH						2
State: NH						RL	Analysis	
SampNo Acode Phoe	nix Analyte Criteria	Res	sult	RL	Criteria	Criteria	Units	

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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.

Sample ID	Date Sampled Matrix	aParameters		EALID# 230/04 Page I Sample Notes
System Influent	8/16/2021 aqueous 12:50	Subcontract - 1,4 Dioxane EPA Method 522	00	022
System Effluent	8/16/2021 aqueous 13:10	Subcontract - 1,4 Dioxane EPA Method 522	Ø	0023
EAI ID# 2307 Company Ph Address 58 Address Ma Account # Phone # (86	704 Project State: NH Project ID: 4965 oenix Environmental Labs 7 East Middle Turnpike inchester , CT 06040	Results Needed: Preferred Date: Standard States         RUSH Due Date:         QC Deliverables         A       A+         A       B+         Notes about project:         Email login confirmation, pdf of results         invoice to customerservice@easternanaly	andard ] MA MCP and tical.com.	PO #: 55523 EAI ID# 230704 <u>Data Deliverable</u> (circle) Excel NH EMD EQuIS ME EGAD Call prior to analyzing, if RUSH charges will be applied, Samples Collected by: $\delta - 18 \Rightarrow 2 \Rightarrow 1$ <u>Am Jamma</u> $\Rightarrow 123 \Rightarrow 4$ Relivering the pate/Time Received by $\delta - 18 \Rightarrow 2 \Rightarrow 1$ <u>Relivering to Bate/Time Received by</u> $\delta - 18 \Rightarrow 2 \Rightarrow 1$

Page 8 of

## CHAIN-OF-CUSTODY RECORD

GZANH

29

230704

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes # of containers
System Influent	8-16-21 12;50	aqueous Grabor Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg.Pb.Ni. Se.Ag.Zn/Cr6/Cr3/CyanFree
Sampler confirm System Effluent	। <u>ns ID and parameters</u>   <i>8-16-</i> ⊋     <i>13:10</i>	aqueous Grabor Comp	Circle preservative/s       HCL       HNO. H.SO. NaOH       MEOH       Na.S.O. (ICE)       Dissolved Sample Field Filtered         AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg.Pb.Ni.       13         Se.Ag.Zn/Cr6/Cr3/CyanFree       13
Sampler confirm	ns ID and parameters	are accurate	Circle preservative/s HCL HNO H2SO NaOH MEOH Na2S2O3 (ICE) Dissolved Sample Field Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 4965	Results Needed by: Proferred data 500 V	ReportingOptions
Project Name Rennie Farm RGP / 04.0190030.02	Notes:	HC INO FAX PO# verbal
State NH	1624 Acotone Only	Image: Box PDFImage: Partial FAXQuote#:Image: Box PDF emailImage: PDF emailImage: PDF email
Client (Pro Mgr) Jim Wieck	1624 Acetone Only	$\square$ PDF prelim, NO FAX $\square$ EQUIS
Customer GZA GeoEnvironmental, Inc. (NH)		e-mail Login Confirmation
Address 5 Commerce Park North, Suite 201		Samples Collected by: <u>AY J</u> Ice Y N
City Bedford NH 03110		al Jacolan 8-16-21
Phone 623-3600 Fax 624-9463 (37)		Relinquished by Date/Time Received by
Email: James.Wieck@gza.com	$\Box A \Box A + \Box B \Box B + \Box C \Box MA MCP$	Relinquished by Date/Time Received by
Direct 232-8732		



**Eastern Analytical, Inc.** 

professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 231176 Client Identification: Rennie Farm | 04.0190030.02 Task No: 22-ST 1 Date Received: 8/25/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Counir Dut

Lorraine Olashaw, Lab Director

<u>_____</u> Date



## SAMPLE CONDITIONS PAGE

EAI ID#: 231176

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Temperat Acceptable	4.5	Received on ice or cold packs (Yes/No): $\gamma$							
Lab ID	Sample ID	Date Received	Date/ Sam	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)		
231176.01	System Influent	8/25/21	8/23/21	09:20	aqueous		Adheres to Sample Acceptance Policy		
231176.02	System Mid	8/25/21	8/23/21	09:25	aqueous		Adheres to Sample Acceptance Policy		
231176.03	LGAC Effluent	8/25/21	8/25/21	09:00	aqueous		Adheres to Sample Acceptance Policy		
231176.04	LGAC Mid	8/25/21	8/25/21	09:05	aqueous		Adheres to Sample Acceptance Policy		
231176.05	LGAC Influent	8/25/21	8/25/21	09:10	aqueous		Adheres to Sample Acceptance Policy		
231176.06	9 Rennie Rd	8/25/21	8/25/21	13:00	aqueous		Adheres to Sample Acceptance Policy		

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc. www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com

1

EAI ID#: 231176

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Client Sample ID:	System Influent						
Lab Sample ID:	231176.01						
Matrix:	aqueous						
Date Sampled:	8/23/21						
Date Received:	8/25/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	28	2	10	ug/L	9/2/21 14:38	8260B SIM	AM
4-Bromofluorobenzene (surr)	107 %R			%	9/2/21 14:38	8260B SIM	AM
Toluene-d8 (surr)	105 %R			%	9/2/21 14:38	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	231176.02						
Matrix:	aqueous						
Date Sampled:	8/23/21						
Date Received:	8/25/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	8/30/21 17:21	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	8/30/21 17:21	8260B SIM	AM
Toluene-d8 (surr)	105 %R			%	8/30/21 17:21	8260B SIM	AM

## EAI ID#: 231176

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Client Sample ID:	LGAC Effluent						
Lab Sample ID:	231176.03						
Matrix:	aqueous						
Date Sampled:	8/25/21						
Date Received:	8/25/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.24	0.2	1	ug/L	8/30/21 17:52	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	8/30/21 17:52	8260B SIM	AM
Toluene-d8 (surr)	105 %R			%	8/30/21 17:52	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	231176.04						
Matrix:	aqueous						
Date Sampled:	8/25/21						
Date Received:	8/25/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	500	20	100	ug/L	8/30/21 22:00	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	8/30/21 22:00	8260B SIM	AM
Toluene-d8 (surr)	105 %R			%	8/30/21 22:00	8260B SIM	AM
( )							

LGAC Influent						
231176.05						
aqueous						
8/25/21						
8/25/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
1500	100	500	ug/L	8/30/21 22:31	8260B SIM	AM
105 %R			%	8/30/21 22:31	8260B SIM	AM
105 %R			%	8/30/21 22:31	8260B SIM	AM
	LGAC Influent 231176.05 aqueous 8/25/21 8/25/21 Result 1500 105 %R 105 %R	LGAC Influent 231176.05 aqueous 8/25/21 8/25/21 <b>Result RL</b> 1500 100 105 %R 105 %R	LGAC Influent 231176.05 aqueous 8/25/21 8/25/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>100</b> 500 <b>105 %</b> R	LGAC Influent 231176.05 aqueous 8/25/21 8/25/21 <u>Dilution</u> <u>Result</u> <u>RL</u> <u>Factor</u> <u>Units</u> 1500 100 500 ug/L 105 %R %	LGAC Influent 231176.05 aqueous 8/25/21 8/25/21 <b>Dilution</b> Date / Time Result RL Factor Units Analyzed 1500 100 500 ug/L 8/30/21 22:31 105 %R % 8/30/21 22:31	LGAC Influent 231176.05 aqueous 8/25/21 8/25/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed Method</b> <b>1500</b> 100 500 ug/L 8/30/21 22:31 8260B SIM <b>105 %R</b> % 8/30/21 22:31 8260B SIM <b>105 %R</b> % 8/30/21 22:31 8260B SIM

EAI ID#: 231176

## Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Client Sample ID:	9 Rennie Rd							
Lab Sample ID:	231176.06							
Matrix:	aqueous							
Date Sampled:	8/25/21							
Date Received:	8/25/21							
	Result	RL	Dilution Factor	Units	Date / Analy	Time zed	Method	Analyst
1,4-Dioxane	13	0.2	1	ug/L	8/30/21	18:23	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	8/30/21	18:23	8260B SIM	AM
Toluene-d8 (surr)	105 %R			%	8/30/21	18:23	8260B SIM	AM

Eastern Analytical, Inc.

## QC REPORT

## EAI ID#: 231176

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

Batch ID: 637659-40365/A083021DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	5.7 (113 %R)	5.6 (112 %R) (1 RPD	) 8/30/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	103 %R	106 %R	104 %F	R 8/30/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	105 %R	105 %R	105 %F	R 8/30/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

## QC REPORT

## EAI ID#: 231176

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

Batch ID: 637661-93101/A090221DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	5.3 (106 %R)	5.1 (101 %R) (4 RPD	) 9/2/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	104 %R	104 %R	104 %F	२ 9/2/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	104 %R	104 %R	105 %F	R 9/2/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 231808 Client Identification: Rennie Farm | 04.0190030.02 Task No: 22-ST 1 Date Received: 9/8/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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#: 231808

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

### Temperature upon receipt (°C): 5.9

Received on ice or cold packs (Yes/No):  $\gamma$ 

Acceptable t	emperature range (°C): 0-6						
Lab ID	Sample ID	Date Received	Date/ Samp	Fime bled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
231808.01	System Influent	9/8/21	9/7/21	09:35	aqueous		Adheres to Sample Acceptance Policy
231808.02	System Mid	9/8/21	9/7/21	09:40	aqueous		Adheres to Sample Acceptance Policy
231808.03	LGAC In	9/8/21	9/8/21	09:21	aqueous		Adheres to Sample Acceptance Policy
231808.04	LGAC Mid	9/8/21	9/8/21	09:18	aqueous		Adheres to Sample Acceptance Policy
231808.05	LGAC Out	9/8/21	9/8/21	09:15	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

## EAI ID#: 231808

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Client Sample ID:	System Influent						
Lab Sample ID:	231808.01						
Matrix:	aqueous						
Date Sampled:	9/7/21						
Date Received:	9/8/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	24	2	10	ug/L	9/18/21 1:52	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	9/18/21 1:52	8260B SIM	AM
Toluene-d8 (surr)	102 %R			%	9/18/21 1:52	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	231808.02						
Matrix:	aqueous						
Date Sampled:	9/7/21						
Date Received:	9/8/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	9/17/21 17:32	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	9/17/21 17:32	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	9/17/21 17:32	8260B SIM	ÂM

EAI ID#: 231808

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Client Sample ID:	LGAC In						
Lab Sample ID:	231808.03						
Matrix:	aqueous						
Date Sampled:	9/8/21						
Date Received:	9/8/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	2400	100	500	ug/L	9/18/21 2:23	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	9/18/21 2:23	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	9/18/21 2:23	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	231808.04						
Matrix:	aqueous						
Date Sampled:	9/8/21						
Date Received:	9/8/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	740	20	100	ug/L	9/18/21 2:55	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	9/18/21 2:55	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	9/18/21 2:55	8260B SIM	AM

Client Sample ID:	LGAC Out						
Lab Sample ID:	231808.05						
Matrix:	aqueous						
Date Sampled:	9/8/21						
Date Received:	9/8/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	9/17/21 18:03	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	9/17/21 18:03	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	9/17/21 18:03	8260B SIM	AM

## QC REPORT

## EAI ID#: 231808

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

Batch ID: 637674-93681/A091721DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.4 (87 %R)	4.6 (92 %R) (5 RPD	) 9/17/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	101 %R	100 %R	102 %F	R 9/17/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	101 %R	101 %R	101 %F	R 9/17/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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Page 6 of 6



professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 232227 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 9/16/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Te Dlush

Lorraine Olashaw, Lab Director

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Temperat Acceptable	ture upon receipt (°C): temperature range (°C): 0-6	3.0		R	eceived o	n ice or	cold packs (Yes/No):  Y
Lab ID	Sample ID	Date Received	Date/ Sam	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
232227.01	System Influent	9/16/21	9/16/21	11:00	aqueous		Adheres to Sample Acceptance Policy
232227.02	System Effluent	9/16/21	9/16/21	11:15	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.

- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.

- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.

- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

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

Client Sample ID: 5 Lab Sample ID: 2	System Influent 232227.01	Date of Preparation: Method: 624.1									
Matrix:	aqueous				Ana	alyst:	DGM				
Date Sampled:	9/16/21				L	inits:	ug/L				
Date Received:	9/16/21		<b>B</b> 11 <i>4</i>	-							
	Popult	ы	Dilution	Date		Ba		ы	Dilution	Date	
Chloromothana	Kesuit	ΛL 0	racio	0/10/24		Re	suit	RL.	Factor	Analyzet	
Vinvl chlorido	< 2	2	1	9/10/21	1,2-Dichlorobenzene	~~	< 1 % <b>D</b>	1	1	9/18/21	
Bromomothano	< 1	1	1	9/10/21	4-Bromofiuorobenzene (surr)	96	%R			9/18/21	
Chloroothano	< 2	2	1	9/10/21		93	%R			9/18/21	
Trichlorofluoromothono	< 2	2	1	9/10/21	loluene-d8 (surr)	96	%R			9/18/21	
Acroloin	< 2	50	1	9/10/21							
Acidielli	< 50	50	1	9/10/21							
1 1 Diablaraathana	< 10	10	1	9/10/21							
1, 1-Dichloroethene Mothylana ablarida	< 0.5	0.5	1	9/18/21							
Acrylonitrilo	5 ] - E0	1	1 ∡	9/10/21							
∩oryioniinie Mothyl t butyl othor/MTDE'	VC >	50	1 ∡	9/10/21							
trana 1.2 Disblarasthana	) <1	1	1	9/18/21							
Vinvl agetate	< 10	1	1	9/10/21							
1 1 Dichloroothana	< 10	10	1	9/10/21							
r, r-Dichloroethane	< 1	1	1	9/18/21							
	·< 1 ↓ 10	1	1	9/18/21							
	< 10	10	1	9/18/21							
1 1 1 Trichloraethana	< 1	1	1	9/10/21							
Carbon totrachlarida	< 1	1	1	9/10/21							
	< 1	1	1	9/10/21							
1 2 Dichloroothana	< 1	1	1	9/10/21							
T,2-Dichloroethane	< 1	1	1	9/18/21							
	< 1	1	1	9/18/21							
Discription of the second second second second second second second second second second second second second s	< 1	1	1	9/18/21							
Bromodicnioromethane	< 0.5	0.5	1	9/18/21							
	< 2	2	1	9/18/21							
1,4-Dioxane	< 50	50	1	9/18/21							
4-Methyl-2-pentanone(MIB	SK) < 10	10	1	9/18/21							
CIS-1,3-Dichloropropene	< 0.5	0.5	1	9/18/21							
roluene	< 1	1	1	9/18/21							
1 4 9 Tricklers attacks	< 0.5	0.5	1	9/18/21							
	< 1	1	1	9/18/21							
	< 10	10	1	9/18/21							
	< 1	1	1	9/18/21							
	< 1	1	1	9/18/21							
Chioropenzene Ethylhenzene	< 1	1	1	9/18/21							
	< 1	1	1	9/18/21							
nip-Aylene	< 1	1	1	9/18/21							
u-Aylene	< 1	1	1	9/18/21							
olyrene Drama farma	< 1	1	1	9/18/21							
	< 2	2	1	9/18/21							
1,1,2,2-Tetrachloroethane	< 1	1	1	9/18/21							
	< 1	1	1	9/18/21							
1,4-Dichlorobenzene	< 1	1	1	9/18/21							

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

Client Sample ID:	System Effluent									
Lab Sample ID: 2	232227.02				Met	thod:	624.1			
Matrix: a	queous				Ana	alyst:	DGM			
Date Sampled: 9	)/16/21				U	nits:	ug/L			
Date Received:	)/16/21									
			Dilution	Date		_			Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyzed
Chloromethane	< 2	2	1	9/18/21	1,2-Dichlorobenzene		< 1	1	1	9/18/21
Vinyl chloride	< 1	1	1	9/18/21	4-Bromofluorobenzene (surr)	97	%R			9/18/21
Bromomethane	< 2	2	1	9/18/21	1,2-Dichlorobenzene-d4	92	%R			9/18/21
Chloroethane	< 2	2	1	9/18/21	Toluene-d8 (surr)	95	%R			9/18/21
Trichlorofluoromethane	< 2	2	1	9/18/21						
Acrolein	< 50	50	1	9/18/21						
Acetone	< 10	10	1	9/18/21						
1,1-Dichloroethene	< 0.5	0.5	1	9/18/21						
Methylene chloride	< 1	1	1	9/18/21						
Acrylonitrile	< 50	50	1	9/18/21						
Methyl-t-butyl ether(MTBE)	) <1	1	1	9/18/21						
trans-1,2-Dichloroethene	< 1	1	1	9/18/21						
Vinyl acetate	< 10	10	1	9/18/21						
1,1-Dichloroethane	< 1	1	1	9/18/21						
cis-1,2-Dichloroethene	< 1	1	1	9/18/21						
2-Butanone(MEK)	< 10	10	1	9/18/21						
Chloroform	< 1	1	1	9/18/21						
1,1,1-Trichloroethane	< 1	1	1	9/18/21						
Carbon tetrachloride	< 1	1	1	9/18/21						
Benzene	< 1	1	1	9/18/21						
1,2-Dichloroethane	< 1	1	1	9/18/21						
Trichloroethene	< 1	1	1	9/18/21						
1,2-Dichloropropane	< 1	1	1	9/18/21						
Bromodichloromethane	< 0.5	0.5	1	9/18/21						
2-Chloroethylvinylether	< 2	2	1	9/18/21						
1,4-Dioxane	< 50	50	1	9/18/21						
4-Methyl-2-pentanone(MIB	sK) < 10	10	1	9/18/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	9/18/21						
Toluene	< 1	1	1	9/18/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	9/18/21						
1,1,2-Trichloroethane	< 1	1	1	9/18/21						
2-Hexanone	< 10	10	1	9/18/21						
letrachloroethene	_ <1	1	1	9/18/21						
Dibromochloromethane	< 1	1	1	9/18/21						
Chlorobenzene	< 1	1	1	9/18/21						
Ethylbenzene	< 1	1	1	9/18/21						
mp-Xylene	< 1	1	1	9/18/21						
o-Xylene	< 1	1	1	9/18/21						
Styrene	< 1	1	1	9/18/21						
Bromoform	< 2	2	1	9/18/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	9/18/21						
1,3-Dichlorobenzene	< 1	1	1	9/18/21						
1.4-Dichlorobenzene	< 1	1	1	9/18/21						
# QC REPORT

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Developed and Name	Blank	Blank (MDL)							
Parameter Name			LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	< .876	20 (99 %R)	20 (101 %R) (2 RPD	) 9/18/2021	ug/L	1 - 205	60	624.1
Vinyl chloride	< 1	< .34	21 (106 %R)	22 (110 %R) (3 RPD	) 9/18/2021	ug/L	5 - 195	66	624.1
Bromomethane	< 2	< .554	21 (107 %R)	22 (108 %R) (1 RPD	) 9/18/2021	ug/L	15 - 185	61	624.1
Chloroethane	< 2	< .232	19 (95 %R)	20 (99 %R) (4 RPD	) 9/18/2021	ug/L	40 - 160	78	624.1
Trichlorofluoromethane	< 2	< .375	23 (116 %R)	24 (118 %R) (2 RPD	) 9/18/2021	ug/L	50 - 150	84	624.1
Acrolein	< 50	< .548	< 50 (107 %R)	< 50 (111 %R) (4 RPD	) 9/18/2021	ug/L	60 - 140	60	624.1
Acetone	< 10	< 2,387	21 (106 %R)	22 (108 %R) (2 RPD	) 9/18/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethene	< 0.5	< .37	20 (98 %R)	21 (103 %R) (5 RPD	) 9/18/2021	ug/L	50 - 150	32	624.1
Methylene chloride	< 1	< ,545	19 (96 %R)	19 (95 %R) (2 RPD	) 9/18/2021	ug/L	60 - 140	28	624.1
Acrylonitrile	< 50	< .302	< 50 (99 %R)	< 50 (101 %R) (2 RPD	) 9/18/2021	ug/L	60 - 140	60	624.1
Methyl-t-butyl ether(MTBE)	< 1	< .519	15 (75 %R)	15 (76 %R) (2 RPD	) 9/18/2021	ug/L	70 - 130	20	624.1
trans-1,2-Dichloroethene	< 1	< .298	20 (101 %R)	21 (103 %R) (2 RPD	) 9/18/2021	ug/L	70 - 130	45	624.1
Vinyl acetate	< 10	< .557	14 (71 %R)	14 (72 %R) (2 RPD	) 9/18/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethane	< 1	< .085	20 (101 %R)	21 (103 %R) (2 RPD	) 9/18/2021	ug/L	70 - 130	40	624.1
cis-1,2-Dichloroethene	< 1	< .238	20 (102 %R)	21 (103 %R) (2 RPD	) 9/18/2021	ug/L	70 - 130	20	624.1
2-Butanone(MEK)	< 10	< .206	23 (114 %R)	23 (116 %R) (2 RPD	) 9/18/2021	ug/L	40 - 160	20	624.1
Chloroform	< 1	< .36	20 (102 %R)	21 (104 %R) (2 RPD	) 9/18/2021	ug/L	70 - 135	54	624.1
1,1,1-Trichloroethane	< 1	< .227	18 (91 %R)	19 (94 %R) (2 RPD	) 9/18/2021	ug/L	70 - 130	36	624.1
Carbon tetrachloride	< 1	< .261	19 (95 %R)	20 (98 %R) (3 RPD	) 9/18/2021	ug/L	70 - 130	41	624.1
Benzene	< 1	< .312	20 (102 %R)	21 (105 %R) (2 RPD	) 9/18/2021	ug/L	65 - 135	61	624.1
1,2-Dichloroethane	< 1	< .21	19 (97 %R)	20 (98 %R) (1 RPD	) 9/18/2021	ug/L	70 - 130	49	624.1
Trichloroethene	< 1	< .359	20 (101 %R)	21 (103 %R) (2 RPD	, ) 9/18/2021	ug/L	65 - 135	48	624.1
1,2-Dichloropropane	< 1	< .285	21 (103 %R)	21 (105 %R) (2 RPD	, ) 9/18/2021	ua/L	35 - 165	55	624.1
Bromodichloromethane	< 0.5	< .079	21 (104 %R)	21 (105 %R) (1 RPD	) 9/18/2021	uq/L	65 - 135	56	624.1
2-Chloroethylvinylether	< 2	< .493	< 2 (6 %R)	< 2 (6 %R) (5 RPD	, ) 9/18/2021	ua/L	1 - 225	71	624.1
1,4-Dioxane	< 50	<	< 50 (138 %R)	< 50 (138 %R) (0 RPD	, ) 9/18/2021	ua/L	40 - 160	20	624.1
4-Methyl-2-pentanone(MIBK)	< 10	< .411	21 (107 %R)	22 (108 %R) (1 RPD	, ) 9/18/2021	ua/L	40 - 160	20	624.1
cis-1,3-Dichloropropene	< 0.5	< .101	19 (93 %R)	19 (94 %R) (1 RPD	) 9/18/2021	ua/L	25 - 175	58	624.1
Toluene	< 1	< .19	20 (100 %R)	20 (102 %R) (2 RPD	, ) 9/18/2021	ua/L	70 - 130	41	624.1
trans-1,3-Dichloropropene	< 0.5	< .08	17 (86 %R)	17 (86 %R) (0 RPD	, ) 9/18/2021	ua/L	50 - 150	86	624.1
1,1,2-Trichloroethane	< 1	< .203	22 (110 %R)	22 (110 %R) (0 RPD	, ) 9/18/2021	ua/L	70 - 130	45	624.1
2-Hexanone	< 10	< .28	23 (115 %R)	23 (116 %R) (1 RPD	, ) 9/18/2021	ua/L	40 - 160	20	624.1
Tetrachloroethene	< 1	< .371	21 (103 %R)	21 (105 %R) (2 RPD	, ) 9/18/2021	ua/L	70 - 130	39	624.1
Dibromochloromethane	< 1	< .225	21 (104 %R)	21 (104 %R) (0 RPD	) 9/18/2021	ua/L	70 - 135	50	624.1
Chlorobenzene	< 1	< .247	21 (105 %R)	21 (107 %R) (2 RPD	) 9/18/2021	ua/L	65 - 135	53	624.1
Ethylbenzene	< 1	< .213	21 (106 %R)	22 (108 %R) (2 RPD	, ) 9/18/2021	ua/L	60 - 140	63	624.1
mp-Xylene	< 1	< .476	41 (102 %R)	42 (104 %R) (2 RPD	, ) 9/18/2021	ua/L	70 - 130	20	624.1
o-Xylene	< 1	< .298	21 (106 %R)	22 (108 %R) (2 RPD	) 9/18/2021	ua/L	70 - 130	20	624.1
Styrene	< 1	< .727	21 (107 %R)	22 (109 %R) (2 RPD	, ) 9/18/2021	ua/L	70 - 130	20	624.1
Bromoform	< 2	< .282	23 (116 %R)	23 (115 %R) (0 RPD	) 9/18/2021	ua/L	70 - 130	42	624.1
1,1,2,2-Tetrachloroethane	< 1	< .381	22 (110 %R)	22 (110 %R) (0 RPD	) 9/18/2021	ua/L	60 - 140	61	624.1
1,3-Dichlorobenzene	< 1	< .426	20 (101 %R)	20 (102 %R) (0 RPD	) 9/18/2021	ua/L	70 - 130	43	624.1
1,4-Dichlorobenzene	< 1	< .375	20 (99 %R)	20 (99 %R) (0 RPD	) 9/18/2021	ua/I	65 - 135	57	624.1
1,2-Dichlorobenzene	< 1	< .218	21 (103 %R)	21 (103 %R) (0 RPD	) 9/18/2021	ua/L	65 - 135	57	624.1
4-Bromofluorobenzene (surr)	93 %R	-	103 %R	103 %F	9/18/2021	% Rec	70 - 130		624.1
1,2-Dichlorobenzene-d4 (surr)	102 %R		115 %R	115 %F	8 9/18/2021	% Rec	70 - 130		624.1
Toluene-d8 (surr)	95 %R		98 %R	97 %F	9/18/2021	% Rec	70 - 130		624.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Eastern Analytical, Inc.

### EAI ID#: 232227

Batch ID:

### EAI ID#: 232227

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

Client Sample ID:	System Influent							
Lab Sample ID:	232227.01							
Matrix:	aqueous							
Date Sampled:	9/16/21							
Date Received:	9/16/21							
	Decult		Dilution	11	Date /	Time	Bill - Alte and	Analust
	Result	RL	Factor	Units	Analy	zea	wiethod	Analyst
Phenol	< 1	1	1	ug/L	9/21/21	0:30	625.1	JMR
2-Fluorophenol (surr)	40 %R			%	9/21/21	0:30	625.1	JMR
Phenol-d6 (surr)	25 %R			%	9/21/21	0:30	625.1	JMR
2,4,6-Tribromophenol (surr)	71 %R			%	9/21/21	0:30	625.1	JMR

### EAI ID#: 232227

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

Client Sample ID:	System Effluent							
Lab Sample ID:	232227.02							
Matrix:	aqueous							
Date Sampled:	9/16/21							
Date Received:	9/16/21							
	Result	RL	Dilution Factor	Units	Date / Analy:	Time zed	Method	Analyst
Phenol	< 1	1	1	ug/L	9/21/21	0:52	625.1	JMR
2-Fluorophenol (surr)	42 %R			%	9/21/21	0:52	625.1	JMR
Phenol-d6 (surr)	27 %R			%	9/21/21	0:52	625.1	JMR
2,4,6-Tribromophenol (surr)	70 %R			%	9/21/21	0:52	625.1	JMR

QC REPORT

### EAI ID#: 232227

Batch ID: 637674-66037/A091721E6251

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
alpha-Terpineol	< 5	< .17	20 (80 %R)	20 (79 %R) (1 RPD	) 9/20/2021	ug/L	40 - 140	20	625.1
Phenol	< 1	< .12	15 (30 %R)	15 (29 %R) (1 RPD	) 9/20/2021	ug/L	5 - 120	64	625,1
2-Chlorophenol	< 1	< .2	38 (76 %R)	36 (73 %R) (4 RPD	) 9/20/2021	ug/L	23 - 134	61	625.1
2,4-Dichlorophenol	< 1	< .31	43 (86 %R)	42 (84 %R) (2 RPD	) 9/20/2021	ug/L	39 - 135	50	625.1
2,4,5-Trichlorophenol	< 1	< .33	42 (83 %R)	42 (84 %R) (1 RPD	) 9/20/2021	ug/L	30 - 130	20	625.1
2,4,6-Trichlorophenol	< 1	< .48	41 (82 %R)	42 (83 %R) (2 RPD	) 9/20/2021	ug/L	37 - 144	58	625.1
Pentachlorophenol	< 5	< 1.1	40 (80 %R)	42 (84 %R) (5 RPD	) 9/20/2021	ug/L	14 - <b>1</b> 76	86	625.1
2-Nitrophenol	< 5	< .44	41 (81 %R)	40 (80 %R) (2 RPD	) 9/20/2021	ug/L	29 - 182	55	625.1
4-Nitrophenol	< 5	< .22	17 (33 %R)	18 (35 %R) (5 RPD	) 9/20/2021	ug/L	1 - 132	131	625.1
2,4-Dinitrophenol	< 10	< 1.5	44 (88 %R)	46 (92 %R) (5 RPD	) 9/20/2021	ug/L	1 - 191	132	625.1
2-Methylphenol	< 1	< .4	36 (71 %R)	35 (70 %R) (2 RPD	) 9/20/2021	ug/L	30 - 130	20	625.1
3/4-Methylphenol	< 1	< .42	35 (71 %R)	35 (70 %R) (2 RPD	) 9/20/2021	ug/L	30 - 130	20	625.1
2,4-Dimethylphenol	< 5	< 1.4	41 (82 %R)	40 (80 %R) (3 RPD	) 9/20/2021	ug/L	32 - 120	58	625.1
4-Chloro-3-methylphenol	< 1	< .26	42 (85 %R)	43 (85 %R) (1 RPD	) 9/20/2021	ug/L	22 - 147	73	625.1
4,6-Dinitro-2-methylphenol	< 5	< 3.3	43 (86 %R)	45 (89 %R) (4 RPD	) 9/20/2021	ug/L	1 - 181	203	625.1
Benzoic Acid	< 50	< 5.7	< 50 (29 %R)	< 50 (37 %R) (24 RPD	) 9/20/2021	ug/L	15 - 130	50	625.1
N-Nitrosodimethylamine	< 1	< .11	12 (47 %R)	12 (47 %R) (0 RPD	) 9/20/2021	ug/L	15 - 140	20	625.1
n-Nitroso-di-n-propylamine	< 0.5	< .22	20 (82 %R)	20 (79 %R) (4 RPD	) 9/20/2021	ug/L	1 - 230	87	625.1
n-Nitrosodiphenylamine	< 1	< .068	20 (80 %R)	21 (82 %R) (3 RPD	) 9/20/2021	ug/L	40 - 140	20	625.1
bis(2-Chloroethyl)ether	< 1	< .11	19 (74 %R)	18 (71 %R) (4 RPD	) 9/20/2021	ug/L	12 - 158	108	625.1
bis(2-chloroisopropyl)ether	< 1	< .13	19 (75 %R)	18 (71 %R) (5 RPD	) 9/20/2021	ug/L	36 - 166	76	625.1
bis(2-Chloroethoxy)methane	< 1	< .2	20 (79 %R)	19 (76 %R) (4 RPD	) 9/20/2021	ug/L	33 - 184	54	625.1
1,3-Dichlorobenzene	< 1	< .15	15 (59 %R)	15 (58 %R) (2 RPD	) 9/20/2021	ug/L	40 - 140	20	625.1
Acetophenone	< 10	< 8.8	20 (81 %R)	19 (77 %R) (4 RPD	) 9/20/2021	ug/L	40 - 140	20	625.1
1,4-Dichlorobenzene	< 1	< .11	15 (60 %R)	15 (59 %R) (2 RPD	) 9/20/2021	ug/L	40 - 140	20	625.1
1,2-Dichlorobenzene	< 1	< .13	16 (62 %R)	15 (61 %R) (3 RPC	) <u>9/20/2021</u>	ug/L	40 - 140	20	625.1
1,2,4-Trichlorobenzene	< 1	< .09	17 (66 %R)	16 (63 %R) (5 RPC	) 9/20/2021	ug/L	44 - 142	50	625.1
2-Chloronaphthalene	< 1	< .11	19 (76 %R)	19 (74 %R) (2 RPC	) <u>9/20/2021</u>	ug/L	60 - 120	24	625.1
4-Chlorophenyl-phenylether	< 1	< .059	20 (79 %R)	20 (80 %R) (1 RPC	) 9/20/2021	ug/L	25 - 158	61	625.1
4-Bromophenyl-phenylether	< 1	< .14	20 (79 %R)	20 (81 %R) (2 RPC	) 9/20/2021	ug/L	53 - 127	43	625.1
Hexachloroethane	< 1	< .15	15 (60 %R)	15 (59 %R) (2 RPC	) 9/20/2021	ug/L	40 - 120	52	625.1
Hexachlorobutadiene	< 1	< .073	16 (62 %R)	15 (58 %R) (6 RPC	) 9/20/2021	ug/L	24 - 120	62	625.1
Hexachlorocyclopentadiene	< 5	< .21	14 (55 %R)	14 (54 %R) (2 RPC	) 9/20/2021	ug/L	15 - 140	20	625.1
Hexachlorobenzene	< 1	< .12	19 (78 %R)	20 (80 %R) (3 RPC	) 9/20/2021	ug/L	1 - 152	55	625.1
4-Chloroaniline	< 1	< .13	19 (77 %R)	19 (77 %R) (0 RPC	) 9/20/2021	ug/L	15 - 140	20	625.1
2,3-Dichloroaniline	< 1	< .11	20 (78 %R)	19 (78 %R) (1 RPC	) 9/20/2021	ug/L	40 - 140	20	625.1
2-Nitroaniline	< 5	< .18	20 (78 %R)	20 (81 %R) (3 RPC	) 9/20/2021	ug/L	40 - 140	20	625.1
3-Nitroaniline	< 5	< .13	20 (80 %R)	21 (82 %R) (2 RPC	) 9/20/2021	ug/L	40 - 140	20	625.1
4-Nitroaniline	< 5	< .23	21 (85 %R)	22 (86 %R) (1 RPC	9/20/2021	ug/L	40 - 140	20	625.1
Aniline	< 1	< .13	17 (68 %R)	17 (68 %R) (1 RPC	) 9/20/2021	ua/L	40 - 140	20	625.1
Benzyl alcohol	< 10	< .35	17 (67 %R)	17 (67 %R) (0 RPC	) 9/20/2021	ug/L	40 - 140	20	625.1
Nitrobenzene	< 1	< .21	19 (78 %R)	18 (74 %R) (5 RPD	) 9/20/2021	ug/L	35 - 180	62	625.1
Isophorone	< 1	< .16	20 (81 %R)	20 (79 %R) (1 RPC	) 9/20/2021	ua/L	21 - 196	93	625.1
2,4-Dinitrotoluene	< 2	< 14	21 (85 %R)	22 (88 %R) (3 RPD	) 9/20/2021	ua/L	39 - 139	42	625.1
2,6-Dinitrotoluene	< 2	< .14	21 (85 %R)	22 (86 %R) (2 RPD	) 9/20/2021	ua/L	50 - 158	48	625.1
Benzidine (estimated)	< 5	< .41	16 (63 %R)	16 (63 %R) (0 RPD	) 9/20/2021	ug/L	1 - 200	50	625.1

Eastern Analytical, Inc.

QC REPORT

### EAI ID#: 232227

Batch ID: 637674-66037/A091721E6251

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
3,3'-Dichlorobenzidine	< 1	< .27	20 (81 %R)	21 (83 %R) (2 RPD	) 9/20/2021	ug/L	1 - 262	108	625.1
Pyridine	< 5	< .18	8.5 (34 %R)	8.5 (34 %R) (0 RPD	) 9/20/2021	ug/L	15 - 140	20	625.1
Azobenzene	< 1	< .14	21 (84 %R)	21 (86 %R) (2 RPD	) 9/20/2021	ug/L	40 - 140	20	625.1
Carbazole	< 1	< .12	21 (86 %R)	22 (87 %R) (1 RPD	) 9/20/2021	ug/L	40 - 140	20	625.1
Dimethylphthalate	< 1	< .11	21 (85 %R)	21 (85 %R) (1 RPD	) 9/20/2021	ug/L	1 - 120	183	625.1
Diethylphthalate	< 5	< .11	21 (82 %R)	21 (83 %R) (1 RPD	) 9/20/2021	ug/L	1 - 120	100	625.1
Di-n-butylphthalate	< 5	< .64	23 (92 %R)	23 (93 %R) (1 RPD	) 9/20/2021	ug/L	1 - 120	47	625.1
Butylbenzylphthalate	< 5	< .14	21 (83 %R)	21 (82 %R) (2 RPD	) 9/20/2021	ug/L	1 - 152	60	625.1
bis(2-Ethylhexyl)phthalate	< 5	< .27	21 (83 %R)	21 (83 %R) (1 RPD	) 9/20/2021	ug/L	8 - 158	82	625.1
Di-n-octylphthalate	< 5	< .2	22 (86 %R)	22 (87 %R) (1 RPD	) 9/20/2021	ug/L	4 - 146	69	625.1
Dibenzofuran	< 1	< .11	20 (81 %R)	20 (81 %R) (0 RPD	) 9/20/2021	ug/L	40 - 140	20	625.1
Naphthalene	< 1	< .088	19 (78 %R)	18 (74 %R) (6 RPD	) 9/20/2021	ug/L	21 - 133	65	625.1
2-Methylnaphthalene	< 1	< .11	20 (78 %R)	19 (75 %R) (4 RPD	) 9/20/2021	ug/L	40 - 140	65	625.1
1-Methylnaphthalene	< 1	< .12	20 (79 %R)	19 (76 %R) (4 RPD	) 9/20/2021	ug/L	40 - 140	65	625.1
Acenaphthylene	< 1	< .11	21 (84 %R)	21 (83 %R) (1 RPD	) 9/20/2021	ug/L	33 - 145	74	625.1
Acenaphthene	< 1	< .11	22 (90 %R)	22 (89 %R) (1 RPD	) 9/20/2021	ug/L	47 - 145	48	625.1
Fluorene	< 1	< .093	21 (84 %R)	21 (84 %R) (1 RPD	) 9/20/2021	ug/L	59 - 121	38	625.1
Phenanthrene	< 1	< .11	22 (87 %R)	22 (89 %R) (3 RPD	) 9/20/2021	ug/L	54 - 120	39	625.1
Anthracene	< 1	< .13	22 (88 %R)	23 (91 %R) (2 RPD	) 9/20/2021	ug/L	27 - 133	66	625.1
Fluoranthene	< 1	< .12	23 (92 %R)	23 (93 %R) (1 RPD	) 9/20/2021	ug/L	26 - 137	66	625.1
Pyrene	< 1	< .11	23 (90 %R)	23 (92 %R) (2 RPD	) 9/20/2021	ug/L	52 - 120	49	625.1
Benzo[a]anthracene	< 1	< .17	21 (86 %R)	22 (86 %R) (1 RPD	) 9/20/2021	ug/L	33 - 143	53	625.1
Chrysene	< 1	< .14	22 (89 %R)	23 (90 %R) (1 RPD	) 9/20/2021	ug/L	17 - 168	87	625.1
Benzo[b]fluoranthene	< 1	< .095	22 (89 %R)	23 (91 %R) (2 RPD	) 9/20/2021	ug/L	24 - 159	71	625.1
Benzo[k]fluoranthene	< 1	< .14	23 (92 %R)	23 (92 %R) (0 RPD	) 9/20/2021	ug/L	11 - 162	63	625.1
Benzo[a]pyrene	< 1	< .058	22 (88 %R)	22 (89 %R) (1 RPD	) 9/20/2021	ug/L	17 - 163	72	625.1
Indeno[1,2,3-cd]pyrene	< 1	< .13	22 (88 %R)	22 (89 %R) (1 RPD	) 9/20/2021	ug/L	1 - 171	99	625.1
Dibenz[a,h]anthracene	< 1	< .16	22 (89 %R)	23 (93 %R) (4 RPD	) 9/20/2021	ug/L	1 - 227	126	625.1
Benzo[g,h,i]perylene	< 1	< .14	22 (89 %R)	22 (90 %R) (1 RPD	) 9/20/2021	ug/L	1 - 219	97	625.1
n-Decane	< 5	< .16	13 (53 %R)	13 (51 %R) (5 RPD	) 9/20/2021	ug/L	40 - 140	20	625.1
n-Octadecane	< 5	< .5	21 (84 %R)	22 (87 %R) (3 RPD	) 9/20/2021	ug/L	40 - 140	20	625.1
2-Fluorophenol (surr)	41 %R		42 %R	40 %F	R 9/20/2021	% Rec	15 - 110		625.1
Phenol-d6 (surr)	28 %R		28 %R	28 %	R 9/20/2021	% Rec	15 - 110		625.1
2,4,6-Tribromophenol (surr)	83 %R		84 %R	87 %F	R 9/20/2021	% Rec	15 - 110		625.1
Nitrobenzene-D5 (surr)	75 %R		78 %R	74 %F	R 9/20/2021	% Rec	30 - 130		625.1
2-Fluorobiphenyl (surr)	81 %R		78 %R	75 %	R 9/20/2021	% Rec	30 - 130		625.1
p-Terphenyl-D14 (surr)	91 %R		86 %R	87 %	R 9/20/2021	% Rec	30 - 130		625.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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

Sample ID:	System Influent	System Effluent						
Lab Sampla ID:	232222 01	232227 02						
Lab Sample ID.	202227.01							
Matrix:	aqueous	aqueous						
Date Sampled:	9/16/21	9/16/21			Ana	alysis		
Date Received:	9/16/21	9/16/21	RL	Units	Date	Time	Method A	nalyst
Solids Suspended	< 5	< 5	5	mg/L	9/22/21	15:40	2540D-11	CF
Cvanide Total	< 5	< 5	5	ug/L	9/28/21	18:33	ASTM D7511-0	9 KD
Cvanide Free	< 5	< 5	5	ug/L	9/22/21	12:31	OIA-1677-09	KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	9/22/21	14:07	TM NH3-001	SEL
Chloride	2000	2000	1000	ug/L	9/21/21	3:18	300.0	LLG

QC REPORT

### EAI ID#: 232227

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

Client Designation: Rennie Farm RGP / 04.0190030.02

۰,				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits	RPD	Method
Solids Suspended	< 5	96 (101 %R)	94 (99 %R) (2 RPD)	mg/L 9/22/21	90 - 110	20	2540D-11
Chloride	< 1000	21000 (103 %R)	20000 (100 %R) (3 RPD)	ug/L 9/20/21	90 - 110	20	300.0
Cyanide Total	< 5	120 (116 %R)	110 (113 %R) (3 RPD)	ug/L 9/28/21	84 - 116	20	ASTM D7511-09
Cyanide Free	< 5	260 (106 %R)	250 (100 %R) (5 RPD)	ug/L 9/22/21	82 - 132	20	OIA-1677-09
Ammonia-N	< 0.05	1.9 (96 %R)	1.9 (93 %R) (3 RPD)	mg/L 9/22/21	87 - 104	20	TM NH3-001

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

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:	232227.01	232227.02						
Matrix:	aqueous	aqueous						
Date Sampled:	9/16/21	9/16/21		A		A 1 .		
Date Received:	9/16/21	9/16/21	RL	Analytica Matrix	u Units	Analysis Date	Method A	nalyst
Chromium (VI)	< 10	< 10	10	AqTot	ug/L	9/17/21	7196A	HEH
Antimony	< 0.5	< 0.5	0.5	AqTot	ug/L	9/20/21	200.8	DS
Arsenic	< 0.5	< 0.5	0.5	AqTot	ug/L	9/20/21	200.8	DS
Cadmium	< 0.1	< 0.1	0.1	AqTot	ug/L	9/20/21	200.8	DS
Chromium	0.55	< 0.5	0.5	AqTot	ug/L	9/20/21	200.8	DS
Copper	1.4	0.12	0.1	AqTot	ug/L	9/20/21	200.8	DS
Iron	590	< 50	50	AqTot	ug/L	9/20/21	200.8	DS
Lead	< 0.1	< 0.1	0.1	AqTot	ug/L	9/20/21	200.8	DS
Mercury	< 0.1	< 0.1	0.1	AqTot	ug/L	9/20/21	200.8	DS
Nickel	0.77	0.22	0.1	AqTot	ug/L	9/20/21	200.8	DS
Selenium	< 0.5	< 0.5	0.5	AqTot	ug/L	9/20/21	200.8	DS
Silver	< 0.1	< 0.1	0.1	AqTot	ug/L	9/20/21	200.8	DS
Zinc	3.4	1.7	1	AqTot	ug/L	9/20/21	200.8	DS
Chromium (III)	< 10	< 10	10	AqTot	ug/L	9/20/21	200.8	DS

QC REPORT

### EAI ID#: 232227

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

Client Designation: Rennie Farm RGP / 04.0190030.02

	Date of								
Parameter Name	Blank	LCS	LCSD		Units A	nalysis	Limits	RPD	Method
Antimony	< 0.0005	1.1 (114 %R)		NA	mg/L	9/20/21	85 - 115	20	200.8
Arsenic	< 0.0005	1.1 (109 %R)		NA	mg/L	9/20/21	85 - 115	20	200.8
Cadmium	< 0.0001	1.1 (107 %R)		NA	mg/L	9/20/21	85 - 115	20	200.8
Chromium	< 0.0005	1.1 (105 %R)		NA	mg/L	9/20/21	85 - 115	20	200.8
Copper	< 0.0001	1.1 (107 %R)	I	NA	mg/L	9/20/21	85 - 115	20	200.8
Iron	< 0.05	11 (97 %R)	I	NA	mg/L	9/20/21	85 - 115	20	200.8
Lead	< 0.0001	1.1 (106 %R)		NA	mg/L	9/20/21	85 - 115	20	200.8
Mercury	< 0.0001	0.0011 (112 %R)		NA	mg/L	9/20/21	85 - 115	20	200.8
Nickel	< 0.0001	1.0 (105 %R)	I	NA	mg/L	9/20/21	85 - 115	20	200.8
Selenium	< 0.0005	1.1 (108 %R)	I	NA	mg/L	9/20/21	85 - 115	20	200.8
Silver	< 0.0001	0.010 (105 %R)	·	NA	mg/L	9/20/21	85 - 115	20	200.8
Zinc	< 0.001	1.1 (107 %R)	I	NA	mg/L	9/20/21	85 - 115	20	200.8
Chromium (VI)	< 0.01	0.29 (95 %R)	I	NA	mg/L	9/17/21	85 - 115	20	7196A

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc.



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

September 24, 2021

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

RE: Project: 232227 9/16 Pace Project No.: 70188354

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on September 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures



### **REPORT OF LABORATORY ANALYSIS**

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Page 1 of 9



### CERTIFICATIONS

 Project:
 232227 9/16

 Pace Project No.:
 70188354

### Pace Analytical Services Long Island

575 Broad Hollow Rd, Melville, NY 11747 Connecticut Certification #: PH-0435 Delaware Certification # NY 10478 Maryland Certification #: 208 Massachusetts Certification #: M-NY026 New Hampshire Certification #: 2987

New Jersey Certification #: NY158 New York Certification #: 10478 Primary Accrediting Body Pennsylvania Certification #: 68-00350 Rhode Island Certification #: LAO00340 Virginia Certification # 460302

### **REPORT OF LABORATORY ANALYSIS**

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Page 2 of 9



### ANALYTICAL RESULTS

 Project:
 232227 9/16

 Pace Project No.:
 70188354

Sample: SYSTEM INFLUENT	Lab ID: 701	88354001	Collected: 09/16/2	21 11:00	Received: 0	09/22/21 09:50 N	/atrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Metl Pace Analytica	hod: EPA 16 Il Services -	24B Melville					
Acetone <i>Surrogates</i>	<0.010	mg/L	0.010	1		09/23/21 13:19	67-64-1	
1,2-Dichloroethane-d4 (S)	88	%	78-114	1		09/23/21 13:19	17060-07-0	
4-Bromofluorobenzene (S)	98	%	83-111	1		09/23/21 13:19	460-00-4	•
Toluene-d8 (S)	105	%	80-131	1		09/23/21 13:19	2037-26-5	

### **REPORT OF LABORATORY ANALYSIS**

Page 3 of 9



### ANALYTICAL RESULTS

 Project:
 232227 9/16

 Pace Project No.:
 70188354

Sample: SYSTEM EFFLUENT	Lab ID:	70188354002	Collected: 09/16/	21 <b>11</b> :15	Received:	09/22/21 09:50 N	/latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical N Pace Analy	Method: EPA 16 /tical Services -	24B Melville					
Acetone <i>Surrogates</i>	<0.010	mg/L	0.010	1		09/23/21 12:57	67-64-1	
1,2-Dichloroethane-d4 (S)	91	%	78-114	1		09/23/21 12:57	17060-07-0	
4-Bromofluorobenzene (S)	97	<b>7</b> %	83-111	1		09/23/21 12:57	460-00-4	
Toluene-d8 (S)	101	%	80-131	1		09/23/21 12:57	2037-26-5	

### **REPORT OF LABORATORY ANALYSIS**

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Page 4 of 9



### QUALITY CONTROL DATA

Project:	232227	9/16					
Pace Project No.:	701883	54					
QC Batch:	22684	9	Analysis Meth	nod: E	PA 1624B	<u></u>	
QC Batch Method:	EPA 1	624B	Analysis Desc	cription: 1	624B MSV		
Associated Lab Sam	ples:	70188354001, 70188354002	Laboratory:	F	Pace Analytical Servic	ces - Melville	
METHOD BLANK:	114398	9	Matrix:	Water			
Associated Lab Sam	ples:	70188354001, 70188354002					
Param	eter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers	
Acetone		mg/L	<0.010	0.010	0 09/23/21 12:14		
1,2-Dichloroethane-c	d4 (S)	%	92	78-114	09/23/21 12:14		•
4-Bromofluorobenze	ne (S)	%	98	83-111	09/23/21 12:14		
Toluene-d8 (S)		%	100	80-131	09/23/21 12:14		

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	mg/L	0.05	0.041	83	20-200	
1,2-Dichloroethane-d4 (S)	%			87	78-114	
4-Bromofluorobenzene (S)	%			99	83-111	
Toluene-d8 (S)	%			95	80-131	

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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Page 5 of 9



### QUALIFIERS

 Project:
 232227 9/16

 Pace Project No.:
 70188354

### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

### **REPORT OF LABORATORY ANALYSIS**

Page 6 of 9



### QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 232227 9/16

 Pace Project No.:
 70188354

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70188354001 70188354002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	226849 226849		

### **REPORT OF LABORATORY ANALYSIS**

# CHAIN-OF-CUSTODY RECORD

Eastern Analytical, Inc.

EALID# 232227

Page 1

Sample ID	Date Sample	d Matrix	aParameters	Sample Notes
System Influent	9/16/2021 11:00	aqueous	Subcontract - EPA Method 1624 Isotope Dilution	
System Effluent	9/16/2021	aqueous	Subcontract - EPA Method 1624 Isotope Dilution	



EAI ID# <b>2</b>	32227	Project State: NH Project ID: 4965	Results Needed: Preferred Date: Standard RUSH Due Date: QC Deliverables	PO #:5 <u>Data De</u>	5746 liverable (	EAI ID# 23 (circle)	2227
Company	PACE AN	ALYTICAL	Notes about project;	Excel	NHEMD	EQUIS MEEGA	D
Address	575 BROA	AD HOLLOW ROAD	Email login confirmation, pdf of results and	Call pri	or to analy:	zing, if RUSH charg	es will be applied.
Address	MELVILLE	E, NY 11747	1624 Acetone Only	Same	Hes Collecte	9/21/21/21/-	SOU UPS
Account #				Beiing	ruished by	Date/Time	Received by
Phone #	(631)694-	3040		1/1/2	Lel L	Paris "hah	19:500
Page				Reling	uished by	Date/Time	Received by

 $\frac{\infty}{2}$  Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

525 1-800-287-0525

customerservice@easternanalytical.com

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

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Pace Analytical	Client N:	ame:			Proje 📕		
1	EA	ST-A			PN	KMN Due	• Date: 09/29/21
Courier: Fed Ex UPS USPS Client		ercial 🗇	ace 🗆 Othi	er	CLI	ENT: EASTA	And And And And And And And And And And
Tracking #: 12 246 534 01	9.564	4123					
Custody Seal on Cooler/Box Present: Yes	s 🗹 No	Seals in	tact: 🗖 Ye	No No	· · · · · · · · · · · · · · · · · · ·	emperature Blank Pl	esent: T texe No
Packing Material: Bubble Wrap 📮 Bubble	Bags 🗀	Ziploc 🖂	None 🖂 Ot	ther	Ŧ	ype of Ice: Wet BI	ue None
Thermometer Used: TH091	Correcti	on Factor	+0.	0	., Ō ^s	Samples on ice, cooling	process has begun
Cooler Temperature(°C):	Cooler T	'emperatu	ire Correct	ed["C]: /	·. ·/[	Date/Time 5035A kits	placed in freezer
Temp should be above freezing to 6.0°C							1/119kala
USDA Regulated Soil () N/A, water sample)				Date and	l Initials of pers	on examining conten	ts: KW 14
Did samples originate in a quarantine 7000 Wit	hin the U	Inited State	es: AL, AR, CI	A, FL, GA, ID	, LA, MS, NC, 👘 🕻	Did samples orignate fr	om a foreign source
NM NY OK OP SC TN TX or VA (check man)?	🗆 Ye	s □No			i	ncluding Hawaii and Pu	ierto Rico)? 🗆 YeslXJ No
If Ves to either question fill out a Regulate	d Soil Ch	necklist (F	-LI-C-010) a	and includ	e with SCUR/CO	C paperwork.	
						COMMENTS:	
Chain of Custody Present:	CWes.	⊡No		1.	- -		anna an ann an an ann an an an an an an
Chain of Custody Filled Out:	Wes	⊡No		2.	_		anna a tha ann an tha ann an tha ann an tha ann an tha ann an tha ann an tha ann an tha ann an tha ann an tha a
Chain of Custody Relinquished:	Wes	⊡No		3.			
Sampler Name & Signature on COC:	<b>Z</b> ZYes	⊡No	DN/A	4.			an and a state of the state of the state of the state of the state of the state of the state of the state of the
Samples Arrived within Hold Time:	′⊈jYes	Ε''No		5.			
Short Hold Time Analysis (<72hr);	′⊡Yes	C)NO		6.			www.weakee.com.com.com.com.com.com.com.com.com.com
Rush Turn Around Time Requested:	DYes.	⊠No		7.			
Sufficient Volume: [Triple volume provided for	<b>Z</b> Yes	⊡No		8.	والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع		
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Filtered volume received for Dissolved tests	⊡Yes	<b>E</b> No	/JIN/A	<u> 11.</u>	Note if sedim	ent is visible in the diss	olved container,
Sample Labels match COC:	⊠Yes	⊡No		12.			
-Includes date/time/ID, Matrix: SL MJ (	DIL	and the second second second second second second second second second second second second second second second					<u>с 110</u>
All containers needing preservation have bee	n⊡Yes	⊡No	IDN/A	13,		$\Box H_2 SU_4 \Box Nauh$	
checked?							
pH paper Lot #				Sample	#		
All containers needing preservation are found	0 10 De			oumpio			
In compliance with method recommendation	.t L⊒∆06	["No	ΠN/Δ				
(HNU ₃ , H ₂ SU ₄ , HUI, NAUH>9 Sumue,			144.4	1			
NAUH>IZ Lyanlaej	casea						-
Exceptions: IDA, Contorni, TOC/DOC, on and C	JI 6030,			Initial w	hen completed:	Lot # of added	Date/Time preservative
Der Mothod VOA pli is shocked after analysis	2				·	preservative;	added:
Somplos chocked for dechlorination:	 ⊡Yes	No	⊠N/A	14.			
VI starsh tost string Lot #							
Desidual chloring string lot #					Positive for Res	s. Chlorine? Y N	
ISM 4500 CN samples checked for sulfide?	TiYes	⊡No	PN/A	15.			
Lead Acetate Strins I of #							and a second second second second second second second second second second second second second second second
Headenace in VOA Vials [ >6mm]:	⊡Yes	[2]No	DN/A	16.		- -	
Trin Blank Present:	⊡Yes	C2N0	DN/A	17,			
Trin Blank Custody Seals Present	⊡Yes	⊡Na	,⊵N/A				
Pace Trip Blank Lot # (if applicable):							
Client Notification/ Resolution:				Field Da	ata Required?	<u>Y / N</u>	
Person Contacted:					Date/Time:	-	
Comments/ Resolution:						annan a san a san a san a san a san a san a san a san a san a san a san a san a san a san a san a san a san a s	
						a an an an an an an an an an an an an an	an an an an an an an an an an an an an a
							2019-0119-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0

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



Tuesday, September 28, 2021

Attn: Front Office Eastern Analytical 51 Antrim Ave Concord, NH 03301

Project ID: 232227 SDG ID: GCJ31559 Sample ID#s: CJ31559 - CJ31560

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

XI: 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 UT Lab Registration #CT00007 VT Lab Registration #VT11301





# Sample Id Cross Reference

September 28, 2021

SDG I.D.: GCJ31559

Project ID: 232227

Client Id	Lab Id	Matrix	
SYSTEM INFLUENT	CJ31559	WATER	
SYSTEM EFFLUENT	CJ31560	WATER	





Analysis Report FOR: Attn: Front Office September 28, 2021 51 Antrim Ave Concord, NH 03	al 301
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Sample Inforn	<u>nation</u>		Custody Inf	ormation		Date	<u>e</u>	<u>Time</u>
Matrix:	WATER		Collected by:			09/10	3/21	11:00
Location Code:	EASTANAL-NH		Received by:	CP		09/1	7/21	16:13
Rush Request:	Standard		Analyzed by:	see	"By" below			
P.O.#:	55747		Laborato	ry Da	ta	S Phoe	DG II nix II	D: GCJ31559 D: CJ31559
Project ID:	232227							
Client ID:	SYSTEM INFLUEN	IT						
Parameter	Re	sult	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference

<u>1,4-dioxane</u>		0.00	,,				
1,4-dioxane QA/QC Surrogates	21	0.20	ug/l	1	09/24/21	AW	EPA522
% 1,4-dioxane-d8	83		%	1	09/24/21	AW	70 - 130 %
Extraction for 1,4-Dioxane	Completed				09/23/21	G/G	EPA522

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

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

### **Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director September 28, 2021 Reviewed and Released by: Kathleen Cressia, QA/QC Officer





Analysis Report September 28, 2021	FOR:	Attn: Front Office Eastern Analytical 51 Antrim Ave Concord, NH 03301
		Concord, NH 03301

Sample Information		Custody Inform	Date	<u>Time</u>	
Matrix:	WATER	Collected by:		09/16/21	11:15
Location Code:	EASTANAL-NH	Received by:	CP	09/17/21	16:13
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#: 55747		Laboratory	SDG ID: GCJ315		

Project ID:	232227
Client ID:	SYSTEM EFFLUENT

SDG ID: GCJ31559 Phoenix ID: CJ31560

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
1,4-dioxane							
1,4-dioxane	ND	0.20	ug/l	1	09/24/21	AW	EPA522
QA/QC Surrogates							
% 1,4-dioxane-d8	77		%	1	09/24/21	AW	70 - 130 %
Extraction for 1,4-Dioxane	Completed				09/23/21	G/G	EPA522

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:

1

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director September 28, 2021 Reviewed and Released by: Kathleen Cressia, QA/QC Officer





# QA/QC Report

September 28, 2021

## QA/QC Data

SDG I.D.: GCJ31559

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 593240 (ug	ı/l), QC Sample	No: CJ31559 (C	CJ31559, CJ31560)							
1,4dioxane - Water										
1,4-dioxane	ND	0.20	82	70	15.8	NC			70 - 130	20
% 1,4-dioxane-d8	89	%	89	85	4.6	85			70 - 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 September 28, 2021

Tuesday, September 28, 2021 Criteria: None		Sample Criteria Exce GCJ31559 - EAST	Sample Criteria Exceedances Report GCJ31559 - EASTANAL-NH					e 28 of 31
State: NH SampNo Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units	Page
*** No Data to Display ***	*							_

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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.





# Analysis Comments

September 28, 2021

SDG I.D.: GCJ31559

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

						TALIDA	4 つつつつつつつ	Dage 1
mple ID	Date Sa	mpled Matrix	aParamete	ers		EAIID#	F <b>LJLLI</b> Sample No	raye i
ystem Influe	nt 9/16/20 11:00	21 aqueous	Subcontract - 1,4 Diox	xane EPA Method 522	31559	*		
ystem Efflue	ent 9/16/20 11:15	21 aqueous	Subcontract - 1,4 Diox	xane EPA Method 522	31560	*		
	*	REC - 1	802 amb	er				
EAI ID# 23	3 <b>2227</b> Proje P	ct State: NH oject ID: 4965	Results Needed: QC Deliverables	: Preferred Date: Stand RUSH Due Date: B □ B+ □ C □ M	dard PO #:55	5747 <u>verable</u> (cir	EAI ID# 232	227

Page 30 of 3

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



## CHAIN-OF-CUSTODY RECORD

013

232227

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	ෆ ව ල # of containers
System Influent	9-16-21 11:00	aqueous Grabor Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg Se.Ag.Zn/Cr6/Cr3/CyanFree	g.Pb.Ni. [13]
Sampler confirm	ns ID and parameters	are accurate	Circle preservative/st HCL HNOL H, SO NaOH MEOH Na, S, O3 (ICE) Dissolved Sample Fi	ield Filtered
System Effluent	9-16-21 11:15	aqueous Grabor Comp	AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg Se.Ag.Zn/Cr6/Cr3/CyanFree	g.Pb.Ni. /3
Sampler confirm	ns ID and parameters	are accurate	Circle preservative/stHCI (HNO2)H2SO2 NaOH MEOH Na2S2O3 (ICE) Dissolved Sample Fi	ield Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 4965	Results Needed by: Preferred date	ReportingOptions		
Project Name Rennie Farm RGP / 04.0190030.02	Notes:	⊠нс	🗋 NO FAX	PO# verbal
State NH		EDD PDF	Partial FAX	Quote#:
Client (Pro Mgr) Jim Wieck	1624 Acetone Only	PDF prelim, NO FAX	EQUIS	Temp 3.0°C
Customer GZA GeoEnvironmental, Inc. (NH)			0	ice Y
Address 5 Commerce Park North, Suite 201		Samples Collected by:	HYJ J9-16-21 1	530 OTA
City Bedford NH 03110		Relinguished by	Date/Time	Received by
Phone 623-3600 Fax 624-9463 (37)	QC deliverables			
Email: James.Wieck@gza.com	🗆 А 🗖 А+ 🖾 В 🗍 В+ 🗍 С 🗍 МА МСР	Relinguished by	Date/Time	Received by
Direct 232-8732 Eastern Analytical	Inc. www.easternanalytical.com   800.287	.0525   customerservice@eas	ternanalytical.com	



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



Laboratory Report for:

Bedford, NH 03110

Eastern Analytical, Inc. ID: 232759 Client Identification: Rennie Farm | 04.0190030.02 Task No: 22-ST 1 Date Received: 9/28/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Date

10.8.21

Sincerely,

Councie austrem

Lorraine Olashaw, Lab Director

# SAMPLE CONDITIONS PAGE

### EAI ID#: 232759

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

<b>Temperature upon receipt (°C):</b> Acceptable temperature range (°C): 0-6		2.3 Received on ice or cold packs (Yes/No):							
Lab ID	Sample ID	Date Received	Date/ Sam	Time pled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)		
232759.01	System Influent	9/28/21	9/27/21	09:45	aqueous		Adheres to Sample Acceptance Policy		
232759.02	System Mid	9/28/21	9/27/21	09:50	aqueous		Adheres to Sample Acceptance Policy		
232759.03	LGAC In	9/28/21	9/28/21	09:10	aqueous		Adheres to Sample Acceptance Policy		
232759.04	LGAC Mid	9/28/21	9/28/21	09:05	aqueous		Adheres to Sample Acceptance Policy		
232759.05	LGAC Out	9/28/21	9/28/21	09:00	aqueous		Adheres to Sample Acceptance Policy		

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

# LABORATORY REPORT

EAI ID#: 232759

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Client Sample ID:	System Influent						
Lab Sample ID:	232759.01						
Matrix:	aqueous						
Date Sampled:	9/27/21						
Date Received:	9/28/21						
	Posult	PI	Dilution Factor	Unite	Date / Time	Method	Analyst
	Nesult		racion	Units	Analyzeu		Analyse
1,4-Dioxane	25	2	10	ug/L	10/4/21 21:54	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	10/4/21 21:54	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	10/4/21 21:54	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	232759.02						
Matrix:	aqueous						
Date Sampled:	9/27/21						
Date Received:	9/28/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	10/4/21 17:44	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	10/4/21 17:44	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	10/4/21 17:44	8260B SIM	AM

# LABORATORY REPORT

EAI ID#: 232759

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

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Client Sample ID:	LGAC In						
Lab Sample ID:	232759.03						
Matrix:	aqueous						
Date Sampled:	9/28/21						
Date Received:	9/28/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	3000	100	500	ug/L	10/4/21 22:25	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	10/4/21 22:25	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	10/4/21 22:25	8260B SIM	AM

LGAC Mid						
232759.04						
aqueous						
9/28/21						
9/28/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
1.9	0.2	1	ug/L	10/5/21 12:16	8260B SIM	AM
98 %R			%	10/5/21 12:16	8260B SIM	AM
99 %R			%	10/5/21 12:16	8260B SIM	AM
	LGAC Mid 232759.04 aqueous 9/28/21 9/28/21 Result 1.9 98 %R 99 %R	LGAC Mid 232759.04 aqueous 9/28/21 9/28/21 <b>Result RL</b> 1.9 0.2 98 %R 99 %R	LGAC Mid 232759.04 aqueous 9/28/21 9/28/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Re</b>	LGAC Mid 232759.04 aqueous 9/28/21 9/28/21 <b>Dilution</b> <b>Result</b> <b>1.9</b> 0.2 1 ug/L 98 %R % 99 %R	LGAC Mid 232759.04 aqueous 9/28/21 9/28/21 Dilution Date / Time Result RL Factor Units Analyzed 1.9 0.2 1 ug/L 10/5/21 12:16 98 %R % 10/5/21 12:16	LGAC Mid 232759.04 aqueous 9/28/21 9/28/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed Method</b> <b>1.9</b> 0.2 1 ug/L 10/5/21 12:16 8260B SIM <b>98 %R</b> % 10/5/21 12:16 8260B SIM <b>99 %R</b> % 10/5/21 12:16 8260B SIM

LGAC Out						
232759.05						
aqueous						
9/28/21						
9/28/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
1.6	0.2	1	ug/L	10/4/21 18:15	8260B SIM	AM
99 %R			%	10/4/21 18:15	8260B SIM	AM
99 %R			%	10/4/21 18:15	8260B SIM	AM
	LGAC Out 232759.05 aqueous 9/28/21 9/28/21 <b>Result</b> 1.6 99 %R 99 %R	LGAC Out 232759.05 aqueous 9/28/21 9/28/21 <b>Result RL</b> 1.6 0.2 99 %R 99 %R	LGAC Out 232759.05 aqueous 9/28/21 9/28/21 <u>9/28/21</u> <u>Dilution</u> Result RL Factor 1.6 0.2 1 99 %R 99 %R	LGAC Out 232759.05 aqueous 9/28/21 9/28/21 <u>9/28/21</u> <u>Dilution</u> <u>Result</u> 1.6 0.2 1 ug/L 99 %R %	LGAC Out 232759.05 aqueous 9/28/21 9/28/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed</b> <b>1.6</b> 0.2 1 ug/L 10/4/21 18:15 <b>99 %R</b> % 10/4/21 18:15	LGAC Out 232759.05 aqueous 9/28/21 9/28/21 <b>Dilution Date / Time</b> <b>Result RL Factor Units Analyzed Method</b> <b>1.6</b> 0.2 1 ug/L 10/4/21 18:15 8260B SIM 99 %R % 10/4/21 18:15 8260B SIM 99 %R % 10/4/21 18:15 8260B SIM

### QC REPORT

### EAI ID#: 232759

Batch ID: 637690-19737/A100421DIQX1

### Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method	
1,4-Dioxane	< 0.2	4.6 (91 %R)	4.7 (94 %R) (3 RPD	) 10/4/2021	ug/L	70 - 130	20	8260B	
4-Bromofluorobenzene (surr)	98 %R	98 %R	99 %F	R 10/4/2021	% Rec	70 - 130	50	8260B	
Toluene-d8 (surr)	99 %R	99 %R	100 %F	R 10/4/2021	% Rec	70 - 130	50	8260B	

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

QC REPORT

### EAI ID#: 232759

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

Batch ID: 637690-42299/A100521DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task No: 22-ST 1

Parameter Name	Blank	LCS	LCS LCSD		Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.5 (90 %R)	4.5 (91 %R) (0 RPD	) 10/5/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	98 %R	98 %R	98 %	R 10/5/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	100 %R	100 %R	100 %F	R 10/5/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 233431 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 10/11/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Longwit Dhshun Lorraine Olashaw, Lab Director

<u>10 - 25 - 21</u> Date

EAI ID#: 233431

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

### Received on ice or cold packs (Yes/No): Y Temperature upon receipt (°C): 3.1 Acceptable temperature range (°C): 0-6 Date Date/Time Sample % Dry Exceptions/Comments Sampled Lab ID Sample ID Received Matrix Weight (other than thermal preservation) 233431.01 System Influent 10/11/21 10/11/21 11:10 aqueous Adheres to Sample Acceptance Policy 233431.02 System Effluent 10/11/21 10/11/21 11:25 aqueous Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.
# LABORATORY REPORT

EAI ID#: 233431

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

Client Sample ID: S	System Influent				Date of Prepa	ration:				
Lab Sample ID: 2	:33431.01				M	ethod:	624.1			
Matrix: a	iqueous				Ar	nalyst:	JAK			
Date Sampled: 1	0/11/21					Units:	ug/L			
Date Received: 1	0/11/21									
	Result	RL	Dilution Factor	Date Analvzed		Re	sult	RL	Dilution Factor	Date Analyze
Chloromethane	< 2	2	1	10/12/21	4-Bromofluorobenzene (surr	07	%P			10/12/21
Vinvl chloride	< 1	1	1	10/12/21	1 2-Dichlorobenzene-d4	, J, 95	%R			10/12/21
Bromomethane	< 2	2	1	10/12/21	Toluene-d8 (surr)	98	%R			10/12/21
Chloroethane	< 2	2	1	10/12/21		50	7013			10,12,21
Trichlorofluoromethane	< 2	2	1	10/12/21						
Acrolein	< 50	50	1	10/12/21						
Acetone	< 10	10	1	10/12/21						
1.1-Dichloroethene	< 0.5	0.5	1	10/12/21						
Methylene chloride	< 1	0.0	1	10/12/21						
Acrylonitrile	< 50	50	1	10/12/21						
Methyl_t_butyl_etber(MTBE)	< 1	1	1	10/12/21						
irans-1 2-Dichloroethene	< 1	1	1	10/12/21						
Vinvl acetate	< 10	10	1	10/12/21						
1 1-Dichloroethane	< 10	10	1	10/12/21						
ris-1 2-Dichloroethene	< 1	1	1	10/12/21						
2-Butanone(MEK)	< 10	10	1	10/12/21						
² -Dutatione(MER)	< 10	10	1	10/12/21						
1 1 1-Trichloroethana	< 1	1	1	10/12/21						
Carbon tetrachlorido	< 1	1	1	10/12/21						
Benzene	< 1	1	1	10/12/21						
1 2-Dichloroethane	< 1	1	1	10/12/21						
Trichloroetheno	< 1	1	1	10/12/21						
	< 1	1	1	10/12/21						
Bromodichloromothono	< 0.5		1	10/12/21						
	< 0.5	0.5	1	10/12/21						
4 Mothyl 2 pontonono (MID	K) (10	2	1	10/12/21						
- Metry - 2-peritanone (Mib	N) < 10		1	10/12/21						
	< 0.5	0.5	1	10/12/21						
rans 1.2 Dichloropropono			1	10/12/21						
1 1 2 Trichloroothono	< 0.5	0.5	1	10/12/21						
	< 10	10	1	10/12/21						
Totrachloraethana	< 10	10	1	10/12/21						
Dibromochloromothona	< 1 - A	T k	T A	10/12/21						
Chlorobonzono	< 1 - A	T A	T A	10/12/21						
Ethylbonzono	۲ ۲ ۲ ۲	ן ג	1	10/12/21						
n Yulono	5   - A	1	1	10/12/21						
	۲ ا ۲ م	1	1	10/12/21						
Styropo	< '  - 4	ן ג	1	10/12/21						
Bromoform	< 1	1	1	10/12/21						
1 1 2 2 Totrachlara -th	< 2	2	1	10/12/21						
	< 1	1	1	10/12/21						
	< 1	1	1	10/12/21						
	< 1	1	1	10/12/21						
i,∠-∪icniorobenzene	< 1	1	1	10/12/21						

Acrolein, Styrene, and Vinyl acetate exhibited recovery below acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).

Eastern Analytical, Inc.

# LABORATORY REPORT

#### EAI ID#: 233431

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

Client Sample ID: 5 Lab Sample ID: 2	System Effluent 233431.02				Date of Prepa M	aration: lethod:	624.1			
Matrix: a	aqueous				А	nalvst:	JAK			
Date Sampled:	10/11/21					Ilnite:	ua/l			
	10/11/21					onna.	ugri			
Date Received:	10/11/21		Dilution	Date					Dilution	Date
	Result	RL	Factor	Analyzed		Res	sult	RL	Factor	Analyzec
Chloromethane	< 2	2	1	10/12/21	4-Bromofluorobenzene (sur	r) 96	%R			10/12/21
Vinyl chloride	< 1	1	1	10/12/21	1,2-Dichlorobenzene-d4	94	%R			10/12/21
Bromomethane	< 2	2	1	10/12/21	Toluene-d8 (surr)	98	%R			10/12/21
Chloroethane	< 2	2	1	10/12/21						
Trichlorofluoromethane	< 2	2	1	10/12/21						
Acrolein	< 50	50	1	10/12/21						
Acetone	< 10	10	1	10/12/21						
1,1-Dichloroethene	< 0.5	0.5	1	10/12/21						
Methylene chloride	< 1	1	1	10/12/21						
Acrylonitrile	< 50	50	1	10/12/21						
Methyl-t-butyl ether(MTBE	) <1	1	1	10/12/21						
trans-1.2-Dichloroethene	, < 1	1	1	10/12/21						
Vinvl acetate	< 10	10	1	10/12/21						
1.1-Dichloroethane	< 1	1	1	10/12/21						
cis-1.2-Dichloroethene	< 1	1	1	10/12/21						
2-Butanone(MEK)	< 10	10	1	10/12/21						
Chloroform	< 1	1	1	10/12/21						
1.1.1-Trichloroethane	< 1	1	1	10/12/21						
Carbon tetrachloride	< 1	1	1	10/12/21						
Benzene	< 1	1	1	10/12/21						
1.2-Dichloroethane	< 1	1	1	10/12/21						
Trichloroethene	< 1	1	1	10/12/21						
1.2-Dichloropropane	< 1	1	1	10/12/21						
Bromodichloromethane	< 0.5	0.5	1	10/12/21						
2-Chloroethylvinylether	< 2	2	1	10/12/21						
4-Methyl-2-pentanone(MIE	3K) < 10	10	1	10/12/21						
cis-1.3-Dichloropropene	< 0.5	0.5	1	10/12/21						
Toluene	< 1	1	1	10/12/21						
trans-1.3-Dichloropropene	< 0.5	0.5	1	10/12/21						
1.1.2-Trichloroethane	< 1	1	1	10/12/21						
2-Hexanone	< 10	10	1	10/12/21						
Tetrachloroethene	< 1	1	1	10/12/21						
Dibromochloromethane	< 1	1	1	10/12/21						
Chlorobenzene	< 1	1	1	10/12/21						
Ethylbenzene	< 1	1	1	10/12/21						
mp-Xylene	< 1	1	1	10/12/21						
o-Xylene	< 1	1	1	10/12/21						
Styrene	< 1	1	1	10/12/21						
Bromoform	< 2	2	1	10/12/21						
1,1,2,2-Tetrachloroethane	_ < 1	- 1	1	10/12/21						
1,3-Dichlorobenzene	< 1	1	1	10/12/21						
1,4-Dichlorobenzene	< 1	1	1	10/12/21						
1.2-Dichlorobenzene	< 1	1	1	10/12/21						

Acrolein, Styrene, and Vinyl acetate exhibited recovery below acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).

Eastern Analytical, Inc.

# 

#### EAI ID#: 233431

Batch ID: 637695-70559/A101121V6241

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

Client Designation: Rennie Farm RGP / 04.0190030.02

	Blank	Blank							
Parameter Name	(RL)	(MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	< .876	28 (140 %R)	26 (131 %R) (7 RPD)	10/12/2021	ug/L	1 - 205	60	624.1
Vinyl chloride	< 1	< .34	28 (141 %R)	27 (133 %R) (6 RPD)	10/12/2021	ug/L	5 - 195	66	624.1
Bromomethane	< 2	< .554	25 (126 %R)	26 (128 %R) (2 RPD)	10/12/2021	ug/L	15 - 185	61	624.1
Chloroethane	< 2	< .232	24 (122 %R)	23 (116 %R) (5 RPD)	10/12/2021	ug/L	40 - 160	78	624.1
Trichlorofluoromethane	< 2	< .375	28 (141 %R)	27 (134 %R) (5 RPD)	10/12/2021	ug/L	50 - 150	84	624.1
Acrolein	< 50	< .548	* < 50 (34 %R)	* < 50 (38 %R) (9 RPD)	10/12/2021	ug/L	60 - 140	60	624.1
Acetone	< 10	< 2.387	23 (113 %R)	22 (112 %R) (1 RPD)	10/12/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethene	< 0.5	< .37	24 (118 %R)	22 (112 %R) (5 RPD)	10/12/2021	ug/L	50 - 150	32	624.1
Methylene chloride	< 1	< .545	22 (110 %R)	21 (105 %R) (4 RPD)	10/12/2021	ug/L	60 - 140	28	624.1
Acrylonitrile	< 50	< .302	< 50 (123 %R)	< 50 (121 %R) (2 RPD)	10/12/2021	ug/L	60 - 140	60	624.1
Methyl-t-butyl ether(MTBE)	< 1	< .519	22 (109 %R)	21 (106 %R) (3 RPD)	10/12/2021	ug/L	70 - 130	20	624.1
trans-1,2-Dichloroethene	< 1	< .298	23 (117 %R)	22 (111 %R) (5 RPD)	10/12/2021	ug/L	70 - 130	45	624.1
Vinyl acetate	< 10	< .557	* < 10 (19 %R)	* < 10 (18 %R) (2 RPD)	10/12/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethane	< 1	< .085	23 (117 %R)	23 (113 %R) (4 RPD)	10/12/2021	ug/L	70 - 130	40	624.1
cis-1,2-Dichloroethene	< 1	< .238	24 (118 %R)	23 (113 %R) (4 RPD)	10/12/2021	ug/L	70 - 130	20	624.1
2-Butanone(MEK)	< 10	< .206	21 (107 %R)	21 (107 %R) (0 RPD)	10/12/2021	ug/L	40 - 160	20	624.1
Chloroform	< 1	< .36	23 (114 %R)	22 (110 %R) (4 RPD)	10/12/2021	ug/L	70 - 135	54	624.1
1,1,1-Trichloroethane	< 1	< .227	23 (115 %R)	22 (110 %R) (5 RPD)	10/12/2021	ug/L	70 - 130	36	624.1
Carbon tetrachloride	< 1	< .261	23 (114 %R)	22 (109 %R) (4 RPD)	10/12/2021	ug/L	70 - 130	41	624.1
Benzene	< 1	< .312	24 (122 %R)	23 (117 %R) (4 RPD)	10/12/2021	ua/L	65 - 135	61	624.1
1,2-Dichloroethane	< 1	< .21	22 (108 %R)	21 (105 %R) (2 RPD)	10/12/2021	ua/L	70 - 130	49	624.1
Trichloroethene	< 1	< .359	23 (114 %R)	22 (109 %R) (4 RPD)	10/12/2021	ua/L	65 - 135	48	624.1
1,2-Dichloropropane	< 1	< .285	24 (121 %R)	23 (117 %R) (3 RPD)	10/12/2021	ua/L	35 - 165	55	624.1
Bromodichloromethane	< 0.5	< .079	24 (118 %R)	23 (114 %R) (3 RPD)	10/12/2021	ua/L	65 - 135	56	624.1
2-Chloroethylvinylether	< 2	< ,493	13 (67 %R)	14 (68 %R) (1 RPD)	10/12/2021	ua/L	1 - 225	71	624.1
1,4-Dioxane	< 50	<	< 50 (138 %R)	< 50 (139 %R) (1 RPD)	10/12/2021	ua/L	40 - 160	20	624.1
4-Methyl-2-pentanone(MIBK)	< 10	< .411	22 (112 %R)	23 (114 %R) (1 RPD)	10/12/2021	ua/L	40 - 160	20	624.1
cis-1,3-Dichloropropene	< 0.5	< .101	24 (122 %R)	23 (117 %R) (4 RPD)	10/12/2021	ua/L	25 - 175	58	624.1
Toluene	< 1	< .19	25 (126 %R)	24 (120 %R) (5 RPD)	10/12/2021	ua/L	70 - 130	41	624.1
trans-1,3-Dichloropropene	< 0.5	< .08	24 (118 %R)	23 (114 %R) (4 RPD)	10/12/2021	ua/L	50 - 150	86	624.1
1,1,2-Trichloroethane	< 1	< .203	25 (123 %R)	24 (119 %R) (3 RPD)	10/12/2021	ua/L	70 - 130	45	624.1
2-Hexanone	< 10	< .28	21 (104 %R)	22 (108 %R) (4 RPD)	10/12/2021	ua/L	40 - 160	20	624.1
Tetrachloroethene	< 1	< .371	24 (119 %R)	23 (113 %R) (5 RPD)	10/12/2021	- <u>-</u> 9	70 - 130	39	624.1
Dibromochloromethane	< 1	< .225	24 (119 %R)	23 (114 %R) (4 RPD)	10/12/2021	ца/L	70 - 135	50	624.1
Chlorobenzene	< 1	< .247	25 (123 %R)	24 (118 %R) (4 RPD)	10/12/2021	ua/L	65 - 135	53	624.1
Ethylbenzene	< 1	< .213	27 (133 %R)	26 (128 %R) (4 RPD)	10/12/2021	ua/L	60 - 140	63	624.1
mp-Xylene	< 1	< .476	45 (113 %R)	43 (109 %R) (4 RPD)	10/12/2021	ua/L	70 - 130	20	624.1
o-Xylene	< 1	< .298	26 (129 %R)	25 (124 %R) (4 RPD)	10/12/2021	ua/L	70 - 130	20	624.1
Styrene	< 1	< ,727	* 11 (53 %R)	* 11 (54 %R) (2 RPD)	10/12/2021	ua/L	70 - 130	20	624.1
Bromoform	< 2	< .282	25 (125 %R)	24 (121 %R) (3 RPD)	10/12/2021	ua/L	70 - 130	42	624.1
1,1,2,2-Tetrachloroethane	< 1	< .381	23 (115 %R)	23 (113 %R) (2 RPD)	10/12/2021	ua/L	60 - 140	61	624.1
1,3-Dichlorobenzene	< 1	< ,426	24 (118 %R)	23 (113 %R) (4 RPD)	10/12/2021	ua/L	70 - 130	43	624.1
1,4-Dichlorobenzene	< 1	< .375	23 (114 %R)	22 (110 %R) (4 RPD)	10/12/2021	ua/L	65 - 135	57	624.1
1,2-Dichlorobenzene	, < 1	< .218	23 (116 %R)	22 (111 %R) (4 RPD)	10/12/2021	ua/I	65 - 135	57	624.1
4-Bromofluorobenzene (surr)	75 %R		102 %R	102 %R	10/12/2021	% Rec	70 - 130	5.	624.1
1,2-Dichlorobenzene-d4 (surr)	115 %R		95 %R	96 %R	10/12/2021	% Rec	70 - 130		624 1
Toluene-d8 (surr)	99 %R		103 %R	103 %R	10/12/2021	% Rec	70 - 130		624.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Eastern Analytical, Inc.

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#### EAI ID#: 233431

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

Client Sample ID:	System Influent							
Lab Sample ID:	233431.01							
Matrix:	aqueous							
Date Sampled:	10/11/21							
Date Received:	10/11/21							
	Result	RL	Dilution Factor	Units	Date / Tin Analyzed	ne d	Method	Analyst
Phenol	< 1	1	1	ug/L	10/12/21 18	8:41	625.1	JMR
2-Fluorophenol (surr)	36 %R			%	10/12/21 18	8:41	625.1	JMR
Phenol-d6 (surr)	24 %R			%	10/12/21 18	8:41	625.1	JMR
2,4,6-Tribromophenol (surr)	68 %R			%	10/12/21 18	8·41	625.1	JMR

Eastern Analytical, Inc.

## EAI ID#: 233431

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

Client Sample ID:	System Effluent						
Lab Sample ID:	233431.02						
Matrix:	aqueous						
Date Sampled:	10/11/21						
Date Received:	10/11/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
Phenol	< 1	1	1	ug/L	10/12/21 19:04	625.1	JMR
Phenol 2-Fluorophenol (surr)	< 1 37 %R	1	1	ug/L %	10/12/21 19:04 10/12/21 19:04	625.1 625.1	JMR JMR
Phenol 2-Fluorophenol (surr) Phenol-d6 (surr)	< 1 37 %R 24 %R	1	1	ug/L % %	10/12/21 19:04 10/12/21 19:04 10/12/21 19:04	625.1 625.1 625.1	JMR JMR JMR

QC REPORT

## EAI ID#: 233431

Batch ID: 637696-21430/A101221E6251

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
alpha-Terpineol	< 5	< .17	17 (68 %R)	15 (61 %R) (11 RPD	) 10/12/2021	ug/L	40 - 140	20	625.1
Phenol	< 1	< .12	12 (24 %R)	10 (21 %R) (16 RPD	) 10/12/2021	ug/L	5 - 120	64	625.1
2-Chlorophenol	< 1	< .2	29 (58 %R)	24 (48 %R) (19 RPC	) 10/12/2021	ug/L	23 - 134	61	625.1
2,4-Dichlorophenol	< 1	< .31	34 (68 %R)	29 (59 %R) (14 RPC	) 10/12/2021	ug/L	39 - 135	50	625.1
2,4,5-Trichlorophenol	< 1	< .33	34 (68 %R)	32 (63 %R) (7 RPC	) 10/12/2021	ug/L	30 - 130	20	625.1
2,4,6-Trichlorophenol	< 1	< .48	34 (68 %R)	31 (62 %R) (9 RPC	) 10/12/2021	ug/L	37 - 144	58	625.1
Pentachlorophenol	< 5	< 1.1	32 (64 %R)	31 (62 %R) (3 RPD	) 10/12/2021	ug/L	14 - <b>1</b> 76	86	625.1
2-Nitrophenol	< 5	< .44	33 (66 %R)	28 (56 %R) (16 RPD	) 10/12/2021	ug/L	29 - 182	55	625.1
4-Nitrophenol	< 5	< .22	14 (29 %R)	14 (29 %R) (0 RPD	) 10/12/2021	ug/L	<b>1 -</b> 132	131	625.1
2,4-Dinitrophenol	< 10	< 1.5	11 (23 %R)	25 (50 %R) (74 RPE	) 10/12/2021	ug/L	1 - 191	132	625.1
2-Methylphenol	< 1	< .4	28 (55 %R)	23 (46 %R) (17 RPC	) 10/12/2021	ug/L	30 - 130	20	625.1
3/4-Methylphenol	< 1	< .42	26 (53 %R)	23 (45 %R) (15 RPE	) 10/12/202 <b>1</b>	ug/L	30 - 130	20	625.1
2,4-Dimethylphenol	< 5	< 1.4	33 (65 %R)	29 (57 %R) (13 RPD	) 10/12/2021	ug/L	32 - 120	58	625.1
4-Chloro-3-methylphenol	< 1	< .26	34 (68 %R)	31 (63 %R) (8 RPE	) 10/12/2021	ug/L	22 - 147	73	625.1
4,6-Dinitro-2-methylphenol	< 5	< 3.3	32 (65 %R)	35 (70 %R) (8 RPE	) 10/12/2021	ug/L	1 - 181	203	625.1
Benzoic Acid	< 50	< 5.7	* < 50 (9 %R)	* < 50 (11 %R) (16 RPE	) 10/12/2021	ug/L	15 - 130	50	625.1
N-Nitrosodimethylamine	< 1	< .11	9.7 (39 %R)	8,3 (33 %R) (15 RPE	) 10/12/2021	ug/L	15 - 140	20	625.1
n-Nitroso-di-n-propylamine	< 0.5	< .22	15 (62 %R)	13 (54 %R) (14 RPE	) 10/12/2021	ug/L	1 - 230	87	625.1
n-Nitrosodiphenylamine	< 1	< .068	17 (68 %R)	16 (66 %R) (4 RPC	) 10/12/2021	ug/L	40 - 140	20	625.1
bis(2-Chloroethyl)ether	< 1	< .11	15 (60 %R)	12 (49 %R) (19 RPE	) 10/12/2021	ug/L	12 - 158	108	625.1
bis(2-chloroisopropyl)ether	< 1	< .13	15 (59 %R)	12 (49 %R) (19 RPE	) 10/12/2021	ug/L	36 - 166	76	625.1
bis(2-Chloroethoxy)methane	< 1	< .2	16 (65 %R)	14 (57 %R) (14 RPE	) 10/12/2021	ug/L	33 - 184	54	625.1
1,3-Dichlorobenzene	< 1	< .15	13 (52 %R)	10 (42 %R) (22 RPD)	! 10/12/2021	ug/L	40 - 140	20	625.1
Acetophenone	< 10	< 8.8	15 (61 %R)	13 (52 %R) (16 RPE	) 10/12/2021	ug/L	40 - 140	20	625.1
1,4-Dichlorobenzene	< 1	< .11	13 (52 %R)	10 (41 %R) (22 RPD)	! 10/12/2021	ug/L	40 - 140	20	625.1
1,2-Dichlorobenzene	< 1	< .13	13 (54 %R)	11 (43 %R) (22 RPD)	! 10/12/2021	ug/L	40 - 140	20	625.1
1,2,4-Trichlorobenzene	< 1	< .09	14 (57 %R)	12 (48 %R) (17 RPE	) 10/12/2021	ug/L	. 44 - 142	50	625.1
2-Chloronaphthalene	< 1	< . <b>1</b> 1	16 (63 %R)	* 14 (57 %R) (11 RPE	) 10/12/2021	ug/L	60 - 120	24	625.1
4-Chlorophenyl-phenylether	< 1	< .059	17 (68 %R)	16 (64 %R) (6 RPI	) 10/12/2021	ug/L	. 25 - 158	61	625.1
4-Bromophenyl-phenylether	< 1	< .14	18 (70 %R)	17 (67 %R) (4 RPI	) 10/12/2021	ug/L	53 - 127	43	625.1
Hexachloroethane	< 1	< .15	13 (54 %R)	11 (43 %R) (22 RPI	) 10/12/2021	ug/L	40 - 120	52	625.1
Hexachlorobutadiene	< 1	< .073	14 (56 %R)	12 (46 %R) (18 RPE	) 10/12/2021	ug/L	. 24 - 120	62	625.1
Hexachlorocyclopentadiene	< 5	< .21	9.8 (39 %R)	8.4 (33 %R) (16 RPE	) 10/12/2021	ug/L	. 15 - 140	20	625.1
Hexachlorobenzene	< 1	< .12	18 (71 %R)	17 (68 %R) (4 RPI	) 10/12/2021	ug/L	. 1 - 152	55	625.1
4-Chloroaniline	< 1	< .13	17 (69 %R)	16 (63 %R) (10 RPI	) 10/12/2021	ug/L	. 15 - 140	20	625.1
2,3-Dichloroaniline	< 1	< .11	16 (65 %R)	15 (60 %R) (9 RPI	) 10/12/2021	ug/L	. 40 - 140	20	625.1
2-Nitroaniline	< 5	< .18	18 (71 %R)	17 (69 %R) (4 RPI	) 10/12/2021	ug/L	. 40 - 140	20	625.1
3-Nitroaniline	< 5	< .13	18 (73 %R)	18 (72 %R) (1 RPI	0) 10/12/2021	ug/L	. 40 - 140	20	625.1
4-Nitroaniline	< 5	< .23	19 (75 %R)	18 (74 %R) (2 RPI	0) 10/12/2021	ug/L	. 40 - 140	20	625.1
Aniline	< 1	< .13	14 (57 %R)	12 (49 %R) (14 RPI	0) 10/12/2021	ug/L	. 40 - 140	20	625.1
Benzyl alcohol	< 10	< .35	14 (56 %R)	12 (49 %R) (13 RPI	0) 10/12/2021	ug/L	. 40 - 140	20	625.1
Nitrobenzene	< 1	< .21	16 (63 %R)	13 (54 %R) (16 RPI	D) 10/12/202 <b>1</b>	ug/L	. 35 - 180	62	625.1
Isophorone	< 1	< .16	17 (69 %R)	16 (62 %R) (10 RPI	0) 10/12/2021	ug/L	. 21 - 196	93	625.1
2,4-Dinitrotoluene	< 2	< .14	19 (74 %R)	18 (73 %R) (1 RPI	0) 10/12/2021	ug/L	. 39 - 139	42	625.1
2,6-Dinitrotoluene	< 2	< .14	18 (74 %R)	18 (71 %R) (3 RPI	0) 10/12/2021	ug/L	50 - 158	48	625.1
Benzidine (estimated)	< 5	< .41	13 (53 %R)	13 (50 %R) (6 RPI	D) 10/12/2021	ug/L	. 1 - 200	50	625.1

Eastern Analytical, Inc.

QC REPORT

#### EAI ID#: 233431

Batch ID: 637696-21430/A101221E6251

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

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
3,3'-Dichlorobenzidine	< 1	< .27	17 (69 %R)	16 (65 %R) (5 RPD	) 10/12/2021	ug/L	1 - 262	108	625.1
Pyridine	< 5	< .18	9 (36 %R)	7.9 (32 %R) (13 RPD	) 10/12/2021	ug/L	15 - 140	20	625.1
Azobenzene	< 1	< .14	17 (69 %R)	16 (66 %R) (4 RPD	) 10/12/2021	ug/L	40 - 140	20	625.1
Carbazole	< 1	< .12	18 (72 %R)	18 (71 %R) (2 RPD	) 10/12/2021	ug/L	40 - 140	20	625.1
Dimethylphthalate	< 1	< .11	17 (67 %R)	16 (65 %R) (4 RPD	) 10/12/2021	ug/L	1 - 120	183	625.1
Diethylphthalate	< 5	< .11	17 (69 %R)	17 (68 %R) (2 RPD	) 10/12/2021	ug/L	1 - 120	100	625.1
Di-n-butylphthalate	< 5	< .64	18 (73 %R)	18 (73 %R) (0 RPD	) 10/12/2021	ug/L	1 - 120	47	625.1
Butylbenzylphthalate	< 5	< .14	17 (70 %R)	17 (68 %R) (3 RPD	) 10/12/2021	ug/L	1 - 152	60	625.1
bis(2-Ethylhexyl)phthalate	< 5	< .27	18 (71 %R)	17 (68 %R) (4 RPD	) 10/12/2021	ug/L	8 - 158	82	625.1
Di-n-octylphthalate	< 5	< .2	16 (64 %R)	16 (62 %R) (2 RPD	) 10/12/2021	ug/L	4 - 146	69	625.1
Dibenzofuran	< 1	< .11	16 (65 %R)	15 (61 %R) (7 RPD	) 10/12/2021	ug/L	40 - 140	20	625.1
Naphthalene	< 1	< .088	15 (61 %R)	13 (51 %R) (16 RPD	) 10/12/2021	ug/L	21 - 133	65	625.1
2-Methylnaphthalene	< 1	< .11	16 (65 %R)	14 (57 %R) (14 RPD	) 10/12/2021	ug/L	40 - 140	65	625.1
1-Methylnaphthalene	< 1	< ,12	17 (67 %R)	15 (58 %R) (13 RPD	) 10/12/2021	ug/L	40 - 140	65	625.1
Acenaphthylene	< 1	< .11	17 (66 %R)	15 (61 %R) (8 RPD	) 10/12/2021	ug/L	33 - 145	74	625.1
Acenaphthene	< 1	<b>&lt;</b> .11	16 (66 %R)	16 (65 %R) (1 RPD	) 10/12/2021	ug/L	47 - 145	48	625.1
Fluorene	< 1	< .093	17 (67 %R)	16 (63 %R) (6 RPD	) 10/12/2021	ug/L	59 - 121	38	625.1
Phenanthrene	< 1	< .11	17 (69 %R)	17 (67 %R) (3 RPD	) 10/12/2021	ug/L	54 - 120	39	625.1
Anthracene	< 1	< .13	17 (70 %R)	17 (68 %R) (3 RPD	) 10/12/2021	ug/L	27 - 133	66	625.1
Fluoranthene	< 1	< .12	18 (71 %R)	18 (70 %R) (2 RPD	) 10/12/2021	ug/L	26 - 137	66	625.1
Pyrene	< 1	< .11	17 (68 %R)	16 (65 %R) (5 RPD	) 10/12/2021	ug/L	52 - 120	49	625.1
Benzo[a]anthracene	< 1	< .17	17 (67 %R)	16 (65 %R) (4 RPD	) 10/12/2021	ug/L	33 - 143	53	625.1
Chrysene	< 1	< .14	18 (71 %R)	17 (69 %R) (3 RPD	) 10/12/2021	ug/L	17 - 168	87	625.1
Benzo[b]fluoranthene	< 1	< .095	18 (70 %R)	17 (67 %R) (5 RPD	) 10/12/2021	ug/L	24 - 159	71	625.1
Benzo[k]fluoranthene	< 1	< .14	18 (70 %R)	17 (70 %R) (1 RPD	) 10/12/2021	ug/L	11 - 162	63	625.1
Benzo[a]pyrene	< 1	< .058	17 (68 %R)	16 (66 %R) (3 RPD	) 10/12/2021	ug/L	17 - 163	72	625.1
Indeno[1,2,3-cd]pyrene	< 1	< .13	16 (66 %R)	16 (63 %R) (5 RPD	) 10/12/2021	ug/L	1 - 171	99	625.1
Dibenz[a,h]anthracene	< 1	< .16	17 (68 %R)	17 (66 %R) (3 RPD	) 10/12/2021	ug/L	1 - 227	126	625.1
Benzo[g,h,i]perylene	< 1	< .14	16 (64 %R)	15 (61 %R) (4 RPC	) 10/12/2021	ug/L	1 - 219	97	625.1
n-Decane	< 5	< .16	12 (47 %R)	* 9.3 (37 %R) (23 RPD)	! 10/12/2021	ug/L	40 - 140	20	625.1
n-Octadecane	< 5	< .5	18 (71 %R)	17 (70 %R) (3 RPC	) 10/12/2021	ug/L	40 - 140	20	625.1
2-Fluorophenol (surr)	34 %R		33 %R	27 %	R 10/12/2021	% Rec	15 - 110		625.1
Phenol-d6 (surr)	24 %R		24 %R	20 %I	R 10/12/2021	% Rec	15 - 110		625.1
2,4,6-Tribromophenol (surr)	68 %R		74 %R	69 %I	R 10/12/2021	% Rec	15 - 110		625.1
Nitrobenzene-D5 (surr)	66 %R		64 %R	53 %	R 10/12/2021	% Rec	30 - 130		625.1
2-Fluorobiphenyl (surr)	65 %R		62 %R	53 %	R 10/12/2021	% Rec	30 - 130		625.1
p-Terphenyl-D14 (surr)	69 %R		70 %R	66 %	R 10/12/2021	% Rec	30 - 130		625.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

# LABORATORY REPORT

#### EAI ID#: 233431

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	233431.01	233431.02						
Matrix:	aqueous	aqueous						
Date Sampled:	10/11/21	10/11/21			Ana	alysis		
Date Received:	10/11/21	10/11/2 <b>1</b>	RL	Units	Date	Time	Method A	Analyst
Solids Suspended	< 5	< 5	5	mg/L	10/13/21	14:25	2540D-11	CF
Chloride	1900	2000	1000	ug/L	10/15/21	5:39	300.0	LLG
Cvanide Total	< 5	< 5	5	ug/L	10/15/21	17:02	ASTM D7511-(	39 KD
Cvanide Free	< 5	< 5	5	ug/L	10/12/21	15:51	OIA-1677-09	/ KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	10/13/21	10:40	TM NH3-001	SEL

QC REPORT

#### EAI ID#: 233431

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank	LCS	LCSD	Date of Units Analysis	Limits F	RPD	Method
Solids Suspended	< 5	97 (102 %R)	93 (98 %R) (4 RPD)	mg/L 10/13/21	90 - 110	20	2540D-11
Chloride	< 1	20 (98 %R)	19 (94 %R) (4 RPD)	ug/L 10/15/21	90 - 110	20	300.0
Cyanide Total	< 5	100 (105 %R)	100 (105 %R) (0 RPD)	ug/L 10/15/21	84 - 116	20	ASTM D7511-09
Cyanide Free	< 5	230 (92 %R)	230 (93 %R) (1 RPD)	ug/L 10/12/21	84 - 116	20	OIA-1677-09
Ammonia-N	< 0.05	1.9 (96 %R)	1.9 (93 %R) (3 RPD)	mg/L 10/13/21	87 - 104	20	TM NH3-001

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

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:	233431.01	233431.02					
Matrix:	aqueous	aqueous					
Date Sampled:	10/11/21	10/11/21		A	.1	A	
Date Received:	10/11/21	10/11/21	RL	Matrix	u Units	Date	Method
Chromium (VI)	< 10	< 10	10	AqTot	ug/L	10/11/21	7196A
Antimony	< 0.5	< 0.5	0.5	AqTot	ug/L	10/13/21	200.8
Arsenic	< 0.5	< 0.5	0.5	AqTot	ug/L	10/13/21	200.8
Cadmium	< 0.1	< 0.1	0.1	AqTot	ug/L	10/13/21	200.8
Chromium	< 0.5	< 0.5	0.5	AqTot	ug/L	10/13/21	200.8
Copper	1.4	0.11	0.5	AqTot	ug/L	10/13/21	200.8
Iron	460	< 50	50	AqTot	ug/L	10/13/21	200.8
Lead	< 0.1	< 0.1	0.1	AqTot	ug/L	10/13/21	200.8
Mercury	< 0.1	< 0.1	0.1	AqTot	ug/L	10/13/21	200.8
Nickel	0.56	0.18	0.1	AqTot	ug/L	10/13/21	200.8
Selenium	< 0.5	< 0.5	0.5	AqTot	ug/L	10/13/21	200.8
Silver	< 0.1	< 0.1	0.1	AqTot	ug/L	10/13/21	200.8
Zinc	1.5	1.8	1	AqTot	ug/L	10/13/21	200.8
Chromium (III)	< 10	< 10	10	AqTot	ug/L	10/13/21	200.8

QC REPORT

# EAI ID#: 233431

#### 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	< 0.0005	1.1 (111 %R)	N	A mg/L 10/13/21	85 - 115 20	200.8
Arsenic	< 0.0005	1.1 (108 %R)	NA	A mg/L 10/13/21	85 - 115 20	200.8
Cadmium	< 0.0001	1.0 (102 %R)	N	A mg/L 10/13/21	85 - 115 20	200.8
Chromium	< 0.0005	1.1 (108 %R)	N	A mg/L 10/13/21	85 - 115 20	200.8
Copper	< 0.0001	1.1 (108 %R)	N	A mg/L 10/13/21	85 - 115 20	200.8
Iron	< 0.05	11 (104 %R)	N	A mg/L 10/13/21	85 - 115 20	200.8
Lead	< 0.0001	1.1 (106 %R)	N/	A mg/L 10/13/21	85 - 115 20	200.8
Mercury	< 0.0001	0.0011 (109 %R)	N	A mg/L 10/13/21	85 - 115 20	200.8
Nickel	< 0.0001	1.1 (107 %R)	N	A mg/L 10/13/21	85 - 115 20	200.8
Selenium	< 0.0005	1.0 (104 %R)	N	A mg/L 10/13/21	85 - 115 20	200.8
Silver	< 0.0001	0.010 (104 %R)	N/	A mg/L 10/13/21	85 - 115 20	200.8
Zinc	< 0.001	1.1 (106 %R)	N	A mg/L 10/13/21	85 - 115 20	200.8
Chromium (VI)	< 0.01	0.30 (97 %R)	N	A mg/L 10/11/21	85 - 115 20	7196A

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc.



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

October 22, 2021

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

RE: Project: 233431 10/11 Pace Project No.: 70191231

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on October 15, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures



#### **REPORT OF LABORATORY ANALYSIS**

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Page 1 of 9



#### CERTIFICATIONS

 Project:
 233431 10/11

 Pace Project No.:
 70191231

#### Pace Analytical Services Long Island 575 Broad Hollow Rd, Melville, NY 11747

Connecticut Certification #: PH-0435 Delaware Certification # NY 10478 Maryland Certification #: 208 Massachusetts Certification #: M-NY026 New Hampshire Certification #: 2987 New Jersey Certification #: NY158 New York Certification #: 10478 Primary Accrediting Body Pennsylvania Certification #: 68-00350 Rhode Island Certification #: LAO00340 Virginia Certification # 460302

#### **REPORT OF LABORATORY ANALYSIS**

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#### ANALYTICAL RESULTS

Project: 233431 10/11

Pace Project No.: 70191231

Sample: SYSTEM INFLUENT	Lab ID: 70191231001		Collected: 10/11/2	1 11:10	Received: 1	0/15/21 10:15 M	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
1624B MSV	Analytical Meth Pace Analytica	nod: EPA 16 I Services -	∂24B · Melville						
Acetone <i>Surrogates</i>	<0.010	mg/L	0.010	1		10/20/21 13:58	67-64-1		
1,2-Dichloroethane-d4 (S)	87	%	77-10 <b>1</b>	1		10/20/21 13:58	17060-07-0		
4-Bromofluorobenzene (S)	97	%	80-110	1		10/20/21 13:58	460-00-4		
Toluene-d8 (S)	108	%	94-117	1		10/20/21 13:58	2037-26-5		

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#### ANALYTICAL RESULTS

Project: 233431 10/11

Pace Project No.: 70191231

Sample: SYSTEM EFFLUENT	Lab ID: 701	91231002	Collected: 10/11/2	21 11:25	Received:	10/15/21 10:15 N	Aatrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Meth Pace Analytica	nod: EPA 16 I Services -	∂24B · Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		10/20/21 13:37	67-64-1	
1,2-Dichloroethane-d4 (S)	89	%	77-101	1		10/20/21 13:37	17060-07-0	
4-Bromofluorobenzene (S)	93	%	80-110	1		10/20/21 13:37	460-00-4	
Toluene-d8 (S)	106	%	94-117	1		10/20/21 13:37	2037-26-5	

#### **REPORT OF LABORATORY ANALYSIS**

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#### QUALITY CONTROL DATA

Project: 23	33431 10/11				
Pace Project No.: 70	0191231				
QC Batch:	230115	Analysis Met	hod: E	PA 1624B	
QC Batch Method:	EPA 1624B	Analysis Des	cription: 1	624B MSV	
		Laboratory:	P	ace Analytical Servi	ces - Melville
Associated Lab Sample	es: 70191231001, 70191231002				
METHOD BLANK: 11	160662	Matrix:	Water		
Associated Lab Sample	es: 70191231001, 70191231002				
		Blank	Reporting		
Paramet	er Units	Result	Limit	Analyzed	Qualifiers
Acetone	mg/L	<0.010	0.010	10/20/21 11:48	
1,2-Dichloroethane-d4	(S) %	96	77-101	10/20/21 11:48	
4-Bromofluorobenzene	e (S) %	94	80-110	10/20/21 11:48	
Toluono de (S)	%	103	94-117	10/20/21 11:48	

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	mg/L	0.05	0.053	107	20-200	
1,2-Dichloroethane-d4 (S)	%			86	77-101	
4-Bromofluorobenzene (S)	%			108	80-110	
Toluene-d8 (S)	%			104	94-117	

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:
 233431 10/11

 Pace Project No.:
 70191231

#### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

#### **REPORT OF LABORATORY ANALYSIS**

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#### QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 233431 10/11

 Pace Project No.:
 70191231

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70191231001 70191231002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	230115 230115		

#### **REPORT OF LABORATORY ANALYSIS**

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# **CHAIN-OF-CUSTODY RECORD**

Eastern Analytical, Inc. professional laboratory and drilling services

EAI ID# 233431

Page 1

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
System Influent	10/11/2021 11:10	aqueous	Subcontract - EPA Method 1624 Isotope Dilution	
System Effluent	10/11/2021 11:25	aqueous	Subcontract - EPA Method 1624 Isotope Dilution	



EAI ID# 2	233431	Project State: NH Project ID: 4965	Results Needed:       Preferred Date: Standard         RUSH Due Date:	PO #:5593 <u>Data Delivera</u> Excel NH	4 <u>ible</u> (circle) EMD EQul!	EAI ID# 233	431
Company	PACE AN	ALYTICAL	Notes about project:				
Address	575 BRO	AD HOLLOW ROAD	Email login confirmation, pdf of results and	Call prior to	analyzing, if l	RUSH charges	will be applied.
Address	MELVILL	E, NY 11747	invoice to customerservice@easternanalytical.com. 1624 VOC Acetone Only	Samples Co	ollected by:	in liviat	1500 AS
Account #				Relinguishe	d by	Date/Time	Received by
Phone #	ŧ (631)694-	3040	1	t		10/15/2/10-15	B- W PACE LI
Page	. ,			Relinquishe	d by	Date/Time	Received by
° Eastern	Analytical, Inc	25 Chenell Dr. Concord,	, NH 03301 Phone: (603)228-0525 1-800-28	37-0525 c	ustomerservic	ce@easternana	lytical.com

As 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

	Sa	ample (	Conditio	n Upon Recei	ີ້ ແດະ : 701	91231
Pace Analytical	Client N	ame:		Projec	WALL -	Date: 10/22/21
/-	t.	ASTA			PM: KMM	
Courier: Fed Ex 2019 USPS COURS	Comm	ercial 🖸	ace 🗇 thei	······································	CLIENT: EASTA	
Tracking #: 13- 2046 690	i 61	9076	1834			
Custody Seal on Cooler/Box Present:	s ZNO	Seals in	tact: 🗆 Yes	No 🖉 N/A	Temperature Blank Pr	esent: 🗌 Yes 🗃 No
Packing Material: Bubble Wrap KBubble	Bags IC	Ziploc 🗂	jone ⊡0th	er	Type of Ice: ₩et>Bl	ue None
Thermometer Used: -THIOH- THITG	Correct	ion Factor	+0.		Samples on ice, cooling	process has begun
Cooler Temperature(°C): 3, )	Cooler	Temperatu	ire Correcte	d(°C): 3, 2	Date/Time 5035A kits	placed in freezer
Temp should be above freezing to 6.0°C USDA Regulated Soil (  M/A, water sample	)			Date and Initials of	person examining conten	ts: KW 10/15h
Did samples originate in a quarantine zone wi	thin the U	Inited State	es: AL, AR, CA,	FL, GA, ID, LA, MS, NC,	Did samples orignate fr	om a foreign source
NM NY OK OR SC. TN TX or VA [check map]?	□ Ye	s 🗆 No			including Hawaii and Pu	jerto Rico]? 🛛 Yes🖾 No
If Yes to either question, fill out a Regulate	ed Soil Ch	necklist (F-	LI-C-010) ar	nd include with SCUR	/CDC paperwork.	
	1				COMMENTS:	
Chain of Custody Present:	12Y95	⊡No		1.		nnni-onton)
Chain of Custody Filled Out:	Elips	⊡No		2.		
Chain of Custody Relinquished:	Elles	⊡No		3.		···
Sampler Name & Signature on COC:	<b>Wes</b>	⊡No	<u>CIN/A</u>	4.	-	
Samples Arrived within Hold Time:	<b>E</b> Yes	⊡Ŋo		5.		
Short Hold Time Analysis (<72hr):	⊡Yes	12ÍNO		6.	-	an an an an an an an an an an an an an a
Rush Turn Around Time Requested:	Ľ⊐Yes	ার্জNo		7.		
Sufficient Volume: [Triple volume provided fo	' I⊠Yes	⊡No		8.		and the second second second second second second second second second second second second second second second
Correct Containers Used:	<b>E</b> Yes	⊡No		9.		
-Pace Containers Used:	_⊡Yes	⊡No				and the second second second second second second second second second second second second second second second
Containers Intact:	⊡Ýes	⊡No		10.		
Filtered volume received for Dissolved tests	⊡Yes	⊡No	ØN/A	11. Note if se	ediment is visible in the diss	olved container.
Sample Labels match COC:	Dyes	⊡No	,	12.		
-Includes date/time/ID/ Matrix: SIL WT	DIL					- 101
All containers needing preservation have bee	n ⊡Yes	⊡No	⊠N/A	13. $\Box$ HNU ₃	$\Box$ H ₂ SU ₄ $\Box$ NauH	
checked?						
ph paper Lut #	to ho			Samole #		
in compliance with method recommendation	2		1	outriple in		
		ΠΝο	INTA I	-		
(11403, 112004, 110, Maonza Sullide,			CONTY IN			
Exceptions: VOA Coliform TOC/DOC Oil and (	rease					
DRD /8015 (water)	10000,			Initial when complet	ed: Lot # of added	Date/Time preservative
Per Method, VOA pH is checked after analysis	3		/	1	preservative:	added:
Samples checked for dechlorination:	□Yes		⊠N/A	14.		
KI starch test strips Lot #			1			
Residual chlorine strips Lot #				Positive fo	r Res. Chlorine? Y N	
SM 4500 CN samples checked for sulfide?	⊡Yes	تNo	EN/A	15.		
Lead Acetate Strips Lot #		1		Positive fo	r Sulfide? Y N	
Headspace in VOA Vials ( >6mm):	⊡Yes	121YO	⊡N/Ą,	16.		
Trip Blank Present:	⊡Yes	52No	DIN/A	17,	and an and a second second second second second second second second second second second second second second	
Trip Blank Custody Seals Present	l⊐¦Yes	⊡No	EIN/A			
Pace Trip Blank Lot # (if applicable):						
Client Notification/ Resolution:				Field Data Required?	Y / N	
Person Contacted:				Date/Tin	16:	
Comments/ Resolution:						
· · · · · · · · · · · · · · · · · · ·						
				ของของระหะพัฒธ์และทำให้เหมือนกับอาการสามารถสามารถสามารถสามารถ		

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

ENV-FRM-MELV-0024 01

Page 9 of 9

5



Friday, October 22, 2021

Attn: Front Office Eastern Analytical 51 Antrim Ave Concord, NH 03301

Project ID: 233431 SDG ID: GCJ54634 Sample ID#s: CJ54634 - CJ54635

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Stille

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 UT Lab Registration #CT00007 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

# Sample Id Cross Reference

October 22, 2021

SDG I.D.: GCJ54634

Project ID: 233431

Client Id	Lab Id	Matrix
SYSTEM INFLUENT	CJ54634	WATER
SYSTEM EFFLUENT	CJ54635	WATER





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

Analysis Report	FOR:	Attn: Front Office
October 22, 2021		Eastern Analytical 51 Antrim Ave Concord, NH 03301

Sample Information		Custody Inform	<u>nation</u>	<u>Date</u>	<u>Time</u>
Matrix:	WATER	Collected by:		10/11/21	11:10
Location Code:	EASTANAL-NH	Received by:	LB	10/13/21	11:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	55933	Laboratory Data		SDG ID: Phoenix ID:	GCJ54634 CJ54634
Project ID:	233431				

r roject iD.	200401
Client ID:	SYSTEM INFLUENT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,4-dioxane							
1,4-dioxane	27	0.20	ug/l	1	10/18/21	AW	EPA522
<b>QA/QC Surrogates</b>							
% 1,4-dioxane-d8	99		%	1	10/18/21	AW	70 - 130 %
Extraction for 1,4-Dioxane	Completed				10/15/21	G/G	EPA522

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

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

#### Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director October 22, 2021 Reviewed and Released by: Ethan Lee, Project Manager



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



alysis Report	FOR:	Attn: Front Office
October 22, 2021		51 Antrim Ave
		Concord, NH 03301

Sample Informa	ation	Custody Inforn	<u>nation</u>	<u>Date</u>	<u>Time</u>
Matrix:	WATER	Collected by:		10/11/21	11:25
Location Code:	EASTANAL-NH	Received by:	LB	10/13/21	11:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	55933	Laboratory	Data	SDG ID:	GCJ546

Project ID: 233431 Client ID: SYSTEM EFFLUENT

SDG ID: GCJ54634 Phoenix ID: CJ54635

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,4-dioxane							
1,4-dioxane	ND	0.20	ug/l	1	10/20/21	AW	EPA522
QA/QC Surrogates							
% 1,4-dioxane-d8	83		%	1	10/20/21	AW	70 - 130 %
Extraction for 1,4-Dioxane	Completed				10/19/21	G/G	EPA522

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:

Analysis

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director October 22, 2021 Reviewed and Released by: Ethan Lee, Project Manager





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

October 22, 2021

# QA/QC Data

SDG I.D.: GCJ54634

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 596450 (ug/l), QC Sample No: CJ52563 (CJ54634)										
<u> 1,4dioxane - Water</u>										
1,4-dioxane	ND	0.20	109	116	6.2	114			70 - 130	20
% 1,4-dioxane-d8	99	%	100	95	5.1	97			70 - 130	20
QA/QC Batch 596857 (ug/l), QC	Sample	∋ No: CJ59016 (CJ54635)								
<u> 1,4dioxane - Water</u>										
1,4-dioxane	ND	0.20	83	88	5.8	88	93	5.5	70 - 130	20
% 1,4-dioxane-d8	81	%	99	85	15.2	80	85	6.1	70 - 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 October 22, 2021

Friday, October 22, 2021 Criteria: None		Sample C	Sample Criteria Exceedances Report GCJ54634 - EASTANAL-NH					e 28 of 31
SampNo Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units	Pag
*** No Data to Display ***	*							

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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

October 22, 2021

SDG I.D.: GCJ54634

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

CHA	AIN-OF-CUSTO	DY RECORD	I. Le U M Ea	Eastern Analytical, In professional laboratory and drilling service			
Sample ID	Date Sampled Matrix	aParameters	EAI ID	# 233431 Page 1 Sample Notes			
System Influe	ent   10/11/2021   aqueous     11:10	Subcontract - 1,4 Dioxane EPA Method 522	546	34			
System Efflu	ent   10/11/2021   aqueous   11:25	Subcontract - 1,4 Dioxane EPA Method 522	540	435			
	* EOL AMba	er bottle W NAHSOT NE	Ŕ				
EAI ID# 2	33431 Project State: NH Project ID: 4965	Results Needed: Preferred Date: Standa RUSH Due Date: QC Deliverables □ A □ A+ ⊠ B □ B+ □ C □ MA	rd PO #:55933 <u>Data Deliverable</u> (c	EAI ID# 233431 ircle) EQUIS: ME EGAD			

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

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# CHAIN-OF-CUSTODY RECORD

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of

23343

<u></u>б age Date/Time Composites need start 血 and stop dates/times Sample IDs Matrix **Parameters and Sample Notes** # of containers System Influent AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg.Pb.Ni. 10-11-21 13 aqueous Se.Ag.Zn/Cr6/Cr3/CyanFree Grab or Comp Sampler confirms ID and parameters are accurate **Dissolved Sample Field Filtered** Circle preservative/s.(HCL) HNO, H3SO, NaOH) MEOH Na, S2O, (ICE) System Effluent 10-11-21 AqTot/V624/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.Cr.Cu.Fe.Hg.Pb.Ni. aqueous 13 Se.Ag.Zn/Cr6/Cr3/CyanFree 11:25 Grab or Comp **Dissolved Sample Field Filtered** Sampler confirms ID and parameters are accurate Circle preservative/s. HCL NaOH)MEOH Na₂S₂O₃ (ICE

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 4965	Results Needed by: Preferred date	ReportingOptions		
Project Name Rennie Farm RGP / 04.0190030.02	Notes:	⊠нс	🗌 NO FAX	PO# verbal
State NH Client (Pro Mgr) Jim Wieck	1624 Acetone Only	EDD PDF EDD email PDF prelim, NO FAX	Partial FAX PDF Invoice EQUIS	Quote#:
Customer GZA GeoEnvironmental, Inc. (NH) Address 5 Commerce Park North, Suite 201		Samples Collected by:	AVJ /10-11-21	ice YEND
Phone 623 3600 Fax 624 9463 (37)		Relinquished by	Date/Time	Received by
	QC deliverables			
Email: James.wieck@gza.com		Relinquished by	Date/Time	Received by
Direct 232-8732 Eastern Analytical, I	Inc. www.easternanalytical.com   800.287	.0525   customerservice@east	ternanalytical.com	l



professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 233920 Client Identification: Rennie Farm | 04.0190030.02 Date Received: 10/20/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Commi Clashan

10 . 24. 21 Date

Lorraine Olashaw, Lab Director

# SAMPLE CONDITIONS PAGE

#### EAI ID#: 233920

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

Client Designation: Rennie Farm | 04.0190030.02

<b>Temperature upon receipt (°C):</b> Acceptable temperature range (°C): 0-6		10.9	R	Received on ice or cold packs (Yes/No): $\gamma$					
Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)			
233920.01	System Influent	10/20/21	10/18/21 09:35	aqueous		Adheres to Sample Acceptance Policy			
233920.02	System Mid	10/20/21	10/18/21 09:40	aqueous		Adheres to Sample Acceptance Policy			
233920.03	LGAC In	10/20/21	10/19/21 08:41	aqueous		Adheres to Sample Acceptance Policy			
233920.04	LGAC Mid	10/20/21	10/19/21 08:38	aqueous		Adheres to Sample Acceptance Policy			
233920.05	LGAC Out	10/20/21	10/19/21 08:35	aqueous		Adheres to Sample Acceptance Policy			

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

# LABORATORY REPORT

## EAI ID#: 233920

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

Client Sample ID:	System Influent						
Lab Sample ID:	233920.01						
Matrix:	aqueous						
Date Sampled:	10/18/21						
Date Received:	10/20/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	27	2	10	ug/L	10/21/21 17:42	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	10/21/21 17:42	8260B SIM	AM
Toluene-d8 (surr)	97 %R			%	10/21/21 17: <b>4</b> 2	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	233920.02						
Matrix:	aqueous						
Date Sampled:	10/18/21						
Date Received:	10/20/21						
	Posult	RI	Dilution Eactor	Unite	Date / Time	Method	Analyst
	Kesuit		1		10/21/21 16:08	8260B SIM	ΔM
1,4-Dioxane	< 0.2	0.2	I	ug/L	10/21/21 10:08	02000 5110	
4-Bromofluorobenzene (surr)	103 %R			%	10/21/21 16:08	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	10/21/21 16:08	8260B SIM	AM

## EALID#: 233920

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

Client Sample ID:	LGAÇ İn						
Lab Sample ID:	233920.03						
Matrix:	aqueous						
Date Sampled:	10/19/21						
Date Received:	10/20/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	3500	100	500	ug/L	10/21/21 18:13	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	10/21/21 18:13	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	10/21/21 18:13	8260B SIM	AM

LGAC Mid						
233920.04						
aqueous						
10/19/21						
10/20/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
1.1	0.2	1	ug/L	10/21/21 16:40	8260B SIM	AM
101 %R			%	10/21/21 16:40	8260B SIM	AM
98 %R			%	10/21/21 16:40	8260B SIM	AM
	LGAC Mid 233920.04 aqueous 10/19/21 10/20/21 Result 1.1 101 %R 98 %R	LGAC Mid 233920.04 aqueous 10/19/21 10/20/21 <b>Result RL</b> 1.1 0.2 101 %R 98 %R	LGAC Mid 233920.04 aqueous 10/19/21 10/20/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>1.1</b> 0.2 1 <b>101 %R</b> <b>98 %R</b>	LGAC Mid 233920.04 aqueous 10/19/21 10/20/21 <b>Result</b> <b>1.1</b> 0.2 1 ug/L 101 %R % 98 %R %	LGAC Mid 233920.04 aqueous 10/19/21 10/20/21 <b>Dilution</b> Date / Time Result RL Factor Units Analyzed 1.1 0.2 1 ug/L 10/21/21 16:40 101 %R % 10/21/21 16:40 98 %R % 10/21/21 16:40	LGAC Mid 233920.04 aqueous 10/19/21 10/20/21 <b>Dilution</b> Date / Time <b>Result</b> RL Factor Units Analyzed Method 1.1 0.2 1 ug/L 10/21/21 16:40 8260B SIM 101 %R % 10/21/21 16:40 8260B SIM 98 %R % 10/21/21 16:40 8260B SIM

LGAC Out						
233920.05						
aqueous						
10/19/21						
10/20/21		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
0.81	0.2	1	ug/L	10/21/21 17:11	8260B SIM	AM
101 %R			%	10/21/21 17:11	8260B SIM	AM
98 %R			%	10/21/21 17:11	8260B SIM	AM
	LGAC Out 233920.05 aqueous 10/19/21 10/20/21 Result 0.81 101 %R 98 %R	LGAC Out 233920.05 aqueous 10/19/21 10/20/21 <b>Result RL</b> 0.81 0.2 101 %R 98 %R	LGAC Out 233920.05 aqueous 10/19/21 10/20/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>101%</b> <b>898%</b>	LGAC Out 233920.05 aqueous 10/19/21 10/20/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b></b>	LGAC Out 233920.05 aqueous 10/19/21 10/20/21 <b>Dilution</b> Date / Time <b>Result RL Factor</b> Units Analyzed 0.81 0.2 1 ug/L 10/21/21 17:11 101 %R % 10/21/21 17:11	LGAC Out 233920.05 aqueous 10/19/21 10/20/21 <b>Dilution</b> Date / Time <b>Result RL</b> Factor Units Analyzed Method 0.81 0.2 1 ug/L 10/21/21 17:11 8260B SIM 101 %R % 10/21/21 17:11 8260B SIM 98 %R % 10/21/21 17:11 8260B SIM

## EAI ID#: 233920

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

Batch ID: 637704-20219/A102121DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.7 (94 %R)	4.8 (96 %R) (2 RPD	) 10/21/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	101 %R	100 %R	100 %F	R 10/21/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	98 %R	98 %R	98 %F	R 10/21/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

W.O. #

233920

#### CHAIN-OF-CUSTODY RECORD

			ANALYSIS REQUIRED																													
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)	PH 🗆 Cond.	C Methane, Ethane, Ethene	PA 8260 NH Full List	PA 8260 NH HW Short List	PA 8260 NH Petr. Short List	PA 8021- Full List	PA 8021- 8020 List (BTEX)	PA 524.2 DW VOCs	PA 624 WW VOCs	1 601 D 602 WW VOCs	PA 8270 SVOCs	PA 8270 D PAH CI A CI BN	PA 625 WW SVOCs	PA 8082-PCBs	PA 8081-Pest	PH-GC (Mod. 8100)	PH-GC w/FING.	PH (MA DEP) PH (MA DEP)	tetals C PPM-13 C R-8	ICP 14 Metals	tetals (List Below) **	CLP - Specify Below	PLP - Specify Below	PA 300 CI CI NO3 CI SO4		-4-DIOXENP LOUL			Total No. of Cont.	Note #
system in floont	10-18-21 9:35	GW		9	<u>п</u>	<u> </u>	-0	<u> </u>	Ω Π	D.	<u>e</u>	<u>U</u>	ω		<u></u>	<u> </u>		E	ΕĤ	# 2		12	2	E	5	ω.		$\overline{\mathbf{x}}$			2	
system Mid	10-18-21 9:40	GW							П						-†	1	$\neg$	+	$\uparrow$		+-	$\top$						X	1		2	
1														1		1						Τ										
LGAC IN	10-19-21 8:41	Gw										·										Ι						X			2	
LGAC mid	10-19-21 8:38	Gw																										X			2	
LGAC OUT	10-19-21 8:35	GN																			-	_						X			2	
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PRESERVATIVE (CI-HCI, M-M	tethanol, N-HNO3, S-H2SO4, Na-NaC	)H, O-Other) *														_												$\langle  $				
CONTAINER TYPE (P-Plastic,	G-Glass, V-Vial, T-Teflon, O-Other)*							L				L		L.L									<u> </u>	1	1	I		$\nu$		1		I
RELINQUISHED BY. RELINQUISHED BY. RELINQUISHED BY:	DATE/TIME en 10-20-21 1/11 DATE/TIME [[:4-3] DATE/TIME	RECEIVED BY: RECEIVED BY: RECEIVED BY:	NOTES: (Unless otherwise noted, all samples have been refrigerated to 4 +/- 2°C) *Specify "Other" preservatives and container types in this space.																													
Project Manager:	Jim Wieck GEOENVIRONMENTAL II	- NC.	TURNAROUND TIME: Standard Rush       Jong Days, Approved by:       LAB USE:       10-9 °C       Temp Blank:         TURNAROUND TIME: Standard Rush       Jong Days, Approved by:       TEMP. OF COOLER       10-9 °C       Cooler Air									•••••																				
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professional laboratory and drilling services

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

Laboratory Report for:

Eastern Analytical, Inc. ID: 235037 Client Identification: Rennie Farm | 04.0190030.02 Task 22 ST-1 Date Received: 11/9/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

#### Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

Laumie austrans

|(\(B,2) Date



· ·
#### EAI ID#: 235037

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

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

#### Temperature upon receipt (°C): 14.1

Acceptable temperature range (°C): 0-6

#### Received on ice or cold packs (Yes/No): N

Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
235037.01	System Influent	11/9/21	11/8/21 09:35	aqueous		Adheres to Sample Acceptance Policy
235037.02	System Mid	11/9/21	11/8/21 09:40	aqueous		Adheres to Sample Acceptance Policy
235037.03	LGAC In	11/9/21	11/9/21 09:55	aqueous		Adheres to Sample Acceptance Policy
235037.04	LGAC Mid	11/9/21	11/9/21 09:50	) aqueous		Adheres to Sample Acceptance Policy
235037.05	LGAC Out	11/9/21	11/9/21 09:45	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

# LABORATORY REPORT

### EAI ID#: 235037

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

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Client Sample ID:	System Influent						
Lab Sample ID:	235037.01						
Matrix:	aqueous						
Date Sampled:	11/8/21						
Date Received:	11/9/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	25	2	10	ug/L	11/13/21 2:25	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	11/13/21 2:25	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/13/21 2:25	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	235037.02						
Matrix:	aqueous						
Date Sampled:	11/8/21						
Date Received:	11/9/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	11/13/21 2:56	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	11/13/21 2:56	8260B SIM	AM
Toluene-d8 (surr)	97 %R			%	11/13/21 2:56	8260B SIM	AM

# LABORATORY REPORT

#### EAI ID#: 235037

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

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Client Sample ID:	LGAC In						
Lab Sample ID:	235037.03						
Matrix:	aqueous						
Date Sampled:	11/9/21						
Date Received:	11/9/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	3300	200	1000	ug/L	11/15/21 22:25	8260B SIM	AM
4-Bromofluorobenzene (surr)	96 %R			%	11/15/21 22:25	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	11/15/21 22:25	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	235037.04						
Matrix:	aqueous						
Date Sampled:	11/9/21						
Date Received:	11/9/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	1.4	0.2	1	ug/L	11/13/21 3:59	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	11/13/21 3:59	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	11/13/21 3:59	8260B SIM	AM

Client Sample ID:	LGAC Out						
Lab Sample ID:	235037.05						
Matrix:	aqueous						
Date Sampled:	11/9/21						
Date Received:	11/9/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.62	0.2	1	ug/L	11/13/21 4:31	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	11/13/21 4:31	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	11/13/21 4:31	8260B SIM	AM

## QC REPORT

### EAI ID#: 235037

# Client: GZA GeoEnvironmental, Inc. (NH)

Batch ID: 637725-61490/A111221DIOX2

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.7 (94 %R)	4.6 (92 %R) (2 RPC	)) 11/12/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	98 %R	98 %R	98 %I	R 11/12/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	96 %R	96 %R	96 %	R 11/12/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

# QC REPORT

### EAI ID#: 235037

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

Batch ID: 637725-82981/A111521DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.7 (94 %R)	4.7 (93 %R) (1 RPD	) 11/15/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	99 %R	99 %R	100 %F	R 11/15/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	97 %R	97 %R	97 %F	R 11/15/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

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Sample I.D.	Date/Time Sampled	Matrix						22010							1											Iana				
		A=Air S=Soil GW=Ground W SW=Surface W WW=Waste W. DW=Drinking W. P=Product Other (specify)	pH Cond.	Methane, Ethane, Ethene	V 8260 NH Full List	N 8260 NH HW Short List	N 8260 NH Petr. Short List	k 802 i- Full List	N 8021- 8020 List (BTEX)	V 524.2 DW VOCs	1 624 WW VOCs	8270 SVOCs	V 8270 U PAH CI A CI BN	1 625 WW SVOCs	\ 8082-PCB5	1 8081-Pest	1-GC (Mod. 8100)	I-GC w/FING.	H (MA DEP)	als C PPM-13 C R-8	P 14 Metals	als (List Below) **	LP - Specify Below	.P - Specify Below	V 300 CI CI CI NO3 CI SO4	+ Dibxane L			Total No. of Cont.	Note #
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LGAC OUT	11-9-21 9:45	GW																							ł	×			2	
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Page 7 of 7



professional laboratory and drilling services

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



Laboratory Report for:

Eastern Analytical, Inc. ID: 235560 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 11/18/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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

<u>(2.2.2</u>) Date

# SAMPLE CONDITIONS PAGE

EAI ID#: 235560

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Temperat	ure upon receipt (°C): emperature range (°C): 0-6	0.1	Re	eceived o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
235560.01	System Influent	11/18/21	11/18/21 07:45	aqueous		Adheres to Sample Acceptance Policy
235560.02	System Effluent	11/18/21	11/18/21 07:30	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc. www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.age 2 of 31

### EAI ID#: 235560

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

Client Sample ID:	System Influent 235560.01				Date of Prepara Me	ation: thod:	624.1			
Motrix:					٨٣	alvet	56			
Data Campiant	11/10/01					aryst. Initar	00 ug/l			
Date Sampled:	11/10/21				L L L L L L L L L L L L L L L L L L L	mits:	uy/L			
Date Received:	11/18/21		Dilution	Data					Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyzed
Chloromethane	< 2	2	1	11/18/21	4-Bromofluorobenzene (surr)	103	% <b>R</b>			11/18/21
Vinvi chloride	< 1	1	1	11/18/21	1 2-Dichlorobenzene-d4	90	%R			11/18/21
Bromomethane	< 2	2	1	11/18/21	Toluene-d8 (surr)	107	%R			11/18/21
Chloroethane	< 2	2	1	11/18/21		107	701			
Trichlorofluoromethane	< 2	2	1	11/18/21						
Acrolein	< 50	50	1	11/18/21						
Acetone	< 10	10	' 1	11/18/21						
1 1-Dichloroethene	< 0.5	0.5	1	11/18/21						
Methylene chloride	< 1	1	1	11/18/21						
Acrylonitrile	< 50	50	1	11/18/21						
Methyl-t-butyl ether/MTRF	· · · · · · · · · · · · · · · · · · ·	1	1	11/18/21						
trans-1 2-Dichloroethene	-, <1	1	1	11/18/21						
Vinvl acetate	< 10	10	1	11/18/21						
1 1-Dichloroethane	< 1	1	1	11/18/21						
cis-12-Dichloroethene	< 1	1	1	11/18/21						
2-Butanone(MEK)	< 10	10	1	11/18/21						
Chloroform	< 1	1	1	11/18/21						
1.1.1-Trichloroethane	< 1	1	1	11/18/21						
Carbon tetrachloride	< 1	. 1	1	11/18/21						
Benzene	< 1	. 1	1	11/18/21						
1.2-Dichloroethane	< 1	1	1	11/18/21						
Trichloroethene	< 1	. 1	1	11/18/21						
1.2-Dichloropropane	< 1	1	1	11/18/21						
Bromodichloromethane	< 0.5	0.5	1	11/18/21						
2-Chloroethvivinvlether	< 2	2	1	11/18/21						
4-Methyl-2-pentanone(Mil	- BK) < 10	10	1	11/18/21						
cis-1.3-Dichloropropene	< 0.5	0.5	1	11/18/21						
Toluene	< 1	1	1	11/18/21						
trans-1.3-Dichloropropene	e < 0.5	0.5	1	11/18/21						
1.1.2-Trichloroethane	< 1	1	1	11/18/21						
2-Hexanone	< 10	10	1	11/18/21						
Tetrachloroethene	< 1	1	1	11/18/21						
Dibromochloromethane	< 1	1	1	11/18/21						
Chlorobenzene	< 1	1	1	11/18/21						
Ethylbenzene	< 1	1	1	11/18/21						
mp-Xylene	< 1	1	1	11/18/21						
o-Xylene	< 1	1	1	11/18/21						
Styrene	< 1	1	1	11/18/21						
Bromoform	< 2	2	1	11/18/21						
1,1,2,2-Tetrachloroethane	e <1	1	1	11/18/21						
1,3-Dichlorobenzene	< 1	1	1	11/18/21						
1,4-Dichlorobenzene	< 1	1	1	11/18/21						
1,2-Dichlorobenzene	< 1	1	1	11/18/21						

# LABORATORY REPORT

#### EAI ID#: 235560

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

Client Sample ID: 5 Lab Sample ID: 2	System Effluent 235560.02				Date of Prepara Me	ation: thod:	624.1			<u>_ A</u>
Matrix: a Date Sampled: 1	aqueous  1/18/21				Ana U	alyst: Jnits:	SG ug/L			
Date Received: 1	1/18/21						Ū			
Date Neceived.			Dilution	Date					Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL	Factor	Analyzed
Chloromethane	< 2	2	1	11/18/21	4-Bromofluorobenzene (surr)	104	%R			11/18/21
∨in <b>y</b> l chloride	< 1	1	1	11/18/21	1,2-Dichlorobenzene-d4	96	%R			11/18/21
Bromomethane	< 2	2	1	11/18/21	Toluene-d8 (surr)	101	%R			11/18/21
Chloroethane	< 2	2	1	11/18/21						
Trichlorofluoromethane	< 2	2	1	11/18/21						
Acrolein	< 50	50	1	11/18/21						
Acetone	< 10	10	1	11/18/21						
1,1-Dichloroethene	< 0.5	0.5	1	11/18/21						
Methylene chloride	< 1	1	1	11/18/21						
Acrylonitrile	< 50	50	1	11/18/21						
Methyl-t-butyl ether(MTBE)	) <1	1	1	11/18/21						
trans-1,2-Dichloroethene	< 1	1	1	11/18/21						
Vinyl acetate	< 10	10	1	11/18/21						
1,1-Dichloroethane	< 1	1	1	11/18/21						
cis-1,2-Dichloroethene	< 1	1	1	11/18/21						
2-Butanone(MEK)	< 10	10	1	11/18/21						
Chloroform	< 1	1	1	11/18/21						
1,1,1-Trichloroethane	< 1	1	1	11/18/21						
Carbon tetrachloride	< 1	1	1	11/18/21						
Benzene	< 1	1	1	11/18/21						
1,2-Dichloroethane	< 1	1	1	11/18/21						
Trichloroethene	< 1	1	1	11/18/21						
1,2-Dichloropropane	< 1	1	1	11/18/21						
Bromodichloromethane	< 0.5	0.5	1	11/18/21						
2-Chloroethylvinylether	< 2	2	1	11/18/21						
4-Methyl-2-pentanone(MIE	3K) < 10	10	1	11/18/21						
cis-1,3-Dichloropropene	< 0.5	0.5	1	11/18/21						
Toluene	< 1	1	1	11/18/21						
trans-1,3-Dichloropropene	< 0.5	0.5	1	11/18/21						
1,1,2-Trichloroethane	< 1	1	1	11/18/21						
2-Hexanone	< 10	10	1	11/18/21						
Tetrachloroethene	< 1	1	1	11/18/21						
Dibromochloromethane	< 1	1	1	11/18/21						
Chlorobenzene	< 1	1	1	11/18/21						
Ethylbenzene	< 1	1	1	11/18/21						
mp-Xylene	< 1	1	1	11/18/21						
o-Xylene	< 1	1	1	11/18/21						
Styrene	< 1	1	1	11/18/21						
Bromoform	< 2	2	1	11/18/21						
1,1,2,2-Tetrachloroethane	< 1	1	1	11/18/21						
1,3-Dichlorobenzene	< 1	1	1	11/18/21						
1,4-Dichlorobenzene	< 1	1	1	11/18/21						
1,2-Dichlorobenzene	< 1	1	1	11/18/21						

# QC REPORT

EAI ID#: 235560

Batch ID: 637728-32132/A111821V6241

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

Client Designation: Rennie Farm RGP / 04.0190030.02

	Blank	Blank							
Parameter Name	(RL)		LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	< .876	24 (121 %R)	25 (123 %R) (2 RPD	) 11/18/2021	ug/L	1 - 205	60	624.1
Vinyl chloride	< 1	< .34	27 (133 %R)	26 (132 %R) (1 RPD	) 11/18/2021	ug/L	5 - 195	66	624,1
Bromomethane	< 2	< .554	23 (114 %R)	23 (113 %R) (1 RPD	) 11/18/2021	ug/L	15 - 185	61	624.1
Chloroethane	< 2	< .232	22 (109 %R)	22 (109 %R) (1 RPD	) 11/18/2021	ug/L	40 - 160	78	624.1
Trichlorofluoromethane	< 2	< .375	22 (112 %R)	21 (103 %R) (8 RPD	) 11/18/2021	ug/L	50 - 150	84	624.1
Acrolein	< 50	< .548	< 50 (99 %R)	< 50 (104 %R) (5 RPD	) 11/18/2021	ug/L	60 - 140	60	624.1
Acetone	< 10	< 2.387	16 (79 %R)	17 (83 %R) (6 RPD	) 11/18/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethene	< 0.5	< .37	23 (113 %R)	22 (111 %R) (1 RPD	) 11/18/2021	ug/L	50 - 150	32	624.1
Methylene chloride	< 1	< .545	21 (107 %R)	22 (109 %R) (1 RPD	) 11/18/2021	ug/L	60 - 140	28	624.1
Acrylonitrile	< 50	< .302	< 50 (89 %R)	< 50 (92 %R) (4 RPD	) 11/18/2021	ug/L	60 - 140	60	624.1
Methyl-t-butyl ether(MTBE)	< 1	< .519	19 (97 %R)	20 (101 %R) (4 RPD	) 11/18/2021	ug/L	70 - 130	20	624.1
trans-1,2-Dichloroethene	< 1	< .298	21 (103 %R)	21 (105 %R) (2 RPD	) 11/18/2021	ug/L	70 - 130	45	624.1
Vinyl acetate	< 10	< .557	24 (118 %R)	25 (123 %R) (4 RPD	) 11/18/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethane	< 1	< .085	23 (114 %R)	23 (115 %R) (1 RPD	) 11/18/2021	ug/L	70 - 130	40	624.1
cis-1,2-Dichloroethene	< 1	< .238	23 (116 %R)	23 (115 %R) (1 RPD	) 11/18/2021	ug/L	70 - 130	20	624.1
2-Butanone(MEK)	< 10	< .206	17 (85 %R)	18 (89 %R) (6 RPD	) 11/18/2021	ug/L	40 - 160	20	624.1
Chloroform	< 1	< .36	21 (105 %R)	21 (107 %R) (2 RPD	) 11/18/2021	ug/L	70 - 135	54	624.1
1,1,1-Trichloroethane	< 1	< .227	22 (111 %R)	22 (111 %R) (0 RPD	) 11/18/2021	ug/L	70 - 130	36	624.1
Carbon tetrachloride	< 1	< .261	21 (107 %R)	21 (105 %R) (2 RPD	) 11/18/2021	ug/L	70 - 130	41	624.1
Benzene	< 1	< .312	21 (106 %R)	22 (108 %R) (1 RPD	) 11/18/2021	ug/L	65 - 135	61	624.1
1,2-Dichloroethane	< 1	< .21	23 (116 %R)	24 (118 %R) (2 RPD	) 11/18/2021	ug/L	70 - 130	49	624.1
Trichloroethene	< 1	< .359	20 (101 %R)	21 (103 %R) (2 RPD	) 11/18/2021	ug/L	65 - 135	48	624,1
1,2-Dichloropropane	< 1	< .285	22 (111 %R)	23 (113 %R) (2 RPD	) 11/18/2021	ug/L	35 - 165	55	624.1
Bromodichloromethane	< 0.5	< .079	23 (113 %R)	23 (115 %R) (2 RPD	) 11/18/2021	ug/L	65 - 135	56	624.1
2-Chloroethylvinylether	< 2	< .493	20 (101 %R)	21 (106 %R) (5 RPD	, ) 11/18/2021	ug/L	1 - 225	71	624.1
4-Methyl-2-pentanone(MIBK)	< 10	< .411	17 (86 %R)	18 (91 %R) (5 RPD	) 11/18/2021	ug/L	40 - 160	20	624.1
cis-1.3-Dichloropropene	< 0.5	< .101	22 (109 %R)	22 (111 %R) (2 RPD	) 11/18/2021	ua/L	25 - 175	58	624,1
Toluene	< 1	< .19	21 (104 %R)	21 (106 %R) (2 RPD	) 11/18/2021	ug/L	70 - 130	41	624.1
trans-1.3-Dichloropropene	< 0.5	< .08	23 (113 %R)	24 (118 %R) (4 RPD	) 11/18/2021	ug/L	50 - 150	86	624.1
1.1.2-Trichloroethane	< 1	< .203	21 (103 %R)	21 (106 %R) (3 RPD	) 11/18/2021	ua/L	70 - 130	45	624.1
2-Hexanone	< 10	< .28	18 (91 %R)	19 (97 %R) (7 RPD	) 11/18/2021	ua/L	40 - 160	20	624.1
Tetrachloroethene	< 1	< .371	19 (94 %R)	19 (95 %R) (0 RPD	) 11/18/2021	ua/L	70 - 130	39	624.1
Dibromochloromethane	< 1	< .225	19 (97 %R)	20 (101 %R) (4 RPD	) 11/18/2021	ua/L	70 - 135	50	624,1
Chlorobenzene	< 1	< 247	21 (104 %R)	21 (106 %R) (2 RPD	) 11/18/2021	ua/L	65 - 135	53	624.1
Ethylbenzene	< 1	< 213	22 (109 %R)	22 (111 %R) (2 RPD	) 11/18/2021	ua/L	60 - 140	63	624.1
mp-Xylene	, < 1	< .476	43 (108 %R)	44 (110 %R) (1 RPD	) 11/18/2021	ua/L	70 - 130	20	624.1
o-Xvlene	< 1	< 298	22 (110 %R)	22 (112 %R) (2 RPD	) 11/18/2021	ua/L	70 - 130	20	624.1
Styrene	< 1	< 727	22 (109 %R)	22 (112 %R) (2 RPD	) 11/18/2021	ug/L	70 - 130	20	624.1
Bromoform	< 2	< 282	19 (93 %R)	20 (98 %R) (5 RPD	) $11/18/2021$	ug/l	70 - 130	42	624.1
1 1 2 2-Tetrachloroethane	< 1	< 3.81	19 (97 %R)	20 (100 %R) (3 RPD	11/18/2021	ug/l	60 - 140	61	624.1
1 3-Dichlorobenzene	< 1	< 426	20 (102 %R)	21 (104 %R) (2 RPD	) 11/18/2021	ug/L	70 - 130	43	624.1
1 4-Dichlorobenzene	< 1	< 375	20 (102 %R)	21 (104 %R) (2 RPD	) 11/18/2021	ug/L	65 - 135	57	624.1
1.2-Dichlorobenzene	~ 1	< 218	20 (102 /01)		) 11/18/2021	ua/l	65 - 135	57	624.1
	106 % P	ZIO		105 %	R 11/18/2021	% Rec	70 - 130	0,	624.1
1.2 Dichlorobenzono d4 (surr)			07 %P	00 001 00 01	R 11/18/2021	% Rec	70 - 130		624.1
	30 70K		101 0/ P	50 70F 101 0/1	2 11/18/2021	% Rec	70 - 130		624.1
rolualla-uo (sull)			101 705	101 /01	11/10/2021	70 1 100	10-100		<b>UL</b> -1, 1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Eastern Analytical, Inc.

### EAI ID#: 235560

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

Client Sample ID:	System Influent							
Lab Sample ID:	235560.01							
Matrix:	aqueous							
Date Sampled:	11/18/21							
Date Received:	11/18/21							
			Dilution		Date / Tim	e		Analuat
	Result	RL	Factor	Units	Analyzed	IV	lethod	Analyst
Phenol	Result < 1	<b>RL</b> 1	Factor 1	Units ug/L	Analyzed 11/22/21 17	₩ 20 €	lethod 625.1	JMR
Phenol 2-Fluorophenol (surr)	Result < 1 36 %R	<b>RL</b> 1	Factor 1	Units ug/L %	Analyzed 11/22/21 17 11/22/21 17	₩ :20 € :20 €	625.1 625.1	JMR JMR
Phenol 2-Fluorophenol (surr) Phenol-d6 (surr)	Result < 1 36 %R 25 %R	<b>RL</b> 1	Factor 1	Units ug/L % %	Analyzed 11/22/21 17 11/22/21 17 11/22/21 17	:20 6 :20 6 :20 6	625.1 625.1 625.1 625.1	JMR JMR JMR JMR

### EAI ID#: 235560

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

Client Sample ID:	System Effluent						
Lab Sample ID:	235560.02						
Matrix:	aqueous						
Date Sampled:	11/18/21						
Date Received:	11/18/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
Phenol	< 1	1	1	ug/L	11/22/21 17:42	625.1	JMR
2-Fluorophenol (surr)	36 %R			%	11/22/21 17:42	625.1	JMR
Phenol-d6 (surr)	24 %R			%	11/22/21 17:42	625.1	JMR
2,4,6-Tribromophenol (surr)	80 %R			%	11/22/21 17:42	625,1	JMR

QC REPORT

### EAI ID#: 235560

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

Batch ID: 637731-65101/A112221E6251

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
alpha-Terpineol	< 5	< .17	17 (68 %R)	21 (85 %R) (22 RPD)	11/22/2021	ug/L	40 - 140	20	625.1
Phenol	< 1	< .12	12 (23 %R)	15 (29 %R) (22 RPD	) 11/22/2021	ug/L	5 - 120	64	625.1
2-Chlorophenol	< 1	< .2	27 (54 %R)	33 (66 %R) (20 RPD	) 11/22/2021	ug/L	23 - 134	61	625.1
2,4-Dichlorophenol	< 1	< .31	36 (72 %R)	45 (89 %R) (21 RPD	) 11/22/2021	ug/L	39 - 135	50	625.1
2,4,5-Trichlorophenol	< 1	< .33	37 (73 %R)	43 (87 %R) (17 RPD	) 11/22/2021	ug/L	30 - 130	20	625.1
2,4,6-Trichlorophenol	< 1	< .48	35 (71 %R)	43 (85 %R) (18 RPD	) 11/22/2021	ug/L	37 - 144	58	625.1
Pentachlorophenol	< 5	< 1.1	37 (74 %R)	41 (83 %R) (11 RPD	) 11/22/2021	ug/L	14 <b>- 1</b> 76	86	625.1
2-Nitrophenol	< 5	< .44	36 (71 %R)	45 (90 %R) (24 RPD	) 11/22/2021	ug/L	29 - 182	55	625.1
4-Nitrophenol	< 5	< .22	16 (31 %R)	17 (34 %R) (10 RPD	) 11/22/2021	ug/L	1 - 132	131	625.1
2,4-Dinitrophenol	< 10	< 1.5	30 (60 %R)	47 (94 %R) (44 RPD	) 11/22/2021	ug/L	1 - 191	132	625.1
2-Methylphenol	< 1	< .4	27 (54 %R)	34 (68 %R) (22 RPD)	! 11/22/2021	ug/L	30 - 130	20	625.1
3/4-Methylphenol	< 1	< .42	26 (52 %R)	33 (65 %R) (22 RPD)	! 11/22/2021	ug/L	30 - 130	20	625.1
2,4-Dimethylphenol	< 5	< 1.4	33 (67 %R)	41 (82 %R) (20 RPD	) 11/22/2021	ug/L	32 - 120	58	625.1
4-Chloro-3-methylphenol	< 1	< .26	38 (77 %R)	46 (91 %R) (17 RPD	) 11/22/2021	ug/L	22 - 147	73	625.1
4,6-Dinitro-2-methylphenol	< 5	< 3.3	47 (94 %R)	55 (110 %R) (15 RPD	) 11/22/2021	ug/L	1 - 181	203	625.1
Benzoic Acid	< 50	< 5.7	< 50 (17 %R)	< 50 (31 %R) (56 RPD)	11/22/2021	ug/L	15 - 130	50	625.1
N-Nitrosodimethylamine	< 1	< .11	9.2 (37 %R)	11 (45 %R) (19 RPD	) 11/22/2021	ug/L	15 - 140	20	625.1
n-Nitroso-di-n-propylamine	< 0.5	< .22	16 (63 %R)	20 (79 %R) (23 RPD	) 11/22/2021	ug/L	1 - 230	87	625.1
n-Nitrosodiphenylamine	< 1	< .068	20 (80 %R)	22 (88 %R) (9 RPD	) 11/22/2021	ug/L	40 - 140	20	625.1
bis(2-Chloroethyl)ether	< 1	< .11	14 (54 %R)	17 (67 %R) (21 RPD	) 11/22/2021	ug/L	12 - 158	108	625.1
bis(2-chloroisopropyl)ether	< 1	< .13	12 (49 %R)	15 (60 %R) (21 RPD	) 11/22/2021	ug/L	36 - 166	76	625.1
bis(2-Chloroethoxy)methane	< 1	< .2	17 (67 %R)	21 (85 %R) (24 RPD	) 11/22/2021	ug/L	33 - 184	54	625.1
1,3-Dichlorobenzene	< 1	< .15	11 (46 %R)	14 (56 %R) (19 RPD	) 11/22/2021	ug/L	40 - 140	20	625.1
Acetophenone	< 10	< 8.8	15 (61 %R)	19 (76 %R) (23 RPD)	11/22/2021	ug/L	40 - 140	20	625.1
1,4-Dichlorobenzene	< 1	< .11	11 (46 %R)	14 (55 %R) (19 RPD	) 11/22/2021	ug/L	40 - 140	20	625.1
1,2-Dichlorobenzene	< 1	< .13	12 (48 %R)	15 (58 %R) (20 RPD	) 11/22/2021	ug/L	40 - 140	20	625.1
1,2,4-Trichlorobenzene	< 1	< .09	14 (58 %R)	18 (71 %R) (20 RPD	) 11/22/2021	ug/L	44 - 142	50	625.1
2-Chloronaphthalene	< 1	< .11	16 (64 %R)	20 (78 %R) (20 RPD	) 11/22/2021	ug/L	60 - 120	24	625.1
4-Chiorophenyi-phenylether	< 1	< .059	19 (75 %R)	22 (86 %R) (14 RPD	) 11/22/2021	ug/L	25 - 158	61	625.1
4-Bromophenyl-phenylether	< 1	< .14	21 (83 %R)	23 (93 %R) (11 RPD	) 11/22/2021	ug/L	53 - 127	43	625.1
Hexachloroethane	< 1	< .15	12 (46 %R)	14 (57 %R) (21 RPD	) 11/22/2021	ug/L	40 - 120	52	625.1
Hexachlorobutadiene	< 1	< .073	14 (55 %R)	17 (68 %R) (21 RPD	) 11/22/2021	ug/L	24 - 120	62	625.1
Hexachlorocyclopentadiene	< 5	< .21	8.4 (34 %R)	11 (44 %R) (26 RPD)	! 11/22/2021	ug/L	15 - 140	20	625.1
Hexachlorobenzene	< 1	< .12	22 (87 %R)	24 (95 %R) (9 RPD	) 11/22/2021	ug/L	1 - 152	55	625.1
4-Chloroaniline	< 1	< .13	18 (73 %R)	23 (90 %R) (21 RPD)	11/22/2021	ug/L	15 - 140	20	625.1
2,3-Dichloroaniline	< 1	< .11	17 (69 %R)	21 (85 %R) (20 RPD	) 11/22/2021	ug/L	40 - 140	20	625.1
2-Nitroaniline	< 5	< .18	18 (71 %R)	21 (82 %R) (14 RPD	) 11/22/2021	ug/L	40 - 140	20	625.1
3-Nitroaniline	< 5	< .13	21 (84 %R)	24 (94 %R) (12 RPC	) 11/22/2021	ug/L	40 - 140	20	625.1
4-Nitroaniline	< 5	< .23	23 (91 %R)	24 (98 %R) (7 RPD	) 11/22/2021	ug/L	40 - 140	20	625.1
Aniline	< 1	< .13	13 (52 %R)	16 (64 %R) (20 RPC	) 11/22/2021	ug/L	40 - 140	20	625.1
Benzyl alcohol	< 10	< .35	14 (56 %R)	17 (70 %R) (22 RPD)	! 11/22/2021	ug/L	40 - 140	20	625.1
Nitrobenzene	< 1	< .21	16 (63 %R)	19 (77 %R) (21 RPC	) 11/22/2021	ug/L	35 - 180	62	625.1
Isophorone	< 1	< .16	18 (71 %R)	22 (88 %R) (22 RPC	) 11/22/2021	ug/L	21 - 196	93	625.1
2,4-Dinitrotoluene	< 2	< .14	23 (91 %R)	25 (100 %R) (9 RPC	) 11/22/2021	ug/L	39 - 139	42	625.1
2,6-Dinitrotoluene	< 2	< .14	22 (87 %R)	25 (99 %R) (13 RPD	) 11/22/2021	ug/L	50 - 158	48	625.1
Benzidine (estimated)	< 5	< .41	< 5 (12 %R)	5.9 (24 %R) (65 RPD)	! 11/22/2021	ug/L	1 - 200	50	625.1

Eastern Analytical, Inc.

QC REPORT

### EAI ID#: 235560

Batch ID: 637731-65101/A112221E6251

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

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
3,3'-Dichlorobenzidine	< 1	< .27	19 (77 %R)	21 (83 %R) (7 RPD	) 11/22/2021	ug/L	1 - 262	108	625.1
Pyridine	< 5	< .18	8.4 (34 %R)	10 (42 %R) (21 RPD)	! 11/22/2021	ug/L	15 - 140	20	625.1
Azobenzene	< 1	< .14	17 (70 %R)	20 (79 %R) (12 RPD	) 11/22/2021	ug/L	40 - 140	20	625.1
Carbazole	< 1	< .12	21 (84 %R)	22 (89 %R) (6 RPD	) 11/22/2021	ug/L	40 - 140	20	625.1
Dimethylphthalate	< 1	< .11	19 (75 %R)	21 (84 %R) (11 RPD	) 11/22/2021	ug/L	1 - 120	183	625.1
Diethylphthalate	< 5	< .11	19 (77 %R)	21 (84 %R) (8 RPD	) 11/22/2021	ug/L	1 - 120	100	625.1
Di-n-butylphthalate	< 5	< .64	20 (79 %R)	21 (83 %R) (5 RPD	) 11/22/2021	ug/L	1 - 120	47	625.1
Butylbenzylphthalate	< 5	< .14	19 (77 %R)	20 (79 %R) (4 RPD	) 11/22/2021	ug/L	1 - 152	60	625.1
bis(2-Ethylhexyl)phthalate	< 5	< .27	19 (78 %R)	20 (80 %R) (3 RPD	) 11/22/2021	ug/L	8 - 158	82	625.1
Di-n-octylphthalate	< 5	< .2	18 (72 %R)	19 (75 %R) (5 RPD	) 11/22/2021	ug/L	4 - 146	69	625.1
Dibenzofuran	< 1	< .11	18 (70 %R)	21 (83 %R) (16 RPD	) 11/22/2021	ug/L	40 - 140	20	625.1
Naphthalene	< 1	< .088	15 (59 %R)	18 (73 %R) (21 RPD	) 11/22/2021	ug/L	21 - 133	65	625.1
2-Methylnaphthalene	< 1	< .11	17 (68 %R)	21 (83 %R) (21 RPD	) 11/22/2021	ug/L	40 - 140	65	625.1
1-Methylnaphthalene	< 1	< .12	17 (69 %R)	21 (85 %R) (21 RPD	) 11/22/2021	ug/L	40 - 140	65	625,1
Acenaphthylene	< 1	< .11	17 (68 %R)	20 (82 %R) (18 RPD	) 11/22/2021	ug/L	33 - 145	74	625.1
Acenaphthene	< 1	< ,11	17 (68 %R)	20 (81 %R) (18 RPD	) 11/22/2021	ug/L	47 - 145	48	625.1
Fluorene	< 1	< .093	18 (73 %R)	21 (83 %R) (14 RPD	) 11/22/2021	ug/L	59 - 121	38	625.1
Phenanthrene	< 1	< .11	20 (79 %R)	21 (86 %R) (8 RPD	) 11/22/2021	ug/L	54 - 120	39	625.1
Anthracene	< 1	< .13	20 (81 %R)	22 (86 %R) (7 RPD	) 11/22/2021	ug/L	27 - 133	66	625.1
Fluoranthene	< 1	< .12	21 (83 %R)	22 (89 %R) (6 RPD	) 11/22/2021	ug/L	26 - 137	66	625.1
Pyrene	< 1	< .11	19 (76 %R)	20 (79 %R) (3 RPD	) 11/22/2021	ug/L	52 - 120	49	625.1
Benzo[a]anthracene	< 1	< .17	19 (77 %R)	20 (80 %R) (4 RPC	) 11/22/2021	ug/L	33 - 143	53	625.1
Chrysene	< 1	< .14	20 (81 %R)	21 (84 %R) (4 RPD	) 11/22/2021	ug/L	17 - 168	87	625.1
Benzo[b]fluoranthene	< 1	< .095	21 (84 %R)	21 (85 %R) (1 RPC	) 11/22/2021	ug/L	24 - 159	71	625.1
Benzo[k]fluoranthene	< 1	< ,14	20 (82 %R)	22 (88 %R) (7 RPD	) 11/22/2021	ug/L	11 - 162	63	625.1
Benzo[a]pyrene	< 1	< .058	20 (80 %R)	21 (84 %R) (4 RPC	) 11/22/2021	ug/L	17 - 163	72	625.1
Indeno[1,2,3-cd]pyrene	< 1	< .13	21 (84 %R)	22 (88 %R) (4 RPC	) 11/22/2021	ug/L	1 - 171	99	625.1
Dibenz[a,h]anthracene	< 1	< .16	21 (85 %R)	22 (89 %R) (5 RPC	) 11/22/2021	ug/L	1 - 227	126	625.1
Benzo[g,h,i]perylene	< 1	< .14	21 (85 %R)	22 (88 %R) (4 RPC	) 11/22/2021	ug/L	1 - 219	97	625.1
n-Decane	< 5	< .16	* 9.7 (39 %R)	12 (47 %R) (20 RPC	) 11/22/2021	ug/L	40 - 140	20	625.1
n-Octadecane	< 5	< .5	18 (73 %R)	20 (80 %R) (9 RPC	) 11/22/2021	ug/L	40 - 140	20	625.1
2-Fluorophenol (surr)	28 %R		30 %R	36 %	R 11/22/2021	% Rec	15 - 110		625.1
Phenol-d6 (surr)	22 %R		23 %R	29 %	R 11/22/2021	% Rec	15 - 110		625.1
2,4,6-Tribromophenol (surr)	77 %R		87 %R	96 %	R 11/22/2021	% Rec	15 - 110		625.1
Nitrobenzene-D5 (surr)	58 %R		64 %R	78 %	R 11/22/2021	% Rec	30 - 130		625.1
2-Fluorobiphenyl (surr)	64 %R		65 %R	79 %	R 11/22/2021	% Rec	30 - 130		625.1
p-Terphenyl-D14 (surr)	80 %R		83 %R	83 %	R 11/22/2021	% Rec	30 - 130		625.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

# LABORATORY REPORT

EAI ID#: 235560

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

Sample ID:	System Influent	System Effluent						
		005500.00						
Lab Sample ID:	235560.01	235560.02						
Matrix:	aqueous	aqueous						
Date Sampled:	11/18/21	11/18/21			Ana	alysis		
Date Received:	11/18/21	11/18/21	RL	Units	Date	Time	Method	Analyst
Solids Suspended	< 5	< 5	5	mg/L	11/22/21	15:40	2540D-11	CF
Chloride	2500	2400	1000	ug/L	11/23/21	15:11	4500CIE-11	LLG
Cvanide Total	< 5	< 5	5	ug/L	12/01/21	14:02	ASTM D7511-	09 KD
Cvanide Free	< 5	< 5	5	ug/L	11/22/21	12:11	OIA-1677-09	} KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	11/23/21	9:22	TM NH3-001	I SEL

QC REPORT

### EAI ID#: 235560

#### 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	99 (105 %R)	99 (105 %R) (0 RPD)	mg/L 11/22/21	90 - 110	20	2540D-11
Chloride	< 1000	24000 (97 %R)	25000 (98 %R) (1 RPD)	ug/L 11/23/21	90 - 110	20	4500CIE-11
Cyanide Total	< 5	110 (111 %R)	110 (108 %R) (3 RPD)	ug/L 12/1/21	84 - 116	20	ASTM D7511-09
Cyanide Free	< 5	240 (97 %R)	230 (94 %R) (4 RPD)	ug/L 11/22/21	84 - 116	20	OIA-1677-09
Ammonia-N	< 0.05	1.9 (94 %R)	1.9 (93 %R) (1 RPD)	mg/L 11/23/21	87 - 104	20	TM NH3-001

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc.

# LABORATORY REPORT

### EAI ID#: 235560

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	235560.01	235560.02						
Matrix:	aqueous	aqueous						
Date Sampled:	11/18/21	11/18/21		A				
Date Received:	11/18/21	11/18/21	RL	Matrix	Units	Analysis Date	Method A	nalyst
Chromium (VI)	< 10	< 10	10	AqTot	ug/L	11/18/21	7196A	HEH
Antimony	< 0.5	< 0.5	0.5	AqTot	ug/L	11/22/21	200.8	DS
Arsenic	< 0.5	< 0.5	0.5	AqTot	ug/L	11/22/21	200.8	DS
Cadmium	< 0.1	< 0.1	0.1	AqTot	ug/L	11/22/21	200.8	DS
Chromium	< 0.5	< 0.5	0.5	AqTot	ug/L	11/22/21	200.8	DS
Copper	1.2	< 0.1	0.1	AqTot	ug/L	11/22/21	200.8	DS
Iron	510	< 50	50	AqTot	ug/L	11/22/21	200.8	DS
Lead	< 0.1	< 0.1	0.1	AqTot	ug/L	11/22/21	200.8	DS
Mercury	< 0.1	< 0.1	0.1	AqTot	ug/L	11/22/21	200.8	DS
Nickel	0.74	0.25	0.1	AqTot	ug/L	11/22/21	200.8	DS
Selenium	< 0.5	< 0.5	0.5	AqTot	ug/L	11/22/21	200.8	DS
Silver	< 0.1	< 0.1	0.1	AqTot	ug/L	11/22/21	200.8	DS
Zinc	1.6	2.2	1	AqTot	ug/L	11/22/21	200.8	DS
Chromium (III)	< 10	< 10	10	AqTot	ug/L	11/22/21	200.8	DS

#### EAI ID#: 235560

### 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	1.1 (115 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Arsenic	< 0.0005	1.1 (109 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Cadmium	< 0.001	1.0 (105 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Chromium	< 0.001	1.1 (108 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Copper	< 0.001	1.1 (105 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Iron	< 0.05	12 (106 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Lead	< 0.001	1.0 (102 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Mercury	< 0.0001	0.0011 (109 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Nickel	< 0.001	1.0 (104 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Selenium	< 0.001	1.1 (110 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Silver	< 0.001	0.010 (104 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Zinc	< 0.005	1.1 (110 %R)	NA	ug/L 11/22/21	85 - 115 20	200.8
Chromium (VI)	< 0.01	0.29 (96 %R)	NA	ug/L 11/18/21	85 - 115 20	7196A

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc.



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

November 29, 2021

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

RE: Project: 235560 Pace Project No.: 70195291

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on November 19, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures



#### **REPORT OF LABORATORY ANALYSIS**

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#### CERTIFICATIONS

 Project:
 235560

 Pace Project No.:
 70195291

#### Pace Analytical Services Long Island

575 Broad Hollow Rd, Melville, NY 11747 Connecticut Certification #: PH-0435 Delaware Certification # NY 10478 Maryland Certification #: 208 Massachusetts Certification #: M-NY026 New Hampshire Certification #: 2987 New Jersey Certification #: NY158 New York Certification #: 10478 Primary Accrediting Body Pennsylvania Certification #: 68-00350 Rhode Island Certification #: LAO00340 Virginia Certification # 460302

#### **REPORT OF LABORATORY ANALYSIS**

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#### ANALYTICAL RESULTS

# Project: 235560 Pace Project No.: 70195291

Sample: SYSTEM INFLUENT	Lab ID:	70195291001	Collected: 11/18/2	21 07:45	Received: 1	11/19/21 10:20 N	/latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical I Pace Analy	Viethod: EPA 162 /tical Services - I	24B Melville					
Acetone Surrogates	<0.010	) mg/L	0.010	1		11/22/21 12:57	67-64-1	
1,2-Dichloroethane-d4 (S)	85	5 %	75-109	1		11/22/21 12:57	17060-07-0	
4-Bromofluorobenzene (S)	88	3 %	80-112	1		11/22/21 12:57	460-00-4	
Toluene-d8 (S)	100	) %	94-121	1		11/22/21 12:57	2037-26-5	

#### **REPORT OF LABORATORY ANALYSIS**

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#### ANALYTICAL RESULTS

# Project: 235560 Pace Project No.: 70195291

Sample: SYSTEM EFFLUENT	Lab ID: 701	95291002	Collected: 11/18/2	1 07:30	Received:	11/19/21 10:20 N	/latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Met Pace Analytic	hod: EPA 16 al Services -	324B ∙Melville					
Acetone <i>Surrogates</i>	<0.010	mg/L	0.010	1		11/22/21 12:35	67-64-1	
1,2-Dichloroethane-d4 (S)	85	%	75-109	1		11/22/21 12:35	17060-07-0	
4-Bromofluorobenzene (S)	86	%	80-112	1		11/22/21 12:35	460-00-4	
Toluene-d8 (S)	103	%	94-121	1		11/22/21 12:35	2037-26-5	

### **REPORT OF LABORATORY ANALYSIS**

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#### QUALITY CONTROL DATA

Project:	235560	0							
Pace Project No.:	70195:	291							
QC Batch:	2346	90	Analysis Met	nod: E	EPA 1624B				
QC Batch Method:	EPA	1624B	Analysis Des	cription:	1624B MSV				
			Laboratory:	Ŧ	Pace Analytical Serv	ices - Melville			
Associated Lab San	nples:	70195291001, 70195291002							
METHOD BLANK:	118379	92	Matrix:	Water					
Associated Lab San	nples:	70195291001, 70195291002							
			Blank	Reporting					
Paran	neter	Units	Result	Limit	Analyzed	Qualifiers			
Acetone		mg/L	<0.010	0.01	0 11/22/21 11:51				
1,2-Dichloroethane-	d4 (S)	%	90	75-10	9 11/22/21 11:51				
4-Bromofluorobenze	ene (S)	%	88	80-11	2 11/22/21 11:51				
Toluene-d8 (S)		%	105	94-12	1 11/22/21 11:51				
LABORATORY CON	NTROL	SAMPLE: 1183793							

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	mg/L	0.05	0.044	87	20-200	
1,2-Dichloroethane-d4 (S)	%			83	75-109	
4-Bromofluorobenzene (S)	%			95	80-112	
Toluene-d8 (S)	%			96	94-121	

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**

Date: 11/29/2021 08:41 AM

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#### QUALIFIERS

Project:	235560
Pace Project No.:	70195291

#### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

#### **REPORT OF LABORATORY ANALYSIS**

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#### QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 235560

 Pace Project No.:
 70195291

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70195291001 70195291002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	234690 234690		

#### **REPORT OF LABORATORY ANALYSIS**

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# CHAIN-OF-CUSTODY RECORD

EAI ID# 235560 Sample ID **Date Sampled Matrix** aParameters Sample Notes System Influent 11/18/2021 aqueous Subcontract - EPA Method 1624 Isotope Dilution 07:45 System Effluent aqueous Subcontract - EPA Method 1624 Isotope Dilution 11/18/2021 07:30

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Page

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Eastern Analytical, Inc.

professional laboratory and drilling services



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

	J	ample	Lonaiti	on ohou ve	cen	110# · 701	95291
PaceAnalytical	Client	Name		Proi	iect 🖣	WU# · L V ·	Bate: 11/30/21
-	G	KT-A		,		pm: Kmm - u	
Courier: Fed Ex 2 UPS D USPS DClien	t Comm	nercial F	Pace Th	Ar	4	CLIENT: EASTA	
Tracking #: 46 KM 6	21 9719	9823			- 5		
Custody Seal on Cooler/Box Present:	es RTNo	Seals	intact: 🖂 Ye	es No RAN/A	2	i emperature Blank P	resent: EYesE3.No
Packing Material: Bubble Wrap Bubb	le Baus r	Ziploc r	None 10t	ther		Type of Ice: We E	luë None
Thermometer Used: -THO91- THITG	Correc	tion Facto	or: ≯O	Ĭ		TISamples on ice cooling	n nacess bas bedun
Cooler Temperature(°C); Z. I	Cooler	Tempera	ture Correct	ted["C]: 2.2	pase*	Date/Time 5035A kits	placed in freezer
Temp should be above freezing to 6.0°C							1 111
USDA Regulated Soil (201/A, water sampl	e]			Date and Initial	ls of r	erson examining conten	ts: V.W. The
Did samples originate in a quarantine zone v	within the l	Inited Stat	tos AL AR C/		NC .	Did samples orignate f	no à foreign source
NM NY AK AR SC TN TX or VA (check man)	$\gamma \square V_{\alpha}$				NO,	including Hawaii and Pi	Jorto Picol? Ves X No
If Yes to either nuestion ful out a Regula		becklist li	e finacenti e	and the with s	en py	COC nanarwark	
		iloonilot ji			10017	COMMENTS:	
Chain of Custody Present:	17Yes	[]No		1		ootinitino.	·
Chain of Custody Filled Dut:	- Mes			2.			
Chain of Custody Relinquished:	1ZWes			3.		ana ana amin'ny soratra amin'ny soratra amin'ny soratra ana amin'ny soratra dia soratra dia soratra dia soratra	
Sampler Name & Signature on COC:	ZIVes			4.		· .	
Samples Arrived within Hold Time	-izYes-	NA	4-41 V/ 1 V	5		· · · · · · · · · · · · · · · · · · ·	
Short Hold Time Analysis (<72hr):	TYes	2110		6.			
Rush Turn Around Time Requested:		(DAND		7.		Wearen an 19 May and Annual and an an an an an an an an an an an an an	
Sufficient Volume: (Triple volume provided fo				8			······
Correct Containers Used:	i Tres			9.	- ·	and the second second second second second second second second second second second second second second second	· e
-Pace Containers Used:	17Yes					×	
Containers Intact:	1ZiYes			10. °			
Filtered volume received for Dissolved tests	⊡Yes		TIN/A	11. Note	if sec	liment is visible in the diss	olved container
Sample Labels match COC:	rives			12.			
-Includes date/time/ID, Matrix: SL	OIL						
All containers needing preservation have be	en ⊡Yes		EIN/A	13. 🗆 HN	102	□ H₂SO₄ □ NaOH	II HCI
checked?			100 Sec. 10				
pH paper Lot #							
All containers needing preservation are foun	d to be			Sample #			
in compliance with method recommendation	า?						
(HNO3, H2SO4, HCl, NaOH>9 Sulfide,	⊡Yes	ΠNο	ΦN/A	· ·			
NAOH>12 Cyanide)			I				•
Exceptions: VOA, Coliform, TOC/DOC, Oil and I	Grease,			······································			- <b>.</b>
DRO/8015 (water).				Initial when com	pletec	Lot # of added	Date/Time preservative
Per_Method, VOA pH is checked after analysi	S		town of the second second	1.9		preservative:	added:
Samples checked for dechlorination:	⊏Yes	⊡No	jzin/A	14.			
KI starch test strips Lot #			/				
Residual chlorine strips Lot #	r 			Positive	e for F	Res. Chlorine? Y N	
SM 4500 CN samples checked for sulfide?	⊡Yes	⊡No	ZN/A	15.			
Lead Acetate Strips Lot #				Positive	e for S	Sulfide? Y N	
Headspace in VUA Vials ( >6mm):	⊡Yes	<u>A</u> No	⊡N/A	16.		and an and a second second second second second second second second second second second second second second	
Trip Blank Present:	□Yes	μZINo	⊡N/A	17.			
Irip Blank Custody Seals Present	⊡Yes	⊡No	j⊿N/A			-	
Pace ITIP BIARK LOT # [If applicable]:	n et easte an						
Client Notification/ Resolution:				Field Data Requir	red?	Y / N	
Person Contacted:			desammentation and the second	Dater	/Time:		
comments/ Kesolution:						· · · · · · · · · · · · · · · · · · ·	
			-			-	
						an an an an an an an an an an an an an a	

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

ENV-FRM-MELV-0024 01

Page 9 of 9



Wednesday, December 01, 2021

Attn: Front Office Eastern Analytical 51 Antrim Ave Concord, NH 03301

Project ID: 235560 SDG ID: GCJ82493 Sample ID#s: CJ82493 - CJ82494

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Shille

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 UT Lab Registration #CT00007 VT Lab Registration #VT11301





# Sample Id Cross Reference

December 01, 2021

SDG I.D.: GCJ82493

Project ID: 235560

Client Id	Lab Id	Matrix
SYSTEM INFLUENT	CJ82493	WATER
SYSTEM EFFLUENT	CJ82494	WATER





Analysis Decem	<b>Report</b> ber 01, 2021		FOI	R: .	Attn: Fro Eastern 51 Antri Concoro	ont Office Analytica m Ave d, NH 033	ıl 601		
Sample Inform	nation		Custody Infe	ormat	<u>ion</u>		Date	<u>e</u>	<u>Time</u>
Matrix:	WATER		Collected by:				11/18	3/21	7:45
Location Code:	EASTANAL	-NH	Received by:		CP		11/19	9/21	16:01
Rush Request:	Standard		Analyzed by:		see "By	y" below			
P.O.#:	56261		Laborato	ory [	<u>Data</u>		SI Phoe	DG II nix II	D: GCJ82493 D: CJ82493
Project ID:	235560								
Client ID:	SYSTEM INFL	UENT							
Parameter		Result	RL/ PQL	Units	b Di	ilution	Date/Time	By	Reference
1,4-dioxane									

1,4-dioxane	19	0.20	ug/l	1	11/29/21	AW	EPA522
QA/QC Surrogates							
% 1,4-dioxane-d8	90		%	1	11/29/21	AW	70 - 130 %
Extraction for 1,4-Dioxane	Completed				11/29/21	G/G	EPA522

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

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

### **Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director December 01, 2021 Reviewed and Released by: Rashmi Makol, Project Manager





Analysis Decem	<b>Report</b> ber 01, 202 ⁻	1		FOR:	Attn: From Eastern A 51 Antrim Concord,	nt Office Analytica n Ave NH 033	e al 301		
Sample Inform	nation		Custoc	<u>ly Informa</u>	<u>tion</u>		Date	<u>ə</u>	<u>Time</u>
Matrix:	WATER		Collecte	ed by:			11/18	8/21	7:30
Location Code:	EASTANA	L-NH	Receive	ed by:	CP		11/19	9/21	16:01
Rush Request:	Standard		Analyze	ed by:	see "By"	below			
P.O.#:	56261		<u>Labor</u>	atory [	<u>Data</u>		S Phoe	DG II enix II	D: GCJ82493 D: CJ82494
Project ID: Client ID:	235560 SYSTEM EFF	FLUENT							
Parameter		Result	RL/ PQL	Units	s Dilu	ution	Date/Time	By	Reference
1,4-dioxane									
1,4-dioxane		ND	0.20	ug/l		1	11/29/21	AW	EPA522
QA/QC Surrogat	es								
% 1.4-dioxane-d8		87		%		1	11/29/21	AW	70 - 130 %

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

Completed

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:**

Extraction for 1,4-Dioxane

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director December 01, 2021 Reviewed and Released by: Rashmi Makol, Project Manager

11/29/21

G/G

EPA522





# QA/QC Report

December 01, 2021

# QA/QC Data

SDG I.D.: GCJ82493

Parameter	Blank	Blk RL	LCS %	LCSD	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 602244 (ug/l) 1,4dioxane - Water	), QC Sample	No: CJ81627	(CJ82493, CJ82494)							
1,4-dioxane	ND	0.20	80	92	14.0	94			70 - 130	20
% 1,4-dioxane-d8	86	%	79	90	13.0	94			70 - 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 December 01, 2021

Wednesday, December 0 Criteria: None State: NH SamnNo Acode	1, 2021 Phoenix Analyte	Sample Criteria Exceedances GCJ82493 - EASTANAL-NH	Report	<u>u</u>	Criteria	Criteria	Analysis
SampNo Acode	Phoenix Analyte	Criteria	Result	믿	Criteria	RL Criteria	Analysis Units
*** No Data to Display ***							
Phoenix Laboratories doe made to ensure the accur professional's responsibili	is not assume responsibility for th acy of the data (obtained from ap ty to determine appropriate comp	e data contained in this exceedance report. It is provided as an propriate agencies). A lack of exceedence information does not vilance.	additional tool to identify red t necessarily suggest confor	quested criter mance to the	ia exceedence criteria. It is ι	s. All efforts ultimately the	are site





# Analysis Comments

December 01, 2021

SDG I.D.: GCJ82493

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

imple ID	Data Samala	d Matrix aParametars		EAI ID# 235560	Page 1
System Influent	11/18/2021 07:45	aqueous Subcontract - 1,4 Dioxane EPA Method 522	¥	82493	
System Effluent	11/18/2021 07:30	aqueous Subcontract - 1,4 Dioxane EPA Method 522	¥	82494 (RA)	
	₩ 1 X (	zoz amker			

EAI ID# 235560 Project State: NH	Results Needed: Preferred Date: Standard	PO # 56261 EAI ID# 235560
Project ID: 4965	QC Deliverables	Data Deliverable (circle)
		Excel NH EMD EQUIS ME EGAD
company Phoenix Environmental Labs	Notes about project;	
Address 587 East Middle Turnpike	Email login confirmation, pdf of results and	Call prior to analyzing, if RUSH charges will be applied.
Address Manchester, CT 06040	Invoice to customerservice@easternanalytical.com.	Samples Collected by:
Account #		Relinquished by Date/Time Received by
Phone # (860) 645-1102		Japh Mod 4/19/2 12:50 Ste
	•	Relinguished by Date/Time Received by
Eastern Analytical, Inc. 51 Antrim Ave Concord	NH 03301 Phone: (603)228-0525 1-800-2	287-0525 Customerservice@easternanalytical.com

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.


M Ea	astern Analytic	al, Inc.	CHAIN-OF-CUSTODY RECORD	235560	31 of 31
	Date/Time Composites need start				age
Sample IDs	and stop dates/times	Matrix	Parameters and Sample Notes	# of con	ntainers
System Influent	11/18/21 0745 m	aqueous Grabor Comp	AqTot/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/Cl/NH3/CyanT/ICPMets.Sb.As. Zn/Cr6/Cr3/CyanFree/V624	Cd.Cr.Cu.Fe.Hg.Pb.Ni.Se.Ag.	13
Sampler conf	firms ID and parameters	are accurate	Circle preservative/strick HNOV H, SOV NAOH MEOK NASO (ICE)	Dissolved Sample Field Filtere	ed 🔲
System Effluent	11/18/21	aqueous Grab or Comp	AqTot/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As. Zn/Cr6/Cr3/CyanFree/V624	Cd.Cr.Cu.Fe.Hg.Pb.Ni.Se.Ag.	13
Sampler conf	firms ID and parameters	are accurate	Circle preservative/s.HOL HNOS H,SO NaOP MEOH NASCI ICE	Dissolved Sample Field Filtere	ed 📃

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 4965	Results Needed by: Preferred date	ReportingOptions		
Project Name Rennie Farm RGP / 04.0190030.02	Notes:	⊠нс	🗌 NO FAX	PO# verbal
-			Partial FAX	Quote#:
State NH	1624 Acetone Only			a 1 -
Client (Pro Mgr) Jim Wieck	1024 Acetone Only	PDF prelim, NO FAX	LIEQUIS	Temp 0-1 °C
Customer CZA GooEnvironmental Inc. (NH)		e-mail Login Confirmation		
Customer GZA GeoEnvironmental, inc. (Mr)		Complete Collected by	Gran Spron	
Address 5 Commerce Park North, Suite 201		Samples Collected by:	Uned Seren	AT INFULATION
City Bedford NH 03110		MAMANT II	118/21 E	- AL 1295 1118221
	· · · · ·	Relinguished by	Date/Time	Received by
Phone 623-3600 Fax 624-9463 (37)	QC deliverables	· · ·		Qupuu
Email: James.Wieck@gza.com	🗆 А 🖾 А+ 🖾 В 🗆 В+ 🔲 С 🖾 МАМСР	Relinquished by	Date/Time	Received by
Direct 232-8732 Eastern Analytical	Inc. www.easternanalytical.com   800.287	.0525   customerservice@eas	sternanalytical.com	



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



Laboratory Report for:

Bedford, NH 03110

Eastern Analytical, Inc. ID: 235851 Client Identification: Rennie Farm | 04.0190030.02 Task 22 ST-1 Date Received: 11/24/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

## Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

## References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Date

Sincerely,

Derain & Clushan

12.2.21

Lorraine Olashaw, Lab Director

## SAMPLE CONDITIONS PAGE

EAI ID#: 235851

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

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Temperat Acceptable	ture upon receipt (°C): temperature range (°C): 0-6	2.9	Received on ice or cold packs (Yes/No): Υ								
Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)					
235851.01	System Influent	11/24/21	11/22/21 09:35	aqueous		Adheres to Sample Acceptance Policy					
235851.02	System Mid	11/24/21	11/22/21 09:40	aqueous		Adheres to Sample Acceptance Policy					
235851.03	LGAC In	11/24/21	11/23/21 08:59	aqueous		Adheres to Sample Acceptance Policy					
235851.04	LGAC Mid	11/24/21	11/23/21 08:57	aqueous		Adheres to Sample Acceptance Policy					
235851.05	LGAC Out	11/24/21	11/23/21 08:55	aqueous		Adheres to Sample Acceptance Policy					

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

## EAI ID#: 235851

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

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Client Sample ID:	System Influent						
Lab Sample ID:	235851.01						
Matrix:	aqueous						
Date Sampled:	11/22/21						
Date Received:	11/24/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	19	2	10	ug/L	11/29/21 23:07	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	11/29/21 23:07	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	11/29/21 23:07	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	235851.02						
Matrix:	aqueous						
Date Sampled:	11/22/21						
Date Received:	11/24/21						
			Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1.4-Dioxane	< 0.2	0.2	1	ug/L	11/29/21 16:52	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	11/29/21 16:52	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	11/29/21 16:52	8260B SIM	AM

## EAI ID#: 235851

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

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Client Sample ID:	LGAC In						
Lab Sample ID:	235851.03						
Matrix:	aqueous						
Date Sampled:	11/23/21						
Date Received:	11/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	2200	200	1000	ug/L	11/29/21 23:38	8260B SIM	AM
4-Bromofluorobenzene (surr)	96 %R			%	11/29/21 23:38	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	11/29/21 23:38	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	235851.04						
Matrix:	aqueous						
Date Sampled:	11/23/21						
Date Received:	11/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	5.5	0.2	1	ug/L	11/29/21 17:23	8260B SIM	AM
4-Bromofluorobenzene (surr)	97 %R			%	11/29/21 17:23	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	11/29/21 17:23	8260B SIM	AM

Client Sample ID:	LGAC Out						
Lab Sample ID:	235851.05						
Matrix:	aqueous						
Date Sampled:	11/23/21						
Date Received:	11/24/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.29	0.2	1	ug/L	11/29/21 17:54	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	11/29/21 17:54	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	11/29/21 17:54	8260B SIM	AM

QC REPORT

## EAI ID#: 235851

Batch ID: 637738-67773/A112921DIOX1

# Client:GZA GeoEnvironmental, Inc. (NH)Client Designation:Rennie Farm | 04.0190030.02 Task 22 ST-1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.9 (97 %R)	4.6 (91 %R) (7 RPD	) 11/29/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	97 %R	97 %R	98 %F	R 11/29/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	98 %R	98 %R	99 %F	R 11/29/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

235851

W.O. #

#### (for lab use only)

#### CHAIN-OF-CUSTODY RECORD

										·				· · · · · · · · · · · · · · · · · · ·	ANAL	YSI	S REC	UIR	ED							a a ang ang ang							
Sample [.D.	Date/Time Sampled	Matrix																		Τ	T	Γ			Γ	T	T	38	FT	Т	7		
		A≊Air S≂S-0				ist	List		Q			g		Na												8		100					
		GW=Ground W SW=Surface W		Ether	ist	Short I	Short		(BTE	່. ອ		A MA		N D	97					ļ	R-8					3 🗆 S		10					
		WW=Waste W. DW=Drinking W.	Cond	Ethane	Full L	HW	Petr.	ll List	20 List	V VOC	vocs	602 \	50	AHC	svoc	ş	6100				9		(moj	Belov	Below	DN D		2			г	fotal No.	Note #
		P=Product Other (specify)	0	thane,	HN 09	HN 09	60 NH	21- Fu	21-80	4.2 DV	4 W W		70 SVI	102	S WW	D78	81-Pes		ADE	A DE	Mad	Metal	List Be	Specify	specify	Ū		10%			'	of Cont.	Prote #
•				SC Me	EPA 82	5PA 82	EPA 82	EPA 80	3PA 80	EPA 52	:PA 62	8	:PA 82	5PA 82	29 A 62	09 V.5	PA 80	D Ha	W) Hd	W) Hd	fetals [	CP 14	fetals (I	CLP-	5- d74	PA 300		14-					
System Influen	+11-22-21 9:35	GW							- <u>₩</u> -	_14			<u> </u>		<u> </u>				<u>-   - #</u>	42		1×	2	Ē	15	<u> </u>	<u>†</u>	R	┟╼╍╁	-+	+	2	
System Mid	11-22-21 9:40	GW																			1				T	1	$\mathbf{T}$	$\dot{\lambda}$		1	Ť	2	
1				ļ																											T		
LGAC IN	11-23-21 8:59	GW	ļ									· ·																X				2	
LGAC MID	11-23-21 8:57	GW	<u> </u>												<u> </u>					ļ	<u> </u>				<u> </u>	<u> </u>	<u> </u>	X				2	
LGAL DUT	11-23-2 8:35	GW							$\left  - \right $									_		<u> </u>							ļ	X				2	
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CONTAINER TYPE (P. Planic C	ethanol, N-HNO3, S-H2SO4, Na-NaO	H, O-Other) *		$\vdash$					┝╼┥			·			-						_						<u>                                     </u>	K					
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al peolon	~ 11-24-21 Mar	MAN SMAN	*	Specif	y "Ot	her" p	reser	vative	s and	cont	ainer	type	s in t	his spa	1664 40 168.		• • • • •	· 2 Γ.	,														
RELINQUISHED BY.		RECEIVED BY:	Ī																														
RELINGUISUED BY	1039	V																															
ICLINQUISTED BT.	DATE/TIME	RECEIVED BY:																															
Project Manager:	Jim Wieck																		<del>.</del>			1.45											
GZA	GEOENVIRONMENTAL, IN	C.	TURNAROUND TIME: Standard Rush 5 Days. Approved by: 14MP OF COOLER 29 C Cooler					mp Blank																									
	······································		GZA FILE NO: 04. 0190030.02 TASK NO: 22 57-1 RENO 26228																														
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Jim Wieck GZA GeoEnvironmental, Inc. (NH) 5 Commerce Park North, Suite 201 Bedford, NH 03110



Laboratory Report for:

Eastern Analytical, Inc. ID: 236354 Client Identification: Rennie Farm | 04.0190030.02 Task 22 ST-1 Date Received: 12/8/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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- %R: % Recovery

## Certifications:

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## References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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

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

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

<b>Temperature upon receipt (°C):</b> Acceptable temperature range (°C): 0-6		11.8			Received o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/ Sam	Time oled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
236354.01	System Influent	12/8/21	12/7/21	10:35	aqueous		Adheres to Sample Acceptance Policy
236354.02	System Mid	12/8/21	12/7/21	10:30	aqueous		Adheres to Sample Acceptance Policy
236354.03	LGAC Effluent	12/8/21	12/8/21	08:20	aqueous		Adheres to Sample Acceptance Policy
236354.04	LGAC Mid	12/8/21	12/8/21	08:25	aqueous		Adheres to Sample Acceptance Policy
236354.05	LGAC Influent	12/8/21	12/8/21	08:30	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc. www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.Bage 2 of 7

## EAI ID#: 236354

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

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Client Sample ID:	System Influent						
Lab Sample ID:	236354.01						
Matrix:	aqueous						
Date Sampled:	12/7/21						
Date Received:	12/8/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	19	2	10	ug/L	12/9/21 19:02	8260B SIM	AM
4-Bromofluorobenzene (surr)	96 %R			%	12/9/21 19:02	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/9/21 19:02	8260B SIM	AM

Client Sample ID:	System Mid						
Lab Sample ID:	236354.02						
Matrix:	aqueous						
Date Sampled:	12/7/21						
Date Received:	12/8/21						
			Dilution		Date / Time	/	
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/9/21 15:21	8260B SIM	AM
4-Bromofluorobenzene (surr)	88 %R			%	12/9/21 15:21	8260B SIM	AM
Toluene-d8 (surr)	96 %R			%	12/9/21 15:21	8260B SIM	AM

## EAI ID#: 236354

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

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Client Sample ID:	LGAC Effluent						
Lab Sample ID:	236354.03						
Matrix:	aqueous						
Date Sampled:	12/8/21						
Date Received:	12/8/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	< 0.2	0.2	1	ug/L	12/9/21 15:52	8260B SIM	AM
4-Bromofluorobenzene (surr)	98 %R			%	12/9/21 15:52	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/9/21 15:52	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	236354.04						
Matrix:	aqueous						
Date Sampled:	12/8/21						
Date Received:	12/8/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	36	2	10	ug/L	12/14/21 16:38	8260B SIM	AM
4-Bromofluorobenzene (surr)	99 %R			%	12/14/21 16:38	8260B SIM	AM
Toluene-d8 (surr)	98 %R			%	12/14/21 16:38	8260B SIM	AM

Client Sample ID:	LGAC Influent						
Lab Sample ID:	236354.05						
Matrix:	aqueous						
Date Sampled:	12/8/21						
Date Received:	12/8/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	2600	200	1000	ug/L	12/9/21 19:34	8260B SIM	AM
4-Bromofluorobenzene (surr)	96 %R			%	12/9/21 19:34	8260B SIM	AM
Toluene-d8 (surr)	97 %R			%	12/9/21 19:34	8260B SIM	AM

## EAI ID#: 236354

Batch ID: 637746-48600/A120921DIOX1

# Client:GZA GeoEnvironmental, Inc. (NH)Client Designation:Rennie Farm | 04.0190030.02 Task 22 ST-1

#### **Parameter Name** Blank LCS LCSD Analysis Date Units Limits **RPD Method** 1,4-Dioxane < 0.2 4.8 (96 %R) 4.9 (99 %R) (3 RPD) 12/9/2021 70 - 130 20 8260B ug/L 4-Bromofluorobenzene (surr) 100 %R 98 %R 50 8260B 98 %R 12/9/2021 % Rec 70 - 130 Toluene-d8 (surr) 99 %R 98 %R 8260B 99 %R 12/9/2021 % Rec 70 - 130 50

*/I Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

QC REPORT

## EAI ID#: 236354

Batch ID: 637750-97251/A121421DIOX1

## Client: GZA GeoEnvironmental, Inc. (NH) Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

**RPD** Method LCS LCSD Analysis Date Units Limits Blank **Parameter Name** ug/L 70 - 130 8260B 4.7 (94 %R) (5 RPD) 12/14/2021 20 4.5 (89 %R) 1,4-Dioxane < 0.2 70 - 130 50 8260B 12/14/2021 % Rec 98 %R 4-Bromofluorobenzene (surr) 101 %R 100 %R 8260B 99 %R 99 %R 12/14/2021 % Rec 70 - 130 50 Toluene-d8 (surr) 99 %R

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

236354

(for lab use only)

W.O. #

CHAIN-OF-CUSIO	DY RECORD									 -				- A)	NAL	YSIST	REOU	IRED														
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)	C pH C Cond.	GC Methane, Ethane, Ethene	EPA 8260 NH Full List	EPA 8260 NH HW Short List	EPA 8260 NH Petr. Short List	EPA 8021- Fuli List	EPA 8021- 8020 List (BTEX)	EPA 524.2 DW VOCs	EPA 624 WW VOCs	C 601 C 602 WW VOCs	EPA 8270 SVOCs	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 D PPM-13 D R-8	MCF 14 Metals	Metals (List Below) **	I.C.L.P Specify Below	SPLL - Specify Below		her nor no how	I MIMMINE VEVEL			Total No. of Cont.	Note #
system influent	12-7-21 10:35	GW																									X	-			2	
system Mid	12-7-21 10:30	6W																			_						×	1_			2	
LGAC EFFICIENT	12/8/21 8:20	GW										$\bot$			$\bot$												<u> </u> ×	:			2	
LGAC Mid	12/8/21 8:25	GW																									X	(			2	
LGAC Influent	12/8/21 8:30	GW																							_		2	4			2	
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CONTAINER TYPE (P-Plastic, 0	Aethanol, N-HNO3, S-H2SO4, Na-Nac G-Glass, V-Vial, T-Teflon, O-Other)*	H, O-Other)*			+							+		+	+	+					-	-	-				Ťv	十	1		10	
RELINQUISHED BY.	DATE/TIME	RECEIVED BY:	1	IOTE	S: (U	iless (	otherw	rise no	oted,	all sa	mples	have	e been	refri	gerat	ed to	4 +/-	2°C)														
MANANT	12/8/21 EAT	= 14451	1	Speci	fy "O	ther"	preser	vative	s and	l cont	tainer t	types	s in thi	is spa	ce.																	
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Jim Wieck GZA GeoEnvironmental, Inc. (NH) 5 Commerce Park North, Suite 201 Bedford , NH 03110



Laboratory Report for:

Eastern Analytical, Inc. ID: 236597 Client Identification: Rennie Farm RGP / 04.0190030.02 Date Received: 12/13/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

## Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

## References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision year.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks from the sample receipt date.

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

Sincerely,

aine Olashaw, Lab Director

## SAMPLE CONDITIONS PAGE

## EAI ID#: 236597

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

Client Designation: Rennie Farm RGP / 04.0190030.02

## Temperature upon receipt (°C): 0.5

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

Acceptable temperature range (°C): 0-6												
Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample % Dry Matrix Weight	Exceptions/Comments (other than thermal preservation)							
236597.01	System Influent	12/13/21	12/13/21 12:30	aqueous	Adheres to Sample Acceptance Policy							
236597.02	System Effluent	12/13/21	12/13/21 12:45	aqueous	Adheres to Sample Acceptance Policy							

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

EAI ID#: 236597

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

								,	<u>_</u>
Client Sample ID: 5 Lab Sample ID: 2	System Influent 36597.01				Date of Prepa N	aration: /lethod:	624.1		
Matrix: a	queous				Δ	Analyst:	SG		
Date Sampled: 1	2/13/21					Units:	ua/L		
Date Darahurah	2/13/21						U ,		
Date Received:	2.10.21		Dilution	Date				Dilution	Date
	Result	RL	Factor	Analyzed		Re	sult	RL Factor	Analyze
Chloromethane	< 2	2	1	12/14/21 ·	4-Bromofluorobenzene (sur	r) 98	%R		12/14/21
√inyl chloride	< 1	1	1	12/14/21	1,2-Dichlorobenzene-d4	98	%R		12/14/2
Bromomethane	< 2	2	1	12/14/21	Toluene-d8 (surr)	98	%R		12/14/2 ⁻
Chloroethane	< 2	2	1	12/14/21					
Trichlorofluoromethane	< 2	2	1	12/14/21					
Acrolein	< 50	50	1	12/14/21					
Acetone	< 10	10	1	12/14/21					
1,1-Dichloroethene	< 0.5	0.5	1	12/14/21					
Methylene chloride	< 1	1	1	12/14/21		<u>.</u>			
Acrylonitrile	< 50	50	1	12/14/21					
Vethyl-t-butyl ether(MTBE)	) <1	1	1	12/14/21					
trans-1,2-Dichloroethene	< 1	1	1	12/14/21					
Vinyl acetate	< 10	10	1	12/14/21					
1,1-Dichloroethane	< 1	1	1	12/14/21					
cis-1,2-Dichloroethene	< 1	1	1	12/14/21					
2-Butanone(MEK)	< 10	10	1	12/14/21					
Chloroform	< 1	1	1	12/14/21					
1,1,1-Trichloroethane	< 1	1	1	12/14/21					
Carbon tetrachloride	< 1	1	1	12/14/21					
Benzene	< 1	1	[°] 1	12/14/21					
1,2-Dichloroethane	< 1	1	[`] 1	12/14/21					
Trichloroethene	< 1	1	1	12/14/21					
1,2-Dichloropropane	< 1	1	1	12/14/21	•				
Bromodichloromethane	< 0.5	0.5	1	12/14/21					
2-Chloroethylvinylether	< 2	2	1	12/14/21					
4-Methyl-2-pentanone(MIE	SK) < 10	10	1	12/14/21					
cis-1,3-Dichloropropene	< 0.5	0.5	1	12/14/21					
Toluene	< 1	1	1	12/14/21					
trans-1,3-Dichloropropene	< 0.5	0.5	1	12/14/21					
1,1,2-Trichloroethane	< 1	1	1	12/14/21					
2-Hexanone	< 10	10	1	12/14/21					
Tetrachloroethene	< 1	1	1	12/14/21					
Dibromochloromethane	< 1	1	1	12/14/21					
Chlorobenzene	< 1	1	1	12/14/21					
Ethylbenzene	< 1	. 1	1	12/14/21					
mp-Xylene	< 1	. 1	1	12/14/21					
o-Xylene	< 1	1	. 1	12/14/21					
Styrene	< 1	1	1	12/14/21					
Bromoform	< 2	2	1	12/14/21					
1,1,2,2-Tetrachloroethane	< 1	1	1	12/14/21					
1,3-Dichlorobenzene	· <1	1	1	12/14/21					
1,4-Dichlorobenzene	< 1	1	1	12/14/21					
1,2-Dichlorobenzene	< 1	1	1	12/14/21		•			

EAI ID#: 236597

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Client Sample ID:	System Effluent				Date of Prepar	ation:	<u> </u>			
Lab Sample ID:	200097.02				Ne	ernoa:	624.1			
Matrix:	aqueous				Ar	alyst:	SG			
Date Sampled:	12/13/21				I	Units:	ug/L			
Date Received:	12/13/21									
	Result	RL.	Dilution Factor	Date Analvzed		Res	sult	RL	Dilution Factor	Date Analvzeo
Chloromethane	< 2	2	1	12/14/21	4-Bromofluorobenzene (surr)	97	%R			12/14/21
Vinvl chloride	< 1	1	1	12/14/21	1 2-Dichlorobenzene-d4	97	%R			12/14/21
Bromomethane	< 2	2	1	12/14/21	Toluene-d8 (surr)	98	%R			12/14/21
Chloroethane	< 2	2	1.	12/14/21		50	/01			
Trichlorofluoromethane	< 2	2	1	12/14/21						
Acrolein	< 50	50	1	12/14/21						
Acetone	< 10	10	1	12/14/21						
1.1-Dichloroethene	< 0.5	0.5	1	12/14/21						
Methylene chloride	< 1	1	1	12/14/21						
Acrylonitrile	< 50	50	1	12/14/21						
Methyl-t-butyl ether(MTBF	) <1	1	1	12/14/21						
trans-1.2-Dichloroethene	, < 1	1	1	12/14/21						
Vinvl acetate	< 10	10	1	12/14/21						
1.1-Dichloroethane	< 1	1	1	12/14/21						
cis-1.2-Dichloroethene	< 1	1	1	12/14/21						
2-Butanone(MFK)	< 10	10	1	12/14/21						
Chloroform	< 1	1	1	12/14/21						
1.1.1-Trichloroethane	< 1	1	1	12/14/21						
Carbon tetrachloride	< 1	1	1	12/14/21						
Benzene	< 1	1	1	12/14/21						
1.2-Dichloroethane	< 1	1	1	12/14/21						
Trichloroethene	< 1	1	1	12/14/21						
1.2-Dichloropropane	< 1	1	1	12/14/21						
Bromodichloromethane	< 0.5	0.5	1	12/14/21						
2-Chloroethylvinylether	< 2	2	1	12/14/21						
4-Methyl-2-pentanone(MIF	3K) < 10	10	1	12/14/21						
cis-1.3-Dichloropropene	< 0.5	0.5	1	12/14/21						
Toluene	< 1	1	1	12/14/21						
trans-1.3-Dichloropropene	< 0.5	05	1	12/14/21						
1.1.2-Trichloroethane	< 1	1	1	12/14/21						
2-Hexanone	< 10	10	1	12/14/21						
Tetrachloroethene	< 1	1	1	12/14/21						
Dibromochloromethane	< 1	1	1	12/14/21						
Chlorobenzene	< 1	1	1	12/14/21						
Ethylbenzene	< 1	1	1	12/14/21						
mp-Xvlene	< 1	ı∘ 1	1	12/14/21						
o-Xvlene	< 1	1	1	12/14/21						
Styrene	< 1	1	1	12/14/21						
Bromoform	< 2	· 2	1	12/14/21						
1 1 2 2-Tetrachloroethane	< 1	- 1	1	12/14/21						•
1 3-Dichlorohenzene	< 1	1	1	12/14/21						
1 4-Dichlorohenzene	2 1	1	1	12/14/21						
1 2-Dichlorohanzana	- 1	1	1	12/14/21						

## QC REPORT

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Chloromethane	< 2	< .876	28 (138 %R)	26 (132 %R) (5 RPD)	) 12/14/2021	ua/L	1 - 205	60	624,1
Vinyl chloride	< 1	< .34	25 (123 %R)	23 (117 %R) (4 RPD	) 12/14/2021	ug/L	5 - 195	66	624.1
Bromomethane	< 2	< .554	28 (141 %R)	27 (137 %R) (3 RPD	) 12/14/2021	ug/L	15 - 185	61	624.1
Chloroethane	< 2	< .232	25 (126 %R)	24 (121 %R) (4 RPD	) 12/14/2021	ug/L	40 - 160	78	624.1
Trichlorofluoromethane	< 2	< .375	26 (129 %R)	23 (117 %R) (10 RPD	) 12/14/2021	ug/L	50 - 150	84	624.1
Acrolein	< 50	< ,548	< 50 (82 %R)	< 50 (73 %R) (11 RPD	) 12/14/2021	ug/L	60 - 140	60	624.1
Acetone	< 10	< 2.387	15 (73 %R)	13 (65 %R) (13 RPD	) 12/14/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethene	< 0.5	< .37	19 (95 %R)	18 (92 %R) (3 RPD	) 12/14/2021	ug/L	50 - 150	32	624.1
Methylene chloride	< 1	< .545	20 (101 %R)	20 (100 %R) (1 RPD	) 12/14/2021	ug/L	60 - 140	28	624.1
Acrylonitrile	< 50	< .302	< 50 (88 %R)	< 50 (79 %R) (11 RPD)	) 12/14/2021	ug/L	60 - 140	60	624.1
Methyl-t-butyl ether(MTBE)	< 1	< .519	18 (89 %R)	17 (84 %R) (5 RPD)	) 12/14/2021	ug/L	70 - 130	20	624.1
trans-1,2-Dichloroethene	< 1	< .298	21 (103 %R)	21 (103 %R) (0 RPD)	) 12/14/2021	ug/L	70 - 130	45	624.1
Vinyl acetate	< 10	< .557	19 (96 %R)	18 (89 %R) (8 RPD	) 12/14/2021	ug/L	40 - 160	20	624.1
1,1-Dichloroethane	< 1	< .085	20 (98 %R)	20 (98 %R) (0 RPD	) 12/14/2021	ug/L	70 - 130	40	624.1
cis-1,2-Dichloroethene	< 1	< .238	19 (96 %R)	20 (98 %R) (2 RPD	) 12/14/2021	ug/L	70 - 130	20	624.1
2-Butanone(MEK)	< 10	< .206	16 (78 %R)	14 (69 %R) (13 RPD	) 12/14/2021	ug/L	40 - 160	20	624.1
Chloroform	< 1	< .36	18 (89 %R)	18 (90 %R) (1 RPD	) 12/14/2021	ug/L	70 - 135	54	624.1
1,1,1-Trichloroethane	< 1	< .227	20 (100 %R)	20 (99 %R) (1 RPD	) 12/14/2021	ug/L	70 - 130	36	624.1
Carbon tetrachloride	< 1	< .261	20 (100 %R)	19 (97 %R) (3 RPD	) 12/14/2021	ug/L	70 - 130	41	624.1
Benzene	< 1	< .312	20 (102 %R)	20 (102 %R) (1 RPD	) 12/14/2021	ug/L	65 - 135	61	624.1
1,2-Dichloroethane	< 1	< .21	18 (91 %R)	18 (88 %R) (3 RPD	) 12/14/2021	ug/L	70 - 130	49	624.1
Trichloroethene	< 1	< .359	20 (100 %R)	20 (100 %R) (0 RPD	) 12/14/2021	ug/L	65 - 135	48	624.1
1,2-Dichloropropane	< 1	< .285	20 (99 %R)	20 (99 %R) (1 RPD	) 12/14/2021	ug/L	35 - 165	55	624.1
Bromodichloromethane	< 0.5	< .079	20 (100 %R)	20 (99 %R) (1 RPD	) 12/14/2021	ug/L	65 - 135	56	624,1
2-Chloroethylvinylether	< 2	< .493	21 (104 %R)	19 (96 %R) (8 RPD	) 12/14/2021	ug/L	1 - 225	71	624.1
4-Methyl-2-pentanone(MIBK)	< 10	< .411	18 (88 %R)	16 (79 %R) (11 RPD	) 12/14/2021	ug/L	40 - 160	20	624.1
cis-1,3-Dichloropropene	< 0.5	< .101	20 (100 %R)	20 (99 %R) (1 RPD	) 12/14/2021	ug/L	25 - 175	58	624.1
Toluene	< 1	< .19	19 (97 %R)	20 (99 %R) (1 RPD	) 12/14/2021	ug/L	70 - 130	41	624.1
trans-1,3-Dichloropropene	< 0.5	< .08	20 (98 %R)	19 (96 %R) (2 RPD	) 12/14/2021	ug/L	50 - 150	86	624.1
1,1,2-Trichloroethane	< 1	< .203	19 (93 %R)	18 (90 %R) (3 RPD	) 12/14/2021	ug/L	70 - 130	45	624.1
2-Hexanone	< 10	< .28	16 (82 %R)	14 (72 %R) (13 RPD	) 12/14/2021	ug/L	40 - 160	20	624.1
Tetrachloroethene	.< 1	< .371	20 (100 %R)	20 (100 %R) (0 RPD	) 12/14/2021	ug/L	70 - 130	39	624.1
Dibromochloromethane	< 1	< .225	18 (89 %R)	17 (87 %R) (2 RPD	) 12/14/2021	ug/L	70 - 135	50	624.1
Chlorobenzene	< 1	< .247	20 (101 %R)	20 (102 %R) (1 RPD	) 12/14/2021	ug/L	65 - 135	53	624.1
Ethylbenzene	< 1	< .213	20 (101 %R)	20 (101 %R) (0 RPD	) 12/14/2021	ug/L	60 - 140	63	624.1
mp-Xylene	< 1	< .476	40 (99 %R)	40 (99 %R) (0 RPD	) 12/14/2021	ug/L	70 - 130	20	624.1
o-Xylene	< 1	< .298	20 (102 %R)	21 (103 %R) (0 RPD	) 12/14/2021	ug/L	70 - 130	20	624.1
Styrene	< 1	< .727	21 (105 %R)	21 (105 %R) (1 RPD	) 12/14/2021	ug/L	70 - 130	20	624.1
Bromoform	< 2	< .282	19 (96 %R)	18 (90 %R) (6 RPD	) 12/14/2021	ug/L	70 - 130	42	624.1
1,1,2,2-Tetrachioroethane	< 1	< .381	18 (88 %R)	17 (83 %R) (6 RPD	) 12/14/2021	ug/L	60 - 140	61	624.1
1,3-Dichlorobenzene	< 1	< .426	20 (101 %R)	21 (104 %R) (3 RPD	) 12/14/2021	ug/L	70 - 130	43	624.1
1,4-Dichlorobenzene	< 1	< .375	20 (99 %R)	20 (101 %R) (2 RPD	) 12/14/2021	ug/L	65 - 135	57	624.1
1,2-Dichlorobenzene	< 1	< .218	20 (98 %R)	20 (99 %R) (1 RPD	) 12/14/2021	ug/L	65 - 135	57	624.1
4-Bromofluorobenzene (surr)	97 %R		100 %R	97 %F	R 12/14/2021	% Rec	70 - 130		624.1
1,2-Dichlorobenzene-d4 (surr)	98 %R		100 %R	98 %F	R 12/14/2021	% Rec	70 - 130		624.1
Toluene-d8 (surr)	98 %R		96 %R	97 %F	R 12/14/2021	% Rec	70 - 130		624.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

Eastern Analytical, Inc.

## EAI ID#: 236597

Batch ID: 637750-86669/A121421V6241

## EAI ID#: 236597

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

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Client Sample ID:	System Influent							
Lab Sample ID:	236597.01							
Matrix:	aqueous							
Date Sampled:	12/13/21							
Date Received:	12/13/21							
	Result	RL	Dilution Factor	Units	Date / Tin Analyzed	ne d	Method	Analyst
					•			
Phenol	< 1	1	1	ug/L	- 12/14/21 1	9:22	625.1	AR
Phenol 2-Fluorophenol (surr)	< 1 39 %R	1	1	ug/L %	12/14/21 1 12/14/21 1	9:22 9:22	625.1 625.1	AR AR
Phenol 2-Fluorophenol (surr) Phenol-d6 (surr)	< 1 39 %R 25 %R	1	1	ug/L % %	12/14/21 1 12/14/21 1 12/14/21 1	9:22 9:22 9:22	625.1 625.1 625.1	AR AR AR

Eastern Analytical, Inc.

## EAI ID#: 236597

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

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Client Sample ID:	System Effluent							
Lab Sample ID:	236597.02							
Matrix:	aqueous							
Date Sampled:	12/13/21							
Date Received:	12/13/21							
	Result	RL	Dilution Factor	Units	Date / T Analvz	lime Cime	Method	Analyst
			1 40(0)	-				-
Phenol	< 1	1	1	ug/L	12/14/21	19:45	625.1	AR
Phenol 2-Fluorophenol (surr)	< 1 <b>30 %R</b>	1	1	ug/L %	12/14/21 12/14/21	19:45 19:45	625.1 625.1	AR AR
Phenol 2-Fluorophenol (surr) Phenol-d6 (surr)	< 1 30 %R 19 %R	1	1	ug/L % %	12/14/21 12/14/21 12/14/21	19:45 19:45 19:45	625.1 625.1 625.1	AR AR AR

Eastern Analytical, Inc.

QC REPORT

## EAI ID#: 236597

Batch ID: 637750-68013/A121421625A1

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

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Client Designation: Rennie Farm RGP / 04.0190030.02

Parameter Name	Blank (RL)	Blank (MDL)	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
Phenol	< 1	< 12	14 (28 %R)	13 (27 %R) (5 RPD	) 12/14/2021	ua/l	5 - 120	64	625.1
2-Chlorophenol	< 1	< .2	33 (66 %R)	31 (62 %R) (5 RPC	12/14/2021	ug/L	23 - 134	61	625.1
2,4-Dichlorophenol	< 1	< .31	40 (80 %R)	37 (74 %R) (8 RPD	) 12/14/2021	ug/L	39 - 135	50	625.1
2,4,5-Trichlorophenol	< 1	< .33	43 (86 %R)	39 (79 %R) (9 RPC	) 12/14/2021	ug/L	30 - 130	20	625.1
2,4,6-Trichlorophenol	< 1	< .48	43 (85 %R)	39 (79 %R) (8 RPD	) 12/14/2021	ug/L	37 - 144	58	625.1
Pentachlorophenol	< 5	< 1.1	38 (76 %R)	34 (69 %R) (10 RPD	) 12/14/2021	ug/L	14 - 176	86	625.1
2-Nitrophenol	< 5	< .44	38 (75 %R)	35 (71 %R) (6 RPD	) 12/14/2021	ug/L	29 - 182	55	625.1
4-Nitrophenol	< 5	< ,22	16 (33 %R)	15 (29 %R) (12 RPD	) 12/14/2021	ug/L	1 - 132	131	625.1
2,4-Dinitrophenol	< 10	< 1.5	44 (88 %R)	40 (80 %R) (9 RPC	) 12/14/2021	ug/L	1 - 191	132	625.1
2-Methylphenol	< 1	< .4	32 (64 %R)	30 (61 %R) (6 RPC	) 12/14/2021	ug/L	30 - 130	20	625.1
3/4-Methylphenol	< 1	< ,42	33 (66 %R)	31 (62 %R) (7 RPC	) 12/14/2021	ug/L	30 - 130	20	625.1
2,4-Dimethylphenol	< 5	< 1.4	39 (77 %R)	36 (72 %R) (8 RPC	) 12/14/2021	ug/L	32 - 120	58	625.1
4-Chloro-3-methylphenol	< 1	< .26	41 (82 %R)	37 (75 %R) (9 RPE	) 12/14/2021	ug/L	22 - 147	73	625.1
4,6-Dinitro-2-methylphenol	< 5	< 3.3	43 (86 %R)	39 (79 %R) (9 RPC	) 12/14/2021	ug/L	1 - 181	203	625.1
Benzoic Acid	< 50	< 5.7	< 50 (23 %R)	< 50 (18 %R) (25 RPC	) 12/14/2021	ug/L	15 - 130	50	625.1
2-Fluorophenol (surr)	34 %R		35 %R	33 %	R 12/14/2021	% Rec	15 - 110		625.1
Phenol-d6 (surr)	26 %R		27 %R	25 %	R 12/14/2021	% Rec	15 - 110		625.1
2,4,6-Tribromophenol (surr)	84 %R		92 %R	84 %	R 12/14/2021	% Rec	15 - 110		625.1

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

EAI ID#: 236597

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

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	236597.01	236597.02						
Matrix:	aqueous	aqueous						
Date Sampled:	12/13/21	12/13/21			Ana	alysis		
Date Received:	12/13/21	12/13/21	RL	Units	Date	Time	Method	Analyst
Solids Suspended	< 5	< 5	5	mg/L	12/15/21	12:05	2540D-11	CF
Chloride	2200	2700	1000	ug/L	12/14/21	10:25	4500CIE-11	LLG
C <b>y</b> anide Total	< 5	< 5	5	ug/L	12/22/21	14:49	ASTM D7511-	09 KD
Cyanide Free	< 5	< 5	5	ug/L	12/15/21	16:02	OIA-1677-09	KD
Ammonia-N	< 0.05	< 0.05	0.05	mg/L	12/17/21	11:30	TM NH3-001	I SEL

QC REPORT

## EAI ID#: 236597

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

Client Designation: Rennie Farm RGP / 04.0190030.02

				Date of			
Parameter Name	Blank	LCS	LCSD	Units Analysis	Limits F	RPD	Method
Solids Suspended	< 5	920 (97 %R)	890 (93 %R) (3 RPD)	mg/L 12/15/21	90 - 110	20	2540D-11
Chloride	< 1	25 (98 %R)	25 (99 %R) (1 RPD)	ug/L 12/14/21	90 - 110	20	4500CIE-11
Cyanide Total	< 0.005	0. <b>1</b> 1 (110 %R)	0.11 (109 %R) (0 RPD)	ug/L 12/22/21	84 - 116	20	ASTM D7511-09
Cyanide Free	< 0.005	0.24 (96 %R)	0.26 (104 %R) (8 RPD)	ug/L 12/15/21	84 - 116	20	OIA-1677-09
Ammonia-N	< 0.05	2.0 (99 %R)	2.0 (100 %R) (1 RPD)	mg/L 12/17/21	87 - 104	20	TM NH3-001

*/I Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc.

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## LABORATORY REPORT

## EAI ID#: 236597

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

Client Designation: Rennie Farm RGP / 04.0190030.02

Sample ID:	System Influent	System Effluent						
Lab Sample ID:	236597.01	236597.02						
Matrix:	aqueous	aqueous						
Date Sampled:	12/13/21	12/13/21		A		Amelusia		
Date Received:	12/13/21	12/13/21	RL	Matrix	Units	Date	Method A	nalyst
Chromium (VI)	< 10	< 10	10	Aq⊤ot	ug/L	12/14/21	7196A	HEH
Antimony	< 0.5	< 0.5	0.5	Aq⊤ot	ug/L	12/14/21	200.8	DS
Arsenic	< 0.5	< 0.5	0.5	AqTot	ug/L	12/14/21	200.8	DS
Cadmium	< 0.1	< 0.1	0.1	AqTot	ug/L	12/14/21	200.8	DS
Chromium	< 0.5	0.50	0.5	AqTot	ug/L	12/14/21	200.8	DS
Copper	1.2	< 0.1	0.1	AqTot	ug/L	12/14/21	200.8	DS
Iron	570	< 50	50	AqTot	ug/L	12/14/21	200.8	DS
Lead	< 0.1	< 0.1	0.1	AqTot	ug/L	12/14/21	200.8	DS
Mercury	< 0.1	< 0.1	0.1	AqTot	ug/L	12/14/21	200.8	DS
Nickel	0.74	0.30	0.1	AqTot	ug/L	12/14/21	200.8	DS
Selenium	< 0.5	< 0.5	0.5	AqTot	ug/L	12/14/21	200.8	DS
Silver	< 0.1	< 0.1	0.1	AqTot	ug/L	12/14/21	200.8	DS
Zinc	1.4	1.5	1	AqTot	ug/L	12/14/21	200.8	DS
Chromium (III)	< 10	< 10	10	AqTot	ug/L	12/14/21	200.8	DS

QC REPORT

## 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	< 0.0005	1.1 (108 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Arsenic	< 0.0005	1.1 (106 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Cadmium	< 0.0001	1.1 (111 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Chromium	< 0.0005	1.1 (108 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Copper	< 0.0001	1.0 (103 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Iron	< 0.05	11 (103 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Lead	< 0.0001	1.0 (102 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Mercury	< 0.0001	0.0011 (109 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Nickel	< 0.0001	1.0 (105 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Selenium	< 0.0005	1.1 (106 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Silver	< 0.0001	0.010 (104 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Zinc	< 0.001	1.1 (107 %R)	NA	A mg/L 12/14/21	85 - 115 20	200.8
Chromium (VI)	< 0.01	0.29 (96 %R)	NA	A mg/L 12/14/21	85 - 115 20	7196A

*/! Flagged analyte recoveries deviated from the QA/QC limits. Unless noted, flagged data does not impact the sample data.

Eastern Analytical, Inc.



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

December 27, 2021

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

RE: Project: 236597 12/13 Pace Project No.: 70198389

Dear Alison Blay:

Enclosed are the analytical results for sample(s) received by the laboratory on December 17, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

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

Sincerely,

Kimberley Mack.

Kimberley M. Mack kimberley.mack@pacelabs.com (631)694-3040 Project Manager

Enclosures



#### **REPORT OF LABORATORY ANALYSIS**

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Page 1 of 9



#### CERTIFICATIONS

 Project:
 236597 12/13

 Pace Project No.:
 70198389

## Pace Analytical Services Long Island

575 Broad Hollow Rd, Melville, NY 11747 Connecticut Certification #: PH-0435 Delaware Certification # NY 10478 Maryland Certification #: 208 Massachusetts Certification #: M-NY026 New Hampshire Certification #: 2987 New Jersey Certification #: NY158 New York Certification #: 10478 Primary Accrediting Body Pennsylvania Certification #: 68-00350 Rhode Island Certification #: LAO00340 Virginia Certification # 460302

#### **REPORT OF LABORATORY ANALYSIS**

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#### ANALYTICAL RESULTS

Project: 236597 12/13

Pace Project No.: 70198389

Sample: SYSTEM INFLUENT	Lab ID: 7	0198389001	Collected: 12/1	3/21 12:30	Received:	12/17/21 10:10 N	/latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical M Pace Analyt	1ethod: EPA 16 tical Services -	24B Melville					
Acetone <i>Surrogates</i>	<0.010	mg/L	0.01	0 1		12/20/21 12:42	67-64-1	
1,2-Dichloroethane-d4 (S)	95	%	75-10	91		12/20/21 12:42	17060-07-0	
4-Bromofluorobenzene (S)	97	%	80-11	2 1		12/20/21 12:42	460-00-4	
Toluene-d8 (S)	115	%	94-12	1 1		12/20/21 12:42	2037-26-5	

#### **REPORT OF LABORATORY ANALYSIS**

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#### ANALYTICAL RESULTS

Project: 236597 12/13

Pace Project No.: 70198389

Sample: SYSTEM EFFLUENT	Lab ID: 701	98389002	Collected: 12/13/2	1 12:45	Received: 1	2/17/21 10:10 M	atrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1624B MSV	Analytical Meth Pace Analytica	od: EPA 16 I Services -	624B - Melville					
Acetone Surrogates	<0.010	mg/L	0.010	1		12/20/21 12:20	67-64-1	
1,2-Dichloroethane-d4 (S)	96	%	75-109	1		12/20/21 12:20	17060-07-0	
4-Bromofluorobenzene (S)	97	%	80-112	1		12/20/21 12:20	460-00-4	
Toluene-d8 (S)	112	%	94-121	1		12/20/21 12:20	2037-26-5	

#### **REPORT OF LABORATORY ANALYSIS**

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#### **QUALITY CONTROL DATA**

Project: 23	36597 12/13						
Pace Project No.: 70	)198389						
QC Batch:	237766		Analysis Meth	nod: E	EPA 1624B		
QC Batch Method:	EPA 1624B		Analysis Description:		1624B MSV		
			Laboratory: Pace Analytical Service			ices - Melville	
Associated Lab Sample	es: 701983890	01, 70198389002					
METHOD BLANK: 12	200834		Matrix:	Water			
Associated Lab Sample	es: 701983890	01, 70198389002					
			Blank	Reporting			
Paramet	er	Units	Result	Limit	Analyzed	Qualifiers	
Acetone		mg/L	<0.010	0.01	0 12/20/21 11:22		
1,2-Dichloroethane-d4	(S)	%	98	75-10	9 12/20/21 11:22		
4-Bromofluorobenzene	e (S)	%	102	80-11	2 12/20/21 11:22		
Toluene-d8 (S)		%	111	94-12	1 12/20/21 11:22		
LABORATORY CONTI	ROL SAMPLE:	1200835	. <u> </u>		** · ·		

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	mg/L	0.05	0.048	95	20-200	
1,2-Dichloroethane-d4 (S)	%			94	75-109	
4-Bromofluorobenzene (S)	%			109	80-112	
Toluene-d8 (S)	%			112	94 <b>-</b> 121	

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:
 236597 12/13

 Pace Project No.:
 70198389

#### 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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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:
 236597 12/13

 Pace Project No.:
 70198389

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70198389001 70198389002	SYSTEM INFLUENT SYSTEM EFFLUENT	EPA 1624B EPA 1624B	237766 237766		

#### **REPORT OF LABORATORY ANALYSIS**

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## 30 of 20 Page

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## CHAIN-OF-CUSTODY RECORD

Sample ID	Date Sampled Matrix aParameters	Sample Notes
System Influent	12/13/2021 aqueous Subcontract - EPA Method 1624 Isotope Dilution 12:30	
System Effluent	12/13/2021 aqueous Subcontract - EPA Method 1624 Isotope Dilution 12:45	



Eastern Analytical, Inc.

EALID# 226507

professional laboratory and drilling services

eai id# 2	36597	Project State: NH Project ID: 4965	Results Needed: Pref RUSH QC Deliverables □ A □ A+ ⊠ B □	erred Date: Standard Due Date: B+	PO #:564 Data Deliv	402 <u>erable</u> (	E circle) FQuIS	AI ID# 2365	97
Company	PACE ANA	LYTICAL	Notes about project:						
Address	575 BROAI	D HOLLOW ROAD	Email login confirmation	, pdf of results and	Call prior	to analyz	zing, if R	USH charges v	vill be applied.
Address	MELVILLE,	, NY 11747	invoice to customerservic	e@easternanalytical.com.	Samples	s Collecte	d by: MAA	12/16/21	7620 AS
Account #			ACETONE	ONLY	Relinquis	shed by	Da	ate/Time	Received by
Phone #	(631)694-3	040		t	I UP	5	120	112/2 10:10	Ren
Page					Relinquis	shed by	Đa	ate/Time	Received by
'£astern A	Analytical, Inc.	51 Antrim Ave Concord,	NH 03301 Phone:	(603)228-0525 1-800-28	87-0525	custom	erservice(	@easternanalyl	ical.com

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

1 1 21 21 E

5	Sa	ample	Conditio	on Upon Rece	<b>WO#:701</b>	98389
Pace Analytical *	Client N	ame:	A ( .	Project	PM: KMM D	ue Date: 12/27/21
	- Ees	then	Andytre	X		222 1월 21일 1일 2월 24일 20일 2일 - 11일 19일 - 12일 - 12일 - 12일 2일 2일 2일 2일 2일 2일 2일 2일 2일 2일 2일 2일 2
Courier: $\Box$ Fed EX $\Box$ UPS $\Box$ USPS $\Box$ Client Tracking #: $T \ge 4 46 599 \circ 1$	⊡omm 9901	ercial [ 3788	Pace Dthe	er		
Custody Seal on Cooler/Box Present: 🗆 Ye	s 🗆 No	Seals	intact: 🗀 Ye	s No N/A	Temperature Blank P	resent: 🛛 Yes 🖓 🗛 No
Packing Material: 🔤 Bubble Wrap 🔲 Bubble	e Bags 📋	Ziploc (	_NoneOt	her	Type of Ice: Wet B	lue None
Thermometer Used: TH091	Correct	ion Facto	or: 🔿 🗸	00	Samples on ice, cooling	process has begun
Cooler Temperature(°C): 2, 6	Cooler	[emperat	ture Correct	ed(°C): Z.C	Date/Time 5035A kits	placed in freezer
femp should be above freezing to 6.0°C JSDA Regulated Soil [/CN/A, water sample	)			Date and Initials o	f person examining conter	ts: KW 12/17/2
Did samples originate in a quarantine zone w	ithin the U	nited Sta	tes: AL, AR, CA	, FL, GA, ID, LA, MS, NC,	Did samples orignate f	rom a foreign source
VM, NY, OK, OR, SC, TN, TX, or VA (check map)?	Ye 🗆 Ye	s □No			including Hawaii and P	uerto Rico)? 🗆 Yes 🗐 KNo
f Yes to either question, fill out a Regulat	ed Soil Ch	ecklist (I	F-LI-C-010) a	nd include with SCU	R/COC paperwork.	•
					COMMENTS:	
Chain of Custody Present:	ØYes	⊡No		1.		-
Chain of Custody Filled Out:	l∕⊒Yes	□No		2.		
Chain of Custody Relinquished:	ØYes	⊡No		3.		ennadore e printi da la companya (general da secondario de secondario de secondario de secondario de secondario
Sampler Name & Signature on COC:	⊠Yes	⊡No		4.		
Samples Arrived within Hold Time:	ØŸes	⊡No		5.		1
Short Hold Time Analysis (<72hr):	□Yes	ØNO		6.	annan y 1900-1919 y 1919 anna anna 2019 anna 2019 anna 2019 anna 2019 anna 2019 anna 2019 anna 2019 anna 2019 a	and a surger state of the surger of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the stat
Rush Turn Around Time Requested:	□Yes	No				
Sufficient Volume: (Triple volume provided fo	r IÇX Yes	⊡No		8.	<u>นและสารสารสารสารสารสารสารสารสารสารสารสารสารส</u>	
Correct Containers Used:	ØYes	⊡No		A*		
-Pace Containers Used:	□Yes			10		
Containers Intact:				10. 11. Note :5.		aluad postalaga
-iltered volume received for Dissolved tests			, EIN/A		sealment is visible in the aiss	olved container.
Sample Labels match CUC:	T Yes	⊡N0		14.		
-Includes date/time/ID/ Matrix: SL WI		r—th l m				
All containers needing preservation maye:beg	an Lires		€CIN/A			
DH paper Lot #						
All containers needing preservation are foun	d to be			Sample #		
in compliance with method recommendation	1?			•		
(HNO2, H2SO4, HCl, NaOH>9 Sulfide,	⊡Yes	⊡No	EN/A			
NAOH>12 Cyanide)						
Exceptions: VOA, Coliform, TOC/DOC, Oil and (	Grease,					-
DR0/8015 (water).				Initial when comple	ted: Lot # of added	Date/Time preservative
Per Method, VOA pH is checked after analysis	S				preservative:	added:
Samples checked for dechlorination:	⊡Yes	⊡No	cati/A	14.		
KI starch test strips Lot #						
Residual chlorine strips Lot #				Positive f	or Res. Chlorine? Y N	
SM 4500 CN samples checked for sulfide?	.⊡Yes	⊡No	ØN/A	15,		***
Lead Acetate Strips Lot #				Positive fo	or Sulfide? Y N	
Headspace in VOA Vials ( >6mm):	⊡Yes,	_2No		16.		
Trip Blank Present:	-Oves	DINO	⊡N/A	17.		
Trip Blank Custody Seals Present	ZYès	⊡No	<b>D</b> ₩7A			
Pace Trip Blank Lot # (if applicable):						
Client Notification/ Resolution:				Field Data Required	1? Y/N	
Person Contacted:	wolld the second second second second second second second second second second second second second second se			Date/Ti	me:	Manana and a second second second second second second second second second second second second second second
Comments/ Resolution:				****	ราสสารและ ระ ¹ ากที่การการที่มีราชสารการการการการการการการการการการที่ไปการกำรัดสร้างไปปีรู้รู้จังปี	

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Page 9 of 9

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Tuesday, December 21, 2021

Attn: Front Office Eastern Analytical 51 Antrim Ave Concord, NH 03301

Project ID: 236597 SDG ID: GCJ98568 Sample ID#s: CJ98568 - CJ98569

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

XI-lle

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 UT Lab Registration #CT00007 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

# Sample Id Cross Reference

December 21, 2021

SDG I.D.: GCJ98568

Project ID: 236597

Client Id	Lab Id	Matrix
SYSTEM INFLUENT	CJ98568	WATER
SYSTEM EFFLUENT	CJ98569	WATER





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

Analysis Report December 21, 2021	FOR:	Attn: Front Office Eastern Analytical 51 Antrim Ave Concord, NH 03301

Sample Informa	ation	Custody Inforn	<u>nation</u>	<u>Date</u>	<u>Time</u>
Matrix:	WATER	Collected by:		12/13/21	12:30
Location Code:	EASTANAL-NH	Received by:	CP	12/15/21	14:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	56401	Laboratory	Data	SDG ID:	GCJ985
				Dhooniy ID:	CIOOFCO

Project ID:	236597
Client ID:	SYSTEM INFLUENT

SDG	ID:	GCJ98568
Phoenix	ID:	CJ98568

Parameter	Result	RL/ PQL	U	nits	Dilution	Date/Time	Ву	Reference
<u>1,4-dioxane</u>								
1,4-dioxane	22	0.20	1	ug/l	1	12/17/21	AW	EPA522
<b>QA/QC Surrogates</b>								
% 1,4-dioxane-d8	106			%	1	12/17/21	AW	70 - 130 %
Extraction for 1,4-Dioxane	Completed					12/17/21	DT/DT	EPA522

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

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

## **Comments:**

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director December 21, 2021 Reviewed and Released by: Rashmi Makol, Project Manager



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



Sample Inform	<u>nation</u>		Custody Information			Date	<u>e</u>	<u>Time</u>
Matrix:	WATER		Collected by	/:		12/1:	3/21	12:45
Location Code:	EASTANAL-	-NH	Received by	/: C	P	12/1	5/21	14:52
Rush Request:	Standard		Analyzed by	/: se	ee "By" below			
P.O.#:	56401		Laborate	ory Da	<u>ata</u>	Si Phoe	DG II nix II	D: GCJ98568 D: CJ98569
Project ID:	236597							
Client ID:	SYSTEM EFFL	UENT						
Parameter		Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
1,4-dioxane								
1,4-dioxane		ND	0.20	ug/l	1	12/17/21	AW	EPA522
QA/QC Surrogat	es							

 % 1,4-dioxane-d8
 109
 %
 1
 12/17/21
 AW
 70 - 130 %

 Extraction for 1,4-Dioxane
 Completed
 12/17/21
 DT/DT
 EPA522

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

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

## Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director December 21, 2021 Reviewed and Released by: Rashmi Makol, Project Manager





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

December 21, 2021

# QA/QC Data

SDG	l.D.:	GCJ98568

Parameter	Blank	Bik RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 605029 (ug	g/l), QC Sample	No: CJ9856	8 (CJ98568, CJ98569)							
1,4dioxane - Water										
1,4-dioxane	ND	0.20	87	90	3.4	NC			70 - 130	20
% 1,4-dioxane-d8	103	%	108	111	2.7	107			70 - 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 December 21, 2021

Tuesday, December 21, 2 Criteria: None	2021	Sample Criteria GCJ98568	Exceedances Report					e 27 of 30
SampNo Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units	Pag
*** No Data to Display ***								

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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

December 21, 2021

SDG I.D.: GCJ98568

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

CH	AIN-OF-CUST	ODY RECORD	Eastern Analytical, Inc. professional laboratory and drilling services
Sample ID	Date Sampled Matrix	aParameters	EAI ID# 236597 Page 1
System Influ	uent   12/13/2021   aqueous   12:30	Subcontract - 1,4 Dioxane EPA Method 522	98568
System Effli	uent   12/13/2021   aqueous   12:45	Subcontract - 1,4 Dioxane EPA Method 522	98569
EAI ID# <b>2</b>	Project State: NH Project ID: 4965	Results Needed: Preferred Date: Standard RUSH Due Date: QC Deliverables	PO #:56401 EAI ID# 236597 Data Deliverable (circle)
Company	Phoenix Environmental Labs	Notes about project:	Excel NH EMD EQUIS ME EGAD
Address	587 East Middle Turnpike	Email login confirmation, pdf of results and	Call prior to analyzing, if RUSH charges will be applied.
Address	Manchester, CT 06040	involce to customerservice@easternanarylica.com.	Samples Collected by: MUMMY (UPPM )2/5/2/7:5/ Shully
Account #			Relinquished by Date/Time Received by
Phone # Eastern A	(860) 645-1102 Analytical, Inc. 51 Antrim Ave Concor	d. NH 03301 Phone: (603)228-0525 1-800	Relinquished by Date/Time Received by 12/15/21  452 0-287-0525 Customerservice@easternanalytical.com

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

Page 29 of 30



CHAIN-OF-CUSTODY RECORD

236597

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
System Influent	12-13-21	aqueous Grabor Comp	AqTot/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/Cl/NH3/CyanT/ICPMets.Sb.As.Cd.C Zn/Cr6/Cr3/CyanFree/V624	r.Cu.Fe.Hg.Pb.Ni.Se.Ag.
System Effluent	$\begin{array}{c c} ms \text{ ID and parameters} \\ \hline 12 & -13 & -21 \\ \hline 12 & 45 \end{array}$	aqueous	Circle preservative/s.HCL HNO./H.SO. NaOH MEOH Na,S,O. (ICE) Diss AqTot/14Diox522SubPEL/1624AqSubPACNY/625A/TSS/CI/NH3/CyanT/ICPMets.Sb.As.Cd.C Zn/Cr6/Cr3/CyanFree/V624	solved Sample Field Filtered
Sampler confir	I ms ID and parameters	l s are accurate	Circle preservative/st.HCI) (HNO) H,SO) (NaOH) MEOH Na ₂ S ₂ O ₃ (CE) Disc	solved Sample Field Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 4965	Results Needed by: Preferred date	ReportingOptions	□ NO FAX	PO# verbal
Project Name Rennie Farm RGP / 04.0190030.02	Notes:	S EDD PDF	Partial FAX	Quote#:
State NH	1624 Acetone Only	EDD email PDF prelim, NO FAX	PDF Invoice	0-50C
Client (Pro Mgr) Jim Wieck		e-mail Login Confirmation		
Customer GZA GeoEnvironmental, Inc. (NH)		Samples Collected by:	AYJ	Part Pa
Address 5 Commerce Park North, Suite 201		al Jacoban	112-13-21	Mullim
City Bedford NH 03110		Relinquished by	Date/Time 1000	Received by
Phone 623-3600 Fax 624-9463 (37)	QC deliverables			
Email: James.Wieck@gza.com	□А □А+ ⊠В □В+ □С □МАМСР	Relinquished by	Date/Time	Received by
Direct 232-8732 Eastern Analytical,	Inc. www.easternanalytical.com   800.28	7.0525   customerservice@eas	sternanalytical.com	



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



Laboratory Report for:

Eastern Analytical, Inc. ID: 237079 Client Identification: Rennie Farm | 04.0190030.02 Task 22 ST-1 Date Received: 12/22/2021

Enclosed are the analytical results per the Chain of Custody for sample(s) in the referenced project. All analyses were performed in accordance with our QA/QC Program, NELAP and other applicable state requirements. All quality control criteria was within acceptance criteria unless noted on the report pages. Results are for the exclusive use of the client named on this report and will not be released to a third party without consent.

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 written approval of the laboratory.

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

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

## Certifications:

Eastern Analytical, Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012), New York (12072), West Virginia (9910C) and Alabama (41620). Please refer to our website at www.easternanalytical.com for a copy of our certificates and accredited parameters.

#### References:

- EPA 600/4-79-020, 1983
- Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd edition or noted revision vear.
- Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- Hach Water Analysis Handbook, 4th edition, 1992

If you have any questions regarding the results contained within, please feel free to contact customer service. Unless otherwise requested, we will dispose of the sample(s) 6 weeks 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

1.3.22

# SAMPLE CONDITIONS PAGE

#### EAI ID#: 237079

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

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Temperat Acceptable	ture upon receipt (°C): temperature range (°C): 0-6	9.2	F	Received o	n ice or	cold packs (Yes/No): Υ
Lab ID	Sample ID	Date Received	Date/Time Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
237079.01	System Influent	12/22/21	12/20/21 09:40	aqueous		Adheres to Sample Acceptance Policy
237079.02	System Mid	12/22/21	12/20/21 09:45	aqueous		Adheres to Sample Acceptance Policy
237079.03	LGAC In	12/22/21	12/21/21 09:44	aqueous		Adheres to Sample Acceptance Policy
237079.04	LGAC Mid	12/22/21	12/21/21 09:39	aqueous		Adheres to Sample Acceptance Policy
237079,05	LGAC Out	12/22/21	12/21/21 09:35	aqueous		Adheres to Sample Acceptance Policy

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

Unless otherwise noted:

- Hold times, preservation, container types, and sample conditions adhered to EPA Protocol.
- Solid samples are reported on a dry weight basis, unless otherwise noted. pH/Corrosivity, Flashpoint, Ignitability, Paint Filter, Conductivity and Specific Gravity are always reported on an "as received" basis.
- Analysis of pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite were performed at the laboratory outside of the recommended 15 minute hold time.
- Samples collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures.

Eastern Analytical, Inc.

# LABORATORY REPORT

## EAI ID#: 237079

# Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Client Sample ID:	System Influent						
Lab Sample ID:	237079.01						
Matrix:	aqueous						
Date Sampled:	12/20/21						
Date Received:	12/22/21						
	Result	RL	Dilution Factor	Units	Date / Time Analyzed	Method	Analyst
1,4-Dioxane	21	2	10	ug/L	12/23/21 20:06	8260B SIM	AM
4-Bromofluorobenzene (surr)	100 %R			%	12/23/21 20:06	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/23/21 20:06	8260B SIM	AM

System Mid						
237079.02						
aqueous						
12/20/21						
12/22/21						
		Dilution		Date / Time		
Result	RL	Factor	Units	Analyzed	Method	Analyst
< 0.2	0.2	1	ug/L	12/23/21 15:22	8260B SIM	AM
103 %R			%	12/23/21 15:22	8260B SIM	AM
100 %R			%	12/23/21 15:22	8260B SIM	AM
	System Mid 237079.02 aqueous 12/20/21 12/22/21 <b>Result</b> < 0.2 103 %R 100 %R	System Mid 237079.02 aqueous 12/20/21 12/22/21 <b>Result RL</b> < 0.2 0.2 103 %R 100 %R	System Mid 237079.02 aqueous 12/20/21 12/22/21 <b>Dilution</b> <b>Result</b> < 0.2 0.2 1 103 %R 100 %R	System Mid 237079.02 aqueous 12/20/21 12/22/21 <b>Dilution</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>Result</b> <b>R</b>	System Mid         237079.02         aqueous         12/20/21         12/22/21         Dilution       Date / Time         Result       RL         Factor       Units         Analyzed         < 0.2	System Mid         237079.02         aqueous         12/20/21         12/22/21         Dilution       Date / Time         Result       RL         Factor       Units         Analyzed       Method         < 0.2

Eastern Analytical, Inc.

# LABORATORY REPORT

### EAI ID#: 237079

# Client: GZA GeoEnvironmental, Inc. (NH)

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Client Sample ID:	LGAC In						
Lab Sample ID:	237079.03						
Matrix:	aqueous						
Date Sampled:	12/21/21						
Date Received:	12/22/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	2100	200	1000	ug/L	12/23/21 21:09	8260B SIM	AM
4-Bromofluorobenzene (surr)	102 %R			%	12/23/21 21:09	8260B SIM	AM
Toluene-d8 (surr)	99 %R			%	12/23/21 21:09	8260B SIM	AM

Client Sample ID:	LGAC Mid						
Lab Sample ID:	237079.04						
Matrix:	aqueous						
Date Sampled:	12/21/21						
Date Received:	12/22/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1,4-Dioxane	0.25	0.2	1	ug/L	12/29/21 15:17	8260B SIM	AM
4-Bromofluorobenzene (surr)	101 %R			%	12/29/21 15:17	8260B SIM	AM
Toluene-d8 (surr)	100 %R			%	12/29/21 15:17	8260B SIM	AM

Client Sample ID:	LGAC Out						
Lab Sample ID:	237079.05						
Matrix:	aqueous						
Date Sampled:	12/21/21						
Date Received:	12/22/21		Dilution		Date / Time		
	Result	RL	Factor	Units	Analyzed	Method	Analyst
1.4-Dioxane	7.4	0.2	1	ug/L	12/23/21 15:54	8260B SIM	AM
4-Bromofluorobenzene (surr)	104 %R			%	12/23/21 15:54	8260B SIM	AM
Toluene-d8 (surr)	101 %R			%	12/23/21 15:54	8260B SIM	AM

# QC REPORT

## EAI ID#: 237079

# Client:GZA GeoEnvironmental, Inc. (NH)Client Designation:Rennie Farm | 04.0190030.02 Task 22 ST-1

Batch ID: 637758-64484/A122321DIOX1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	4.9 (98 %R)	5.1 (101 %R) (3 RPD	) 12/23/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	103 %R	100 %R	102 %F	R 12/23/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	101 %R	101 %R	100 %F	R 12/23/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

## EAI ID#: 237079

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

Batch ID: 637763-88632/A122921DIOX1

Client Designation: Rennie Farm | 04.0190030.02 Task 22 ST-1

Parameter Name	Blank	LCS	LCSD	Analysis Date	Units	Limits	RPD	Method
1,4-Dioxane	< 0.2	5.0 (99 %R)	5.4 (109 %R) (9 RPD	) 12/29/2021	ug/L	70 - 130	20	8260B
4-Bromofluorobenzene (surr)	98 %R	98 %R	101 %F	R 12/29/2021	% Rec	70 - 130	50	8260B
Toluene-d8 (surr)	98 %R	100 %R	100 %F	R 12/29/2021	% Rec	70 - 130	50	8260B

*/! Flagged analyte recoveries deviated from the QA/QC limits. Data that impacts sample results are noted on the sample report.

# 237079

W.O.#

(for lab use only)

Sample ID.         Due/Time         Main         Main         Main           Simple ID.         Due/Time         Simple ID.         None         None           Simple ID.         Due/Time         Simple ID.         Simple ID.         None	CHAIN-OF-CUSTODY RECORD																																	
Sampes         Ander Burgers         Ander Burgers </td <td>Sample I.D.</td> <td>Date/Time</td> <td>Matrix</td> <td></td> <td>[</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>T</td> <td>-</td> <td>T</td> <td>1</td> <td>NALI</td> <td>SIS R</td> <td>EQU</td> <td>IRED</td> <td></td> <td>T</td> <td>1</td> <td>T</td> <td>T</td> <td></td> <td>And A</td> <td><u> </u></td> <td>33</td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td>	Sample I.D.	Date/Time	Matrix		[						1	T	-	T	1	NALI	SIS R	EQU	IRED		T	1	T	T		And A	<u> </u>	33			-			
Styles Influent 12:20-21 9:40       Gw         Styles Mild 12:20-21 9:45       Gw         LGAC IN (2-21-21 7:37)       Gw         LGAC Out (2-21-21 7:37)       Gw         GAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Gw         IGAC Out (2-21-21 7:37)       Wite: (later churste aodd, al angles have ban affigurad 0 4-1-20)         REBENATIVE (CHOL Manimes Attion), Saleso, Netool Outon       Wite: (later churste aodd, al angles have ban affigurad 0 4-1-20)         REBENATIVE (CHOL Manimes Time, Churste aodd, al angles have ban affigurad 0 4-1-20)       The proceed park (1 - 10)         Report Manage:       The Concert active active active active active active active active active active active active active active active active active active active active active active active active active active active active active acti		Sampled	A=Air S=Soil GW=Ground W SW=Surface W WW=Waste W. DW=Drinking W. P=Product Other (specify)	Cond.	3C Methane, Ethane, Ethene	EPA 8260 NH Full List	EPA \$260 NH HW Short List	EPA 8260 NH Petr. Short List	SPA 8021- Full List	EPA 8021- 8020 List (BTEX)	EPA 524.2 DW VOCs	EPA 624 WW VOCs	CI 601 CI 602 WW VOCS	EPA 8270 SVOCs	204 625 WW 2VDC	EPA 8082-PCBs	EPA 8081-Pest	TPH-GC (Mod. 8100)	IPH-GC w/FING.	EPH (MA DEP)	VPH (MA DEP)	Metals CI PPM-13 CI R-8	WCP 14 Metals	MERRIS (LASS DELOW) PCI D - Snarifu Rahow	SPLP - Specify Below	SPA 300 CI CI NO3 CI SO4		1-4-Dioxane te				Total No. of Cont.	Note #	
System Mid 12-20-21 9:45       Gw         LGAC IN 12-21-21 9:45       Gw         GAC Mid 12-21-21 9:35       Gw         GAC Out 12-21-21 9:35       Gw         GAC Out 12-21-21 9:35       Gw         GAC Out 12-21-21 9:35       Gw         GAC Out 12-21-21 9:35       Gw         GAC Out 12-21-21 9:35       Gw         GAC Out 12-21-21 9:35       Gw         GW       Mage: Control of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the secon	System Influent	12-20-21 9:40	GW																									$\times$				2		
<i>LGAC_TN</i> (1-2)-21 744 GW <i>LGAC_TN</i> (1-2)-21 7.37 GW <i>LGAC_TN</i> (1-2)-21 7.37 GW <i>LGAC_OUT</i> (12-2)-21 7.37 GW <i>LGAC_OUT LGAC_OUT</i> (12-2)-21 7.37 GW <i>LGAC_OUT</i> (12-2)-21 7.37 GW <i>LGAC_OUT</i> (12-2)-21 7.37 GW <i>LGAC_OUT LGAC_OUT</i> (12-2)-21 7.37 GW <i>LGAC_OUT</i> (12-2)-21 7.37 GW <i>LGAC_OUT LGAC_OUT LGCAC_OUT</i>	System Mid	12-20-21 9:45	Gw																									$\times$				2		
LGAC IN N-21-21 7.44 Gw       X       Z         LGAC Mid 12-21-21 9.35 Gw       X       Z         GAC OUT 12-31-21 9.35 Gw       X       Z         SAC OUT 12-31-21 9.35 Gw       X       Z         BAC Mid 12-21-21 9.35 Gw       X       Z         SERVATIVE (CHCL Mediand, N-BRO, 54000, 18-BOTH Order)       X       Z         WIELBOOL OUT 12-31-21 9.35 Gw       V       V       X         RESERVATIVE (CHCL Mediand, N-BRO, 54000, 00407       V       V       V         WIELBOOL OUT 12-31 7.21 // W/W/WIELDO OUT       NOTES (Unless onewise noted, all simples have been refigered to 44-2°C)       X         WIELBOOL MARKET D.W.       DATEMINE       RECEIVED BY       NOTES (Unless onewise noted, all simples have been refigered to 44-2°C)         MUCL MARKET D.W.       DATEMINE       RECEIVED BY       NOTES (Unless onewise noted, all simples have been refigered to 44-2°C)         MUCL MARKET D.W.       DATEMINE       RECEIVED BY       NOTES (Unless onewise noted, all simples have been refigered to 44-2°C)         Stormager:       TURNAROUND TIME: Standard Ruh       S Days Approved by:       TERM OF COLLER       Temp Black         GZA GEOENVIRONMENTAL INC.       S Commerce Park North, Suite 201       ROUECT       S Days Approved by:       TEMP OF COLLER 9       C Coler Ar         DATEMINE D.W.       <												_				_	<u> </u>	ļ				_			_									
CHC Mid [12-21-2] 7.5] CW       X       Z         LCAC OUT [2-21-2] 7.5] CW       X       Z         LCAC OUT [2-21-2] 7.5] CW       X       Z         LCAC OUT [2-21-2] 7.5] CW       X       Z         RESERVATIVE (CHC] MAddiant, M-INO), S-H250( No.NEO), COder)*       X       Z         WITANER TYPE (P-Hair, Coder)*       VITANER TYPE (P-Hair, Coder)*       VITANER TYPE (P-Hair, Coder)*         WITANER TYPE (P-Hair, Coder, VVI, T-Hen, Coder)*       NOTES: (Jales otherwise nodel, all samples have bean effigurated to 44-2C)         Spacify Other" preservatives and container types in fils space.       VITES: (Jales otherwise nodel, all samples have bean effigurated to 44-2C)         Project Manager: Time       Bacterized BY       DATETTIME         VICAC GEO ENVIRONMENTAL, INC.       S Commerce Park North, Suite 201       Bacterized Rult       Days, Approved by:       LAB USE:       C Coder Air         GZA FILE NO: 0.4, 1990 30, 0.2       TASK NO: 22 ST-1       PO NO. 2622.8       PROJECT         PROJECT       See basise fraction       UCATION       Hen over Y MH.       UCATION         COLLECTOR(S)       AV J       Sheet J       OF J	LGAC IN	12-21-21 7.44	GW		<u>  .</u>						_						4_		-		_	_					_	X			_	2		
CALCOOL       12.241 - 21       7.33       C-W         RESERVATIVE (CLHC), Madema, M-HNO; S-HESO, NS-NOH, O Other)*       Notest       Notest       Notest         RESERVATIVE (CLHC), Madema, M-HNO; S-HESO, NS-NOH, O Other)*       Notest       Notest       Notest         RESERVATIVE (CLHC), Madema, M-HNO; S-HESO, NS-NOH, O Other)*       Notest       Notest       Notest         RESERVATIVE (CLHC), Madema, M-HNO; S-HESO, NS-NOH, O Other)*       Notest       Notest       Notest         RESERVATIVE (CLHC), Madema, M-HNO; S-HESO, NS-NOH, O Other)*       Notest       Notest       Notest         RESERVATIVE (CLHC), Madema, M-HNO; S-HESO, NS-NOH, O Other)*       Notest       Notest       Notest         RESERVATIVE (CLHC), Madema, M-HNO; S-HESO, NS-NOH, O Other)*       Notest       Notest       Notest         RESERVATIVE (CLHC), Madema, M-HNO; S-HESO, NS-NOH, O Other)*       Notest       Notest       Notest         RELEARCH VE (D PALL, O Other)*       Notest       Notest       Notest       Notest         Releared Num       Datest Association of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second	LGAC Mid	12-21-21 7.39	GW		<u>  .</u>	-						-	-		+						-+	$\rightarrow$						$\odot$			_	2		
RESERVATIVE (CLACI, MAdeland, MARKO, SATISOA, Na-MCH, OOder)*         RESERVATIVE (CLACI, Madeland, MARKO, SATISOA, Na-MCH, OOder)*         OWNTAMER TYPE (Partic Calcular, Vidi, T-Tekn, OOder)*         Winnerstein Type (Partic Calcular, Vidi, T-Tekn, Ooder)*         Winnerstein Type (Partic Calcular, Vidi, T-Tekn, Ooder)*         Winnerstein Type (Partic Calcular, Vidi, T-Tekn, Ooder)*         Winnerstein Type (Partic Calcular, Vidi, T-Tekn, Ooder)*         Winnerstein Type (Partic Calcular, Vidi, T-Tekn, Ooder)*         Winnerstein Type (Partic Calcular, Vidi, T-Tekn, Ooder)*         Winnerstein Type (Partic Calcular, Vidi, T-Tekn, Ooder)*         Winnerstein Type (Partic Calcular, Vidi, T-Tekn, Ooder)*         Winnerstein Type (Partic Calcular, Vidi, T-Tekn, Ooder)*         Winnerstein Type (Partic Calcular, Vidi, T-Tekn, Ooder)*         Winnerstein Type (Take Type)         Winnerstein Type (Take Type)         Winnerstein Type)         Date/Time         Received BY         Date/Time         Received BY         Date/Time         Received BY         Calcular Type)         Calcular Type)         TURNAROUND TIME: Standard Rush         Scommerce Park North, Suite 201         Bedford, New Hampshite 03110         Control Hanovev MH.         CollectTork(S)	LGA1 001	12-41-2 17.33	GW							$\left  - \right $	_	_	-		+			┝						+-				0				~	·	
RESERVATIVE (CI-HCI, McMelandi, N-HNO3, S-H2SC4, NS-NGH, O Other)*         RESERVATIVE (CI-HCI, McMelandi, N-HNO3, S-H2SC4, NS-NGH, O Other)*         CONTAINER TYTE (PHate: Collex, Vial, T-Endo, O-Other)*         DATE/TIME         RESERVATIVE (CI-HCI, McMelandi, N-HNO3, S-H2SC4, NS-NGH, O Other)*         ONTAINER TYTE (PHate: Collex, Vial, T-Endo, O-Other)*         NOTES: (Unless otherwise noted, all samples have been refrigerated to 4 + 4.2°C)         AL functional field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of the field of t	·				<del> </del>						-	+	+	+	+	+-	+	┢─		$\left  - \right $		-+	┽	+-	╋		┢─	$\left  - \right $			┽			
PRESERVATIVE (CI-HC, MAdianal, N-1900, S-HISOA, No-MORI, O-Other)*  20YTAINER TYPE (CI-HC, MAdianal, N-1900, S-HISOA, No-MORI, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Other)*  20YTAINER TYPE (P-Platic, G-Clas, V-Vial, T.Telan, O-Clas, V-Vial, T.Telan,	·······											+	-		+		+	+		$\left  \right $	+			+	╈	+	┢━				$\neg$			-
RESERVATIVE (CLHCI, MAtalanci, N-RNO), S-H2SOA, No-MO(I, O-Obler)*         DOMTANER TYPE (CLHCI, MAtalanci, N-RNO), S-H2SOA, No-MO(I, O-Obler)*         DOMTANER TYPE (CLHCI, MAtalanci, N-RNO), S-H2SOA, No-MO(I, O-Obler)*         DATE/TIME         REGERVATIVE (CLHCI, MAtalanci, N-RNO), S-H2SOA, No-MO(I, O-Obler)*         DATE/TIME         REGERVATIVE (CLHCI, MAtalanci, N-RNO), S-H2SOA, No-MO(I, O-Obler)*         DATE/TIME         REGERVATIVE (CLHCI, MAtalanci, N-RNO), S-H2SOA, No-MO(I, O-Obler)*         DATE/TIME         REGERVATIVE (CLHCI, MATALALINC,         GZA GEOENVIRONMENTAL, INC,         S Commerce Park North, Suite 201         Beldrod, New Hampshire 03110         TURNAROUND TIME: Standard Rush         S Consmerce Park North, Suite 201         Beldrod, New Hampshire 03110																																		
PRESERVATIVE (CLHC), Methanol, N-HNO), S-H2SOA, Na-NACH, O-Other)*         ONTAINER TYCE (P-Plasic, G-Glass, V-Val, T-Tefon, O-Other)*         UELINQUISHED BY.         DATE/TIME         PROJECT Manager:         Tim Wieck         GZA GEOENVIRONMENTAL, INC.         S Commerce Park North, Suite 201         Bedford, New Hampshire 03110             TURNAROUND TIME:             S Commerce Park North, Suite 201         Bedford, New Hampshire 03110																·																		
PRESERVATIVE (CI-HCI, M-HAND, S-H2BOA, Na-NAUL, O-Other)* CONTAINER TYPE (P.Plautic, G-Glas, V-Vial, T-Telon, O-Other)* EELINQUISHED BY. DATE/TIME RECEIVED BY. Project Manager: <u>Tim Wieck</u> GZA GEOENVIRONMENTAL, INC. S Commerce Park North, Suite 201 Bedford, New Hampshire 03110 TURNAROUND TIME: Standard Rush <u>5</u> Days. Approved by: <u>LAB USE:</u> TEMP OF COOLER <u>9</u> . <u>**</u> Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Cooler Air Coo												_	_				1	<b> </b>	ļ								Ļ				_			
RESERVATIVE (CHCI, MAdrianal, N-MADIA, 0.064)*         VIRTAINER TYPE (Pringic, GENESS, V-Mal, T.Teflon, O-Other)*         AL facebash         Image:          Image:         Image:         Image:         Image:         Image:         Image:         Image:         Image:         Image:         Image:         Image:         Image:												_	_									_		+							+			
VELINQUISHED BY.       DATETIME       REGENCED BY.         AL faceban 12-22-21       Antertime       NOTES: (Unless otherwise noted, all samples have been refrigerated to 4 +/- 2°C)         NOTES: (Unless otherwise noted, all samples have been refrigerated to 4 +/- 2°C)       Specify "Other" preservatives and container types in this space.         NOTES: (Unless otherwise noted, all samples have been refrigerated to 4 +/- 2°C)       Specify "Other" preservatives and container types in this space.         VELINQUISHED BY.       DATE/TIME       RECEIVED BY.         Project Manager:       Tim Wieck         GZA GEOENVIRONMENTAL, INC.       GZA FILE NO:       Of . 0190030, 02         S Commerce Park North, Suite 201       Bedford, New Hampshire 03110       PROJECT         Republe       Factory       NHE         LOCATION       Hanovev       NHE         COLLECTOR(S)       AV       SHEET       OF	CONTAINER TYPE (P-Plastic	Iethanol, N-HNO3, S-H2SO4, Na-NaO 3-Glass V-Vial T-Teflon, O-Other)*	H, O-Other) *		+					$\left  - \right $		-+					+	+								+	-	V			-			
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Project Manager: UNW WYECK       LAB USE:       LAB USE:       Temp Blank         GZA GEOENVIRONMENTAL, INC.       GZA FILE NO: 04.0190030,02 TASK NO: 22 57-1 PO. NO. 26228       Cooler Air         S Commerce Park North, Suite 201       Bedford, New Hampshire 03110       PROJECT <u>Renhie Farm</u> Days. Approved by:       26228         VICAL       Collector(s)       AV J       SHEET       OF /	RELINQUISHED BY	DATE/TIME	RECEIVED BY:	 					<u></u>					•••••••••••														(				SN	ke	
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Appendix D – Charts











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GZA GeoEnvironmental, Inc.








































Dartmouth College, Rennie Farm Site Hanover, New Hampshire Des Site #201111109, DES Project #27737





Dartmouth College, Rennie Farm Site Hanover, New Hampshire Des Site #201111109, DES Project #27737







Appendix E – Treatment System Documents

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#### Rennie Farm Hanover, New Hampshire

Mann-Kendall Analysis for 1,4-dioxane (Post-Off-Site System Startup)

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	Conc.
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2/10/2021	12
2/17/2021	20
3/8/2021	35
3/11/2021	18
3/23/2021	29
4/5/2021	7.7
4/13/2021	20
4/14/2021	15
4/28/2021	36
5/10/2021	20
5/11/2021	21
5/24/2021	21
6/7/2021	26
6/10/2021	16
6/22/2021	23
7/12/2021	5.9
7/14/2021	7.1
7/29/2021	6.3
8/10/2021	18
8/16/2021	5.5
8/23/2021	28
9/7/2021	24
9/16/2021	21
9/28/2021	25
10/11/2021	27
10/18/2021	27
11/8/2021	25
11/18/2021	19
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	VAR(S) =	4,165																																	
	Z =	0.744		No Tre	nd																														

Number of Rounds (n)	33
Non-detect samples	0
Minimum Value	6
Maximium Value	36
Average	19.9
Standard Deviation	7.7
Coefficient of Variation(CV)	0.385
Adjustment for tied groups	0
Mann-Kendall Statistic (S)	47
Confidence Level	0.95
Ζ _{(1-α} )	1.645



Carbon Disposal Documentation

APPROVED BY OMB: NO. 3150-0164 EXPIRES: 01/31/2023

Estimated burden per response to comply with this information collection request: 45 minutes. This uniform manifest is required by NPC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the FUIA, Library and Information Collections Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555:0001, or by e-mail to Infocollects Resource@nrc.gov, and the OMB reviewer at Office of Information and disposal of low-level waste. Send comments regarding burden estimate for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; email: oira submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays

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NRC FORM 540 U.	S. NUCLEAR REGULA	TORY COMMISSION				Shinner ID Number	1			
And Marine .			5. Shipper - Nat Chase for Darn	me and Facility	_	C1803014-001	7 NRC Form 540 and 540A	Page 1 of 1 Page(s)	Electronic 8. Manifes	t Number
	W-LEVEL RADIOAC	TIVE	572 Hanover C	enter Road	m	Collector	NRC Form 541 and 541A	1 Page(s)	C1803014-	001
WASTE MAN	<b>IFEST SHIPPING PA</b>	PER	Hanover, NH 03755				Additional Information	None Page(s)		
54885								None Fage(s)		
See NUREG/BR-0204 for deta	iled instructions for completin	a this form:				Generator Type	9. Consignee - Name and Facility /	Vddress	Contact	8 6, T
http://www.nrc.gov/reading-rm/doc-collections/nuregs/brochures/br0204/			Profile G210		C1803014-001	(Specify) A	49350 N. I-94 Service Driv	ve	<b>Robin Williams</b>	8
1. Emergency Telephone Number (Include Area Code)			Contact			Phone No (Include Area Code)	Belleville, MI 48111		Phone No (Include An	na Code)
(800) 424-9300	(800) 424-9300					(804) 384-8081			(734) 699-6227	
Organization			6. Carrier - Nam	e and Address			Signature - Authorized consignee a	knowledging waste receipt	Date Ci i	7 71
CHEMTREC (Customer #4395)			Horwith Trucks	, Inc Blvd		PAD146 714-678	009	-	9-1	1- 01
2. Is this an "Exclusive Use" Shipment?	3. Total Number of packages	identified on this manifest?	Route 329			Chinaina Data		10. CERTIFICATI	N	
YES NO			Northampton, P	A 18067		09/15/2021	This is to certify that the herein-name are in proper condition for transportation	ed materials are properly classi ion according to the applicable	iad, described, packaged, ma regulations of the Department	ked, and labeled and of Transportation, the
	1		Cartert			Phone No (Include Area Code)	Commission, and equivalent state reg collector, this certifies that the materia	ulations. For materials that are its are classified per the application of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	facility or waste	
4. Does EPA regulated waste requiring a	EPA Manifest Number		Dispatch			(noide rich oblic)	disposal facility's waste acceptance of	rileria, and are in proper condit	on for disposal as described in	accordance with the
manifest accompany this shipment?			Dispatell			(610) 261-2220	is certifying that nothing has been dor	te to the collected waste which	ate regulations. A collector in a would invalidate the waste ge	igning the certification nerator's certification."
	NA		Signature - Autho	orized carrier acknowledgin	g waste receipt	Date	Authorized Signature and Title			Date
YES 🖌 NO			Som man			9/15/21	2-82 D. J	ordan Proje	t Manager	9/8/21
11. U.S. Department of Transportat	ion Description		13 Transport							570721
(Including UN ID number, proper shipping name, 12. DOT Labels hazard class, and any additional information)		Index 14. Physical and Chemical Form			15. Individua	al Radionuclides	16. Maximum Package Activity in SI Units	17. Total Weight or Volume	18 Identification Number of	
DOT Exempt 49CFR173.436 (Activated 0	Carbon, Filter Media,	NA	NA Solid TENORM			Pb-210 Ra-226 Ra-228		C 07005 100 HD	(Use appropriate units)	Package
PPE, Profile G210200WDI)						THE THE THE THE PARTY OF		6.0706E+00 MBq	Estimated Weight	Dartmouth-0
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NRC FORM 540 (06-2021)

# Wayne Disposal, Inc. 49350 N I-94 SERVICE DRIVE, BELLEVILLE, MI 48111 USA

	Customer Account: CHASE ENVIRONMENTAL GROUP, INC. 11450 WATTERSON COURT LOUISVILLE, KY 40299, USA Generator Site Address: NHCESQG, CHASE ENVIRONMENTAL FOR DARTMOU 570 HANOVER CENTER ROAD HANOVER, NH, 03755, USA	Weight Ticket	Receipt ID: Customer ID: Manifest / BOL: Transporter: Transporter EPA ID: Truck#: Date: Time In: Time Out:	1355574 2621 C1803014-001 HORWITH TRUCKS, INC. PAD146714878 442 09/17/2021 9:45 AM 12:53 PM
Line	Description Generator		(	Qty. Unit
1	G210200WDI - WATER TREATMENT WASTE NHCESQG CHASE ENVIRONMENTAL FOR DARTMOUT Gross: 60,100 lbs. Tare: 44,600 lbs. Net: 15,	H CO 500 lbs.	7.	750 TONS

C1803014-001 This certificate is to verify the wastes specified on Manifest #___ have been properly disposed of in accordance with all local, state and federal regulation. "Disposed of" means either: 1) Burial or 2) Processed as specified in 40CFR et sea. Michigan Disposal Waste Treatment Plant (EPA I.D. # MID000724831) Wayne Disposal, Inc. (EPA I.D. # MID048090633) FACILITY NAME: (Please check one) ADDRESS: 49350 N. I-94 Service Drive Bellville, Michigan 48111 PHONE NUMBER: 1-800-592-5489 FAX NUMBER: 1-800-593-5329 Authorized Signature:

 $\bigcirc$ 

**us eco**logy

CERTIFICATE OF DISPOSAL

6/12/17

Page 4 of 4



EPA and NHDES Authorization to Discharge Under the USEPA Region One RGP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Region 1 5 Post Office Square, Suite 100 BOSTON, MA 02109-3912

# VIA EMAIL

April 19, 2017

James M. Wieck, P.G. GZA GeoEnvironmental, Inc. 5 Commerce Park North, Suite 201 Bedford, NH 03110 james.wieck@gza.com

Re: Authorization to discharge under the Remediation General Permit (RGP) – Authorization # NHG910071, for the Rennie Farm site located in Hanover, NH

Dear Mr. Wieck:

Based on the review of a Notice of Intent (NOI) that was submitted by GZA GeoEnvironmental, Inc. (GZA) dated April 7, 2017 for the site referenced above, the U.S. Environmental Protection Agency, Region 1 (EPA) hereby authorizes GZA, as a named operator and co-permittee with Dartmouth College, to discharge in accordance with the provisions of the RGP from this site via Outfall 001 to an unnamed tributary to Hewes Brook. The authorization number is listed above. The effective date of coverage is the date of this authorization letter.

Enclosed with this RGP authorization to discharge is a summary of the applicable parameters and effluent limitations for your activity category II, non-petroleum-related remediation discharge. A dilution factor of zero (i.e., 1:1) was used in calculating effluent limits applicable to the proposed discharge from this site. Please note that this summary does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of the RGP, including influent and effluent monitoring, record keeping, and reporting requirements. Please ensure that sufficiently sensitive test methods are used for all sample analyses conducted for this permit. For the complete general permit, see EPA's RGP website.¹

This EPA general permit and authorization to discharge will expire on **April 8, 2022**, or upon Notice of Termination (NOT), whichever occurs first. However, in accordance with Part 5.3 of the general permit, your permit coverage will be administratively continued until issuance of a new RGP. Please note that you must submit a NOT within thirty (30) days of the termination of the discharge. You have reported your discharges ware expected to last twelve (12) months or more. Because your discharge is expected to last twelve (12) months or more, you are subject to discharge monitoring requirements that begin **May 1, 2018**. See Part 5.2 of the RGP and Appendix IV, Part 3 for more information.

¹ <u>http://www.epa.gov/region1/npdes/rgp.html.</u>

Your authorization to discharge includes the following additional conditions: 1) An effluent limitation of 3.0  $\mu$ g/L for 1,4-dioxane; and 2) An effluent limitation of 54.8  $\mu$ g/L for total recoverable zinc. These additional conditions are being required by the New Hampshire Department of Environmental Services (NHDES) accordance with Part 2.4.3.g of the RGP. This letter provides these additional conditions in writing.

In accordance with Part 2.2.4 of the RGP, your authorization to discharge also includes an additional monitor-only requirement for methylene chloride. The reason for this additional monitoring requirement is because the minimum level(s) for the data submitted with your NOI, 5.0  $\mu$ g/L, exceeds the effluent limitation in Part 2.1.1 of the RGP, 4.6  $\mu$ g/L. This monitoring requirement may be reduced or eliminated in the future in accordance with Part 5.1.2.a. of the RGP. Please ensure that sufficiently sensitive test methods are used for all sample analyses conducted for this permit. To be considered sufficiently sensitive, test methods must achieve MLs for a given parameter that is less than or equal to the effluent limitation for that parameter. Where no effluent limitation applies, EPA has provided the ML required with the enclosed summary.

Thank you in advance for your cooperation in this matter. Please contact Shauna Little at (617) 918-1989 or <u>little.shauna@epa.gov</u>, if you have any questions.

Sincerely,

Mulma Murphy

Thelma Murphy, Chief Storm Water and Construction Permits Section

Enclosure

cc: Michael Cimis, Dartmouth College, via email Steven R. Lamb, P.G., C.G.W.P., GZA, via email Ronald A. Breton, P.E., GZA, via email Jeff Andrews, NHDES, via email

# **GENERAL PERMIT FOR REMEDIATION ACTIVITY DISCHARGES**

Table 1: Authorization Information								
Permit Number	NHG910071							
<b>Receiving Water</b>	Unnamed tributary to Hewes Brook							
Outfall Number	Outfall 001 at Latitude: 43.752099							
Outian Number	Longitude: -72.175191							
Monitoring Frequency	See Part 2.1.2 of the RGP							
Departing Dequinement	See Part 4.6.1.a of the RGP;							
Reporting Requirement	NetDMR requirement begins May 1, 2018							

# Table 1. Authorization Information

# Table 2: Chemical-Specific Effluent Limitations and Monitor-Only Requirements¹

Parameter	Effluent Limitation
A. Inorganics	
Ammonia ²	Report mg/L
Chloride ³	Report µg/L
Total Suspended Solids	30 mg/L
Antimony	206 µg/L
Arsenic	10 µg/L
Cadmium	10.2 µg/L
Chromium III	323 µg/L
Chromium VI	323 µg/L
Copper	9.8 μg/L
Iron	5,000 µg/L
Lead	3.43 µg/L
Mercury	0.739 μg/L
Nickel	1,450 µg/L
Selenium	235.8 μg/L
Silver	35.1 µg/L
Zinc	54.8 µg/L
Cyanide	5.2 µg/L
B. Non-Halogenated Volatile Organic Compounds	
Total BTEX	100 µg/L
Benzene	5.0 µg/L
1,4 Dioxane	3.0 µg/L
Acetone	7.97 mg/L
Phenol	1,080 µg/L
C. Halogenated Volatile Organic Compounds	
Methylene Chloride	4.6 µg/L

# Table 2 Notes:

¹ The following abbreviations are used in Table 2, above: ^a mg/L = milligrams per liter ^b  $\mu$ g/L = micrograms per liter

 2  The minimum level (ML) for analysis of ammonia must be less than or equal to 0.1 mg/L.

 3  The ML for analysis of chloride must be less than or equal to 230 mg/L.

Table 3: Effluent Flow Limitation ¹							
Effluent Flow	Effluent Limitation						
Entuent Flow	0.036 MGD						

# **Table 3 Notes**

¹ The following abbreviations are used in Table 3, above: ^a MGD = million gallons per day

Table 4: pH	Limitations	for	Discharges	in	New	Hami	oshire ¹
$1 a \nu i c + i p I I$	Limitations	101	Dischar ges	111	110 11	mann	John C

<b>Receiving Water Class</b>	Effluent Limitation
Freshwater	6.5 to 8.3 SU

# **Table 4 Notes**

¹ The following abbreviations are used in Table 4, above:

^a SU = standard units



# The State of New Hampshire Department of Environmental Services

# Clark B. Freise, Assistant Commissioner



April 21, 2017

Steven R. Lamb, PrincipalGZA GeoEnvironmental, Inc.5 Commerce Park North, Suite 201Bedford, NH 03110

CERTIFIED MAIL # 7011 1570 0003 6778 3994

Michael Cimis, CIH, CHMM, Associate Director Environmental Health and Safety Dartmouth College 37 Dewey Field Road, Room 124 Hanover, NH 03755 CERTIFIED MAIL # 7012 0470 0001 6069 7286

Subject: Rennie Farm Site, Hanover, NH State Discharge Permit – NHG910071

Dear Messrs. Lamb and Cimis:

Please reference the letters to you from Thelma Murphy of the U.S. Environmental Protection Agency (EPA) dated April 19, 2017. In those letters, EPA approved the coverage of the discharge from the groundwater treatment facility at the Rennie Farm Site, which you both operate, under the Remediation General (NPDES) Permit (RGP)(see attached). See <a href="https://www3.epa.gov/region1/npdes/rgp.html">https://www3.epa.gov/region1/npdes/rgp.html</a> to download the RGP attachments and other important information including corrections to the final permit. The letter also contained an attachment that lists pollutants that are discharged that must be monitored and their limits. The limits are also contained in Parts 2.1 and 2.4 of the RGP.

The purpose of this letter is to inform you that the RGP, including the permit limitations and monitoring requirements described above (applicable parameter monitoring list attached), is considered your State Discharge Permit that is required in RSA 485-A:13,I(a).

Be advised that you are also responsible for the notification provisions found in RSA 485-A:13,I(c) (see attached).

Should you have any questions relative to your new State discharge permit please call me at 271-3308 or Jeff Andrews at 271-2984.

Sincerely,

Eugene J. Forbes, P.E., Director Water Division

cc: Tracy Wood, P.E., Administrator, DES-WEB

Attachments

P:/Jeff/17LTR04.doc

www.des.nh.gov 29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095 (603) 271-3503 • Fax: 271-4128 TDD Access: Relay NH 1-800-735-2964



N.H. Department of Environmental Services

29 Hazen Drive, Concord, NH 03301 (603) 271-3503 www.des.nh.gov

# Permit Process Questionnaire

The N.H. Department of Environmental Services continually strives to improve its permit processing system. Your response to this questionnaire will assist in this effort. Please answer the following questions by checking the response closest to your experience. We welcome your written comments as well.

Pe	ermit type	Program					
Pe	ermit #	Today's					
1	Staff Borforman og						
и. а.	Did you have any direct contact with our staff?	Yes 🗖	No 🗖				
b.	Did you find the staff professional, courteous and helpful?	Yes 🗆	Somewhat D	No 🗖	N/A 🗖		
C.	Were you able to communicate to the proper person quickly?	Yes 🗆	Somewhat	No 🗆			
d.	Name of staff person						
2.	Process and Procedure						
a.	Was the procedure to process the application clearly explained to you?	Yes 🗆	Somewhat 🗆	No 🗆	N/A 🗆		
b.	Was your application accepted as complete when first submitted?	Yes 🗆	No 🗆				
C.	From the date your application was accepted as complete, did you receive an answer in the time-frame promised?	Yes □	Somewhat 🗆	No 🗆			
3.	Application						
a.	Were the questions simple and easy to understand?	Yes 🗆	Somewhat 🗆	No 🗆	a		
b.	Did you understand what information you needed to provide, and were you able to provide that information in the application for the proposed project?	Yes 🗆	Somewhat 🗖	No 🗆			
C.	Did you require professional assistance in filling out the application? If DES, name of person	Yes 🗆	No 🗆				
4.	Application Decision						
a.	If your application was conditionally approved, do you feel the conditions on your permit were reasonable and clear?	Yes 🗆	Somewhat 🗆	No 🗆	N/A 🗆		
b.	If your application was denied, did the denial letter clearly state what was denied and why?	Yes 🗆	Somewhat 🗆	No 🗆	N/A 🗆		
C.	Did your denial letter clearly inform you of your options to request reconsideration or appeal?	Yes 🗆	Somewhat 🗆	No 🗆	N/A 🗆		
Cor	nments:						



Public Information & Permitting Unit N.H. Dept. of Environmental Services PO Box 95 Concord, NH 03302-0095

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES committed to helping sustain a high quality of life for all citizens by protecting and restoring the environment and public health in New Hampshire.

# Visit our website at www.des.nh.gov

Additional comments:

when you have completed this questionnaire, please fold it so that the return address is facing out. Seal with tape, attach postage and mail, or hand deliver to DES at 29 Hazen Drive, Concord. We appreciate your willingness to assist us to improve our permit process.

From____

# TITLE L WATER MANAGEMENT AND PROTECTION

# CHAPTER 485-A WATER POLLUTION AND WASTE DISPOSAL

# Enforcement

# Section 485-A:13

# 485-A:13 Water Discharge Permits. -

I. (a) It shall be unlawful for any person or persons to discharge or dispose of any sewage or waste to the surface water or groundwater of the state without first obtaining a written permit from the department of environmental services. Applications for permits shall be made upon forms prescribed by the department of environmental services and shall contain such relevant information as the department of environmental services may require. The department of environmental services shall include in such permits effluent limitations, which may be based upon economic and technological factors, upon the classification enacted by the legislature, upon the projected best use of the surface water downstream or upon the requirements of the Federal Water Pollution Control Act as amended from time to time, and all regulations, guidelines and standards promulgated thereunder, whichever provides the most effective means to abate pollution. The department of environmental services may also prescribe such other reasonable conditions as may be necessary or desirable in order to fulfill the purpose of this chapter or applicable federal law. Such permits may contain, in the case of sources not in compliance with such effluent limitations at the time the permit is issued, compliance schedules, including interim requirements necessary or desirable in order to fulfill the purposes or requirements of this chapter, and any such compliance schedules may be imposed without regard to the time limits for abatement of pollution referred to in RSA 485-A:12, II and shall be consistent with the purposes and requirements of applicable federal law. The department of environmental services may prescribe a monitoring program to be performed by the applicant with periodic reports to the department of environmental services, including, where appropriate in terms of the nature of the effluent, continuous monitoring. Permits shall be issued for a fixed term, not to exceed 5 years. The department of environmental services may revise, modify or suspend in whole or in part or terminate any permit, following hearing, upon a finding that just cause exists for such action. Further, whenever in its judgment the purposes of this chapter will be best served, the department of environmental services may require as a condition to the granting of such permits that either the ownership and operation of the collection and treatment facilities involved be vested in the municipality or any subdivision thereof in which the system is located, if said municipality by legal action agrees thereto, or such other reasonable conditions as will ensure continuous and continuing operation and maintenance of the facilities. No permit shall be granted to utilize the entire assets of the surface water, or in any other case in which the department of environmental services determines that the grant of a permit would be inconsistent with the purposes of this chapter. Any determination by the department of environmental services under this paragraph shall be subject to appeal as provided for in RSA 485-A:19.

(b) Notwithstanding any other provision of law, no permit to discharge sewage or waste shall be

issued authorizing any of the following discharges:

(1) The discharge of any radiological, chemical or biological warfare agent or high level radioactive waste.

(2) Any discharge into navigable waters which the secretary of the army of the United States acting through the chief of engineers determines would substantially impair anchorage and navigation.

(3) Any discharge to which the regional administrator of the United States Environmental Protection Agency, or his successor in jurisdiction, has objected in writing pursuant to any right to object each provided such official in section 402(d) of the Federal Water Pollution Control Act, as amended from time to time; provided, that this subparagraph and subparagraph (2) above shall not preclude the department of environmental services or any other person from availing itself of the judicial review of any such objection, or any determination by the secretary of the army, available under applicable federal law.

(4) Any discharge from a point source which is in conflict with a plan or amendment to such plan approved pursuant to section 208(b) of the Federal Water Pollution Control Act, as amended from time to time.

(c) Any person responsible for a bypass or upset at a wastewater facility shall give immediate notice of the bypass or upset to all public or privately owned water systems drawing water from the same receiving water and located within 20 miles downstream of the point of discharge. The permittee shall maintain a list of persons, and their telephone numbers, who are to be notified immediately by telephone. In addition, written notification, which shall be postmarked within 3 days of the bypass or upset, shall be sent to such persons.

II. On application of the department of environmental services, the superior court or any justice of such court, in term time, or in vacation may enjoin any act in violation of any lawful order of the department of environmental services.

III. In the interim between the effective date of classification legislation hereafter enacted affecting any surface water of the state or section of such water, and the time limit for abatement of pollution set thereafter either by the department of environmental services under RSA 485-A:12, II or by the legislature, it shall be unlawful for person or persons to dispose of any sewage or waste into said surface water of the state in excess of the maximum quantity or of a different character, than that being disposed of during the period of one year prior to the effective date of such legislative classification without first obtaining written permission from the department of environmental services.

Source. 1989, 339:1. 1990, 248:3. 1996, 228:108, eff. July 1, 1996.

Rennie Farm Site Groundwater Treatment Facility, Hanover #NHG910071

# **GENERAL PERMIT FOR REMEDIATION ACTIVITY DISCHARGES**

Table 1: Authorization Information			
Permit Number NHG910071			
Receiving Water	Unnamed tributary to Hewes Brook		
Outfall Number	Outfall 001 at Latitude: 43.752099		
	Longitude: -72.175191		
Monitoring Frequency	See Part 4.1.2 of the RGP		
Reporting Requirement	See Part 4.6.1.a of the RGP;		
	NetDMR requirement begins May 1, 2018		

# **Table 1: Authorization Information**

# Table 2: Chemical-Specific Effluent Limitations and Monitor-Only Requirements¹

Parameter	Effluent Limitation		
A. Inorganics			
Ammonia ²	Report mg/L		
Chloride ³	Report µg/L		
Total Suspended Solids	30 mg/L		
Antimony	206 µg/L		
Arsenic	10 µg/L		
Cadmium	10.2 µg/L		
Chromium III	323 µg/L		
Chromium VI	323 µg/L		
Copper	9.8 μg/L		
Iron	5,000 µg/L		
Lead	3.43 µg/L		
Mercury	0.739 μg/L		
Nickel	54.8µg/L		
Selenium	235.8 µg/L		
Silver	35.1 µg/L		
Zinc	420 µg/L		
Cyanide	5.2 μg/L		
B. Non-Halogenated Volatile Organic Compounds			
Total BTEX	100 µg/L		
Benzene	5.0 μg/L		
1,4 Dioxane	3.0 µg/L		
Acetone	7.97 mg/L		
Phenol	1.080 µg/L		
C. Halogenated Volatile Organic Compounds	/ / 0		
Methylene Chloride	4.6 μg/L		

#### **Table 2 Notes:**

¹ The following abbreviations are used in Table 2, above:

^a mg/L = milligrams per liter

^b  $\mu g/L$  = micrograms per liter

² The minimum level (ML) for analysis of ammonia must be less than or equal to 0.1 mg/L.

 3  The ML for analysis of chloride must be less than or equal to 230 mg/L.

Table 3: Effluent Flow Limitation ¹		
Effluent Flow	Effluent Limitation	
	0.036 MGD	

## **Table 3 Notes**

¹ The following abbreviations are used in Table 3, above: ^a MGD = million gallons per day

# Table 4: pH Limitations for Discharges in New Hampshire¹

<b>Receiving Water Class</b>	Effluent Limitation		
Freshwater	6.5 to 8.3 SU		

### **Table 4 Notes**

¹ The following abbreviations are used in Table 4, above:

^a SU = standard units

## NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR REMEDIATION ACTIVITY DISCHARGES

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#### ATTACHMENTS

Attachment A: Whole Effluent Toxicity Test Procedure and Protocol for Freshwater and Marine Discharges

# NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR REMEDIATION ACTIVITY DISCHARGES

# Massachusetts General Permit, Permit No. MAG910000

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 <u>et seq</u>.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53), the following permit authorizes discharges from eight general remediation activity categories, including:

- I. Petroleum-related site remediation:¹
- II. Non-petroleum-related site remediation;¹
- III. Contaminated site dewatering;
- IV. Pipeline and tank dewatering;
- V. Aquifer pump testing;
- VI. Well development/rehabilitation;
- VII. Collection structure remediation/dewatering; and
- VIII. Dredge-related dewatering.

Such discharges are authorized at sites located in Massachusetts to all classes of waters designated in the Massachusetts Water Quality Standards, 314 CMR 4.00 et seq., unless otherwise restricted, in accordance with effluent limitations, monitoring requirements, and other conditions set forth herein.

This Remediation General Permit (RGP) shall become effective thirty (30) days from the date of signature.

This general permit and the authorization to discharge supersede the previous Remediation General Permit which expired on September 9, 2015. This general permit will expire at midnight, 5 years from the effective date.

Signed this T day of March 2017.

Agna a Ha

Ken Moraff, Director Office of Ecosystem Protection Environmental Protection Agency Region 1 Boston, MA

Douglas E. Fine, Assistant Commissioner Bureau of Water Resources Department of Environmental Protection Commonwealth of Massachusetts Boston, MA

¹ For discharges that are subject to the Massachusetts Contingency Plan (310 CMR 40.0000), this general permit applies as a matter of federal, but not state, law. For all other discharges, this general permit applies as a matter of both.

# NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR REMEDIATION ACTIVITY DISCHARGES

# New Hampshire General Permit, Permit No. NHG910000

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 <u>et seq.</u>; the "CWA"), the following permit authorizes discharges from eight general remediation activity categories, including:

- I. Petroleum-related site remediation;
- II. Non-petroleum-related site remediation;
- III. Contaminated site dewatering;
- IV. Pipeline and tank dewatering;
- V. Aquifer pump testing;
- VI. Well development/rehabilitation;
- VII. Collection structure remediation/dewatering, and
- VIII. Dredge-related dewatering.

Such discharges are authorized to all waters located in New Hampshire, unless otherwise restricted by the New Hampshire Water Quality Standards,² in accordance with effluent limitations, monitoring requirements, and other conditions set forth herein.

This Remediation General Permit (RGP) shall become effective thirty (30) days from the date of signature.

This general permit and the authorization to discharge supersede the previous Remediation General Permit which expired on September 9, 2015. This general permit will expire at midnight, 5 years from the effective date.

Signed this Thay of March 2017.

Jugne a. Hay for

Ken Moraff, Director Office of Ecosystem Protection Environmental Protection Agency Region 1 Boston, MA

² 50 RSA §485-A:8 and the N.H. Code of Administrative Rules, Chapter Env-Wq 1700 Surface Water Quality Regulations.

#### PART 1 APPLICABILITY AND COVERAGE OF THE RGP

For purposes of this general permit, the owner or operator (hereinafter referred to as the "operator"), as defined by 40 CFR §122.2, of any "facility or activity" (hereinafter referred to as "site") subject to regulation under the NPDES program is responsible for applying for coverage under this general permit. As required by 40 CFR §122.21(b), "[w]hen a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit." For the purposes of this general permit, this can include residential owners treating contaminated groundwater released from heating oil tanks.

#### 1.1 Subject Discharges

Existing, emergency, and new discharges from the following remediation, dewatering and dewatering/remediation-related activities are eligible for coverage under this general permit:

- 1. Petroleum-related site remediation includes remediation of groundwater contaminated by petroleum products (e.g., gasoline, fuel oil, jet fuel, fuel additives and oxygenates, waste oil) and related activities.
- 2. Non-petroleum-related site remediation includes remediation of groundwater contaminated by volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), or inorganics (e.g., metals) and related activities.
- 3. Contaminated site dewatering includes dewatering conducted at former remediation sites, sites with no known source of contamination, or sites where pollutants are naturally occurring and related activities.
- 4. Pipeline and tank dewatering includes dewatering of pipelines, tanks, and similar structures and appurtenances that store or convey petroleum products, non-petroleum products, potable water, groundwater, and certain surface waters during construction of new structures or repair or maintenance of existing structures.
- 5. Aquifer pump testing includes short or long-term testing of a distinct contaminated or formerly contaminated aquifer(s), including when contamination is naturally occurring.
- 6. Well development/rehabilitation includes the development or rehabilitation of groundwater monitoring, groundwater extraction, and water supply wells at contaminated or formerly contaminated sites, including when contamination is naturally occurring.
- Collection structure dewatering/remediation includes dewatering/remediation of structures utilized for collecting miscellaneous sources of water from contaminated or formerly contaminated sites or sources (e.g., sumps and dikes), including when contamination is naturally occurring or a result of the infiltration of contaminated groundwater or storm water.

8. Dredge-related dewatering includes certain short-term dredging-related activities such as a short-term pilot study or similar activity associated with dredging, dredge material dewatering, including drain back waters and dewatering of contaminated solids.

Activity Category	Contamination Type		
<ul> <li>I. Petroleum-Related Site Remediation</li> <li>II. Non-Petroleum-Related Site Remediation</li> </ul>	<ul> <li>A. Inorganics</li> <li>B. Non-Halogenated Volatile Organic Compounds</li> <li>C. Halogenated Volatile Organic Compounds</li> <li>D. Non-Halogenated Semi-Volatile Organic Compounds</li> <li>E. Halogenated Semi-Volatile Organic Compounds</li> <li>F. Fuels Parameters</li> </ul>		
Activity Category	Contamination Type		
<ul> <li>III. Contaminated Site Dewatering</li> <li>IV. Pipeline and Tank Dewatering</li> <li>V. Aquifer Pump Testing</li> <li>VI. Well Development/Rehabilitation</li> <li>VII. Collection Structure Dewatering/Remediation</li> <li>VIII. Dredge-Related Dewatering</li> </ul>	<ul> <li>G. Sites with Known</li> <li>Contamination</li> <li>H. Sites with</li> <li>Unknown</li> <li>Contamination</li> </ul>	<ul> <li>A. Inorganics</li> <li>B. Non-Halogenated Volatile Organic Compounds</li> <li>C. Halogenated Volatile Organic Compounds</li> <li>D. Non-Halogenated Semi-Volatile Organic Compounds</li> <li>E. Halogenated Semi-Volatile Organic Compounds</li> <li>F. Fuels Parameters</li> </ul>	

## Table 1: Activities Covered by the Remediation General Permit

For the purposes of this general permit, remediation and dewatering discharges are those that contain only the pollutants included in the Contamination Type Categories in this general permit at levels that do not exceed the effluent limitations in this general permit (see Part 2), unless otherwise authorized on a case-by-case basis. Minimum treatment requirements, including as Best Management Practices (BMPs), are found in Part 2.5 of this general permit. The term "existing discharge" refers to a discharge in accordance with the Remediation General Permit that expired on September 9, 2015. The term "emergency discharge" refers to a discharge that is a result of remediation or dewatering activities conducted in response to a public emergency and the discharge requires immediate authorization to avoid imminent endangerment to human health, public safety, or the environment, or to reestablish essential public services. The term "new discharge" refers to any discharge that is not an existing or emergency discharge. The term "known" used in Contamination Type G, above, refers to sites with fully characterized and/or specific contamination type categories, where pollutants have been quantified in environmental samples, and such data meet minimum data validation requirements.³ Activity Categories III-G through VIII-G must select all Contamination Type Categories A through F, that are present. The term "unknown" used in Contamination Type H, above, refers to sites broadly associated with

³ For sites located in Massachusetts, operators may refer to Massachusetts Policy #WSC-07-350, *MCP Representativeness Evaluations and Data Usability Assessments* for guidance on data usability assessments. For sites located in New Hampshire, operators may refer to EPA Region 1 guidance for data validation.

contamination that may or may not be fully characterized, including, but not limited to sites where pollutants may be present, but all potential pollutants have not been quantified, or pollutants have been quantified, but such data do not meet minimum data validation requirements. For Activity Categories III-H through VIII-H, Contamination Type Categories A through F apply. For the purposes of this general permit, a pollutant is "known present" if measured above the analytical detection limit using a sufficiently sensitive test method in an environmental sample, and "believed present" if a pollutant has not been measured in an environmental sample but will be added or generated prior to discharge, such as through a treatment process. Consequently, a pollutant is "known absent" if measured as non-detect relative to the analytical detection limit using a sufficiently sensitive test method in an environmental sample, and "believed absent" if a pollutant has not been measured in an environmental sample but will be added or generated prior to discharge, such as through a treatment process. Consequently, a pollutant is "known absent" if measured as non-detect relative to the analytical detection limit using a sufficiently sensitive test method in an environmental sample, and "believed absent" if a pollutant has not been measured in an environmental sample but will not be added or generated prior to discharge and is not a parameter that applies to the applicable activity category for a site. See Part 2.1.1 for parameter applicability and Part 4.1.4 for additional definitions.

#### 1.2 Geographic Coverage Area

1. Sites located in Massachusetts

All of the discharges to be authorized by this general NPDES permit in the Commonwealth of Massachusetts are into all waters of the Commonwealth unless otherwise restricted by the Massachusetts Surface Water Quality Standards, 314 CMR 4.00 (or as revised), including 314 CMR 4.04(3), Protection of Outstanding Resource Waters.

2. Sites located in New Hampshire

All of the discharges to be authorized by this general NPDES permit in the State of New Hampshire are into all waters of the State of New Hampshire unless otherwise restricted by the New Hampshire Surface Water Quality Regulations, New Hampshire Code of Administrative Rules, Chapter Env-Wq 1700 (or as revised), including 50 RSA §485-A:8-11, Classification of Waters.

#### **1.3 Limitations on Coverage**

The following discharges are ineligible for coverage under this general permit:

- 1. Discharges to Outstanding Resource Waters in Massachusetts and New Hampshire:
  - a. as defined in Massachusetts by 314 CMR 4.06, including Public Water Supplies (314 CMR 4.06(1)(d)1) which have been designated by the State as Class A waters, unless an authorization is granted by the Massachusetts Department of Environmental Protection (MassDEP) by 314 CMR 4.04(3)(b); or
  - b. as defined in New Hampshire under Env-Wq 1708.05(a), unless allowed by the New Hampshire Department of Environmental Services (NHDES) under Env-Wq 1708.05(b).
- 2. Discharges to Class A waters in New Hampshire, in accordance with RSA 485A:8, I. and Env-Wq 1708.06. To determine if the proposed receiving water is a Class A waterbody, contact NHDES as listed in Part 4.6 of this general permit.

- 3. Discharges that are likely to adversely affect any species listed as endangered or threatened under the Endangered Species Act (ESA) or result in the adverse modification or destruction of critical habitat under ESA. See Appendix I of this general permit for additional ESA requirements, and Appendix II of this general permit for additional ESA information.
- 4. Discharges whose direct or indirect impacts do not prevent or minimize adverse effects on any designated Essential Fish Habitat (EFH). See Appendix II of this general permit for additional EFH information.
- 5. Discharges of pollutants identified as the cause of an impairment to receiving water segments identified on the Commonwealth of Massachusetts or the State of New Hampshire approved 303(d) lists, unless the pollutant concentration is at or below a concentration that meets water quality standards.⁴
- 6. Discharges to Ocean Sanctuaries in Massachusetts, as defined at 302 CMR 5.00.
- 7. Discharges to territorial seas, as defined by Section 502 of the CWA.
- 8. Discharges to a river designated as a Wild and Scenic River, except in accordance with 16 U.S.C. 1271 et seq. See <u>http://www.rivers.gov/</u> for additional information.
- Discharges which adversely affect properties listed or eligible for listing in the National Registry of Historic Places under the National Historic Preservation Act of 1966 (NHPA), 16 USC §470 et seq. See Appendix III of this general permit for additional NHPA requirements.
- 10. Remediation or dewatering discharges resulting from on-site response action conducted pursuant to §§104, 106, 120, 121 or 122 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
- 11. Discharges of uncontaminated effluent authorized or allowable under other United States Environmental Protection Agency (EPA) permits.
- 12. Discharges to a Publicly Owned Treatment Works (POTW) which is permitted under Section 402 of the CWA.

⁴ The discharge would be eligible if a segment is impaired due to a pollutant which is not expected in the discharge covered by this general permit. Similarly, the discharge would be eligible if the discharge contains the pollutants for which a segment is impaired (e.g., metals) but meets the limitations in this general permit for those pollutants, as these limitations are equal to the water quality standards with no allowable dilution. See Massachusetts' integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href="http://www.mass.gov">http://www.mass.gov</a> and New Hampshire's integrated list of waters (CWA 303(d) and 305(b)) at <a href

- 13. Discharges directly or indirectly to the ground subject to other program authority, including the Underground Injection Control (UIC) Program under authority of the Safe Drinking Water Act, a State groundwater discharge permit program, or a similar program authority.
- 14. Discharge of dredge-related waters where the United States Army Corps of Engineers (ACE) intends to authorize the discharge under a CWA §404 permit.⁵
- 15. New Sources, as defined in 40 CFR §122.2.
- 16. Discharges covered by an individual NPDES permit unless:
  - a. The discharges are separate from the currently permitted discharges; or
  - b. The discharges covered by an individual NPDES permit are eligible for this general permit.
- 17. Discharges for which the Director makes a determination that an individual permit is required. See Part 3 of this general permit.

#### **1.4 Special Eligibility Determinations**

Sites located in Massachusetts and New Hampshire that are seeking coverage under this general permit must certify compliance with the requirements of this permit related to threatened and endangered species and critical habitat under the Endangered Species Act (i.e., ESA and EFH) and to historic properties under the National Historical Preservation Act, where applicable (i.e., NHPA).

1. Endangered and Threatened Species and/or Critical Habitat⁶ Sites that are located in areas in which listed species may be present are not automatically covered under this general permit. Operators must demonstrate permit eligibility following the eligibility requirements in Appendix I and include this determination in the Notice of Intent (NOI). See Appendix II of this general permit for additional information.

2. National Historic Preservation Act

Sites that are located on or near properties listed or eligible for listing in the National Registry of Historic Places under the National Historic Preservation Act of 1966, 16 USC §470 et seq. are not automatically covered under this permit. Prior to submitting a NOI, operators must meet the requirements of Appendix III pertaining to historic places, which requires *the operator* to determine whether discharges have the potential to affect a property that is listed or eligible for

⁵ Dredge-related discharges may be covered under the RGP provided the ACE does not intend to issue a general or individual permit under 33 USC §1344 for the activities. If authorized to discharge under the RGP, this general permit does not authorize dredging or disposal of dredge material. This general permit also does not constitute authorization under §404 of any dredging or filling operations. See 33 CFR §330.5 and §§401 and 404 of the CWA. ⁶ Several listed species may apply to operators under this general permit, including, but not limited to: the shortnose sturgeon, Atlantic sturgeon, dwarf wedge mussel, bog turtle, northern redbelly cooter, and northern long-eared bat. The shortnose sturgeon and Atlantic sturgeon are listed under the jurisdiction of the National Marine Fisheries Service (NMFS) and the dwarf wedgemussel, bog turtle, northern redbelly cooter, and northern long-eared bat are listed under the jurisdiction of the United States Fish and Wildlife Service (FWS).

listing on the National Register of Historic Places. If the potential exists, the operator must consult with the appropriate agencies. Operators must submit the results of any consultations with the NOI.

Operators must also comply with applicable State and local laws concerning the protection of historic properties and places. Where a discharge(s) has the potential to affect a property that is either listed or eligible for listing on the National Register of Historic Places, an operator must coordinate with the appropriate State Historic Preservation Officer (SHPO) regarding effects of their discharges.⁷ In the event there is an inadvertent discovery of a historic property on the site, the operator must immediately stop the remediation activity, contact EPA, and coordinate with the appropriate official(s) consistent with the steps outlined in 36 CFR §800.13 of the NHPA regulations.

#### 1.5 Coverage under the RGP

Under this general permit, operators in Massachusetts and New Hampshire may request authorization to discharge into waters of the respective States. To obtain authorization to discharge under this general permit, an operator must:

- 1. Have a discharge type described in Part 1.1 of this general permit;
- 2. Have a discharge located in the areas listed in Part 1.2 of this general permit;
- 3. Meet the eligibility requirements in Part 1.3 and Part 1.4 of this general permit;
- 4. Submit a complete and accurate Notice of Intent in accordance with the requirements of Part 3 of this general permit; and
- 5. Receive a written authorization to discharge from EPA.⁸

To maintain coverage under this general permit, the discharge must meet applicable water quality standards and all effluent limitations and requirements included in Part 2 and Part 6, and, if applicable, Part 7 of this general permit. The operator must also meet the requirements included in Part 4 and 5 of this general permit.

## PART 2 GENERAL PERMIT FOR REMEDIATION ACTIVITY DISCHARGES

## 2.1 Effluent Limitations and Monitor-Only Requirements

⁷ For sites located in Massachusetts, the SHPO is currently within the Massachusetts Historical Commission. For sites located in New Hampshire, the SHPO is currently the Director of Cultural Resources within the Department of Cultural Resources.

⁸ Where the RGP refers to correspondence in writing from EPA, such correspondence may be by mail, email and/or facsimile transmittal. An emergency discharge is considered provisionally covered under the RGP immediately upon the initiation of discharges on the condition that: 1) A complete and accurate NOI is submitted in accordance with Part 3.3 within fourteen (14) days after the emergency discharges commence; 2) Notification is provided to EPA in accordance with Part 4.6.3.b and c prior to commencing an emergency discharge when feasible, but no later than twenty-four (24) hours after such discharges commence; and 3) Monitoring proceeds in accordance with the monitoring requirements specified in Part 4.4. as for short-term discharges for the duration of provisional coverage. Provisional coverage is authorized for up to fourteen (14) days, after which the operator must either: 1) Received written authorization to discharge from EPA, unless EPA notifies the operator that their authorization has been delayed or denied; or 2) Submitted a NOT to EPA.

1. Chemical-Specific Effluent Limitations in Massachusetts and New Hampshire During the period beginning on the effective date and lasting through the expiration date, EPA will authorize the discharges under Part 1.1 of this general permit to receiving waters in Massachusetts and New Hampshire. The effective date of authorization for each discharge covered under this general permit is the date indicated in EPA's written authorization to discharge, lasting through the expiration date of this general permit or written termination of coverage, whichever occurs first. Each discharge shall be limited and monitored as specified in Table 2, below. The applicability of effluent limitations for each Activity Category listed in Table 1 is included in footnote 2, below. Additional limitations and monitoring requirements are specified in Parts 2.2 through 2.5 and Part 4, below.

De marge et en 2	Effluent Limitation ^{3,4}		
Parameter	TBEL ⁵	WQBEL ⁶	
A. Inorganics			
Ammonia ⁷	Report mg/L		
Chloride ⁸	Report µg/L		
Total Residual Chlorine ⁹	0.2 mg/L	FW= 11 μg/L SW= 7.5 μg/L	
Total Suspended Solids	30 mg/L		
Antimony ¹⁰	206 μg/L	640 μg/L in MA 4.3 mg/L in NH	
Arsenic ¹⁰	104 µg/L	$FW=10 \ \mu g/L$ SW= 36 \ \mu g/L	
Cadmium ^{11,12}	10.2 μg/L	FW= 0.25 μg/L SW= 8.8 μg/L in MA SW= 9.3 μg/L in NH	
Chromium III ^{11,12}	323 µg/L	$FW=74 \ \mu g/L$ $SW=100 \ \mu g/L$	
Chromium VI ^{11,13}	323 μg/L	$FW=11 \ \mu g/L$ $SW=50 \ \mu g/L$	
Copper ^{11,12}	242 μg/L	FW= 9 μg/L SW= 3.1 μg/L	
Iron ¹⁰	5,000 μg/L	$FW = 1,000  \mu g/L$	
Lead ^{11,12}	160 µg/L	$FW=2.5 \ \mu g/L$ $SW=8.1 \ \mu g/L$	
Mercury ¹¹	0.739 μg/L	$FW= 0.77 \ \mu g/I$ , $SW= 0.94 \ \mu g/L$	
Nickel ^{11,12}	1,450 µg/L	FW= 52 μg/L SW= 8.2 μg/L	
Selenium	235.8 μg/L	FW= 5.0 $\mu$ g/L ¹⁰ SW= 71 $\mu$ g/L ¹¹	
Silver ^{11,12}	35.1 μg/L	$FW= 3.2 \ \mu g/L$ $SW= 1.9 \ \mu g/L$	
Zinc ^{11,12}	420 μg/L	$FW= 120 \ \mu g/L$ $SW= 81 \ \mu g/L$	

## Table 2: Chemical-Specific Effluent Limitations and Monitor-Only Requirements¹

# Page 10 of 50

Do no moto v ²	Effluent Limitation ^{3,4}	
	TBEL ⁵	WQBEL ⁶
Cyanide ¹⁴	179	$FW = 5.2 \ \mu g/L$
	178 mg/L	$SW = 1.0 \ \mu g/L$
B. Non-Halogenated Volatile Organic Compounds		
Total BTEX ¹⁵	100 μg/L	
Benzene ¹⁵	5.0 μg/L	
1,4 Dioxane ¹⁶	20	)0 μg/L
Acetone	7.97 mg/L	
Phenol	1,080 μg/L	300 μg/L
C. Halogenated Volatile Organic Compounds		
Carbon Tetrachloride	4.4 μg/L	1.6 μg/L in MA
1,2 Dichlorobenzene	60	)0 μg/L
1,3 Dichlorobenzene	32	20 μg/L
1,4 Dichlorobenzene	5.	.0 μg/L
Total dichlorobenzene	763 µ	ıg/L in NH
1,1 Dichloroethane	7	0 μg/L
1,2 Dichloroethane	5.0 µg/L	
1,1 Dichloroethylene	3.2 µg/L	
Ethylene Dibromide ¹⁷	0.05 µg/L	
Methylene Chloride	4.6 µg/L	
1,1,1 Trichloroethane	200 µg/L	
1,1,2 Trichloroethane	5.0 µg/L	
Trichloroethylene	5.0 µg/L	
Tetrachloroethylene	5.0 µg/L 3.3 µg/L in MA	
cis-1,2 Dichloroethylene	70 µg/L	
Vinyl Chloride	2.0 µg/L	
D. Non-Halogenated Semi-Volatile Organic Compounds		
Total Phthalates ¹⁸	100 /I	$FW = 3.0 \ \mu g/L \text{ in NH}$
Total T hundrates	190 µg/L	SW = $3.4 \mu g/L$ in NH
Diethylbeyyl phthalate ¹⁸	101	2.2 μg/L in MA
Dieurymexyr phulaiae	101 µg/L	5.9 µg/L in NH
Total Group I Polycyclic Aromatic Hydrocarbons ¹⁹	1.0 μg/L	As Individual PAHs
Benzo(a)anthracene ¹⁹		0.0038 µg/L
Benzo(a)pyrene ¹⁹		0.0038 µg/L
Benzo(b)fluoranthene ¹⁹	An Total Course I	0.0038 µg/L
Benzo(k)fluoranthene ¹⁹		0.0038 μg/L
Chrysene ¹⁹	- PAHs	0.0038 µg/L
Dibenzo(a,h)anthracene ¹⁹		0.0038 µg/L
Indeno(1,2,3-cd)pyrene ¹⁹		0.0038 µg/L
Total Group II Polycyclic Aromatic Hydrocarbons ²⁰	10	00 μg/L
Naphthalene ²⁰	2	0 μg/L
E. Halogenated Semi-Volatile Organic Compounds		
Total Polychlorinated Biphenyls ²¹	0.000	0064 μg/L
Pentachlorophenol	1.0 µg/L	

Parameter ²	Effluent Limitation ^{3,4}		
	TBEL ⁵	WQBEL ⁶	
F. Fuels Parameters		-	
Total Petroleum Hydrocarbons ²²	5.0 mg/L		
Ethanol ²³	Report mg/L		
Methyl-tert-Butyl Ether ²⁴	70 μg/L	20 µg/L in MA	
tert-Butyl Alcohol	120 µg/L in MA		
	40 μg/L in NH		
tert-Amyl Methyl Ether ²⁴	90 µg/L in MA		
	140 μg/L in NH		

### Table 2 Footnotes:

¹ The following abbreviations are used in Table 2, above:

- ^a TBEL = technology-based effluent limitation
- ^b WQBEL = water quality-based effluent limitation
- ^c mg/L = milligrams per liter
- ^d avg = average
- $^{e}\mu g/L = micrograms per liter$
- $^{f}FW = freshwater$
- ^g SW = saltwater

 2  The sample type required for all parameters is grab. Grab samples must be analyzed individually and cannot be composited. See Appendix IX for additional definitions.

³ The effluent limitation and/or monitor-only requirement for any parameter listed applies to any site if the given parameter is present at that site. The effluent limitations and monitor-only requirements also apply to Activity Categories as follows:

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<sup>a</sup> Activity Category I:
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all parameters in contamination type A. Inorganics; any present in contamination type B. non-halogenated VOCs; if present in contamination type C. halogenated VOCs; any present in contamination type D. non-halogenated SVOCs; if present in contamination type E. halogenated SVOCs; and any present in contamination type F. fuels parameters.

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<sup>b</sup> Activity Category II:
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all parameters in contamination type A. Inorganics; any present in contamination type B. non-halogenated VOCs; any present in contamination type C. halogenated VOCs; any present in contamination type D. non-halogenated SVOCs; if present in contamination type E. halogenated SVOCs; and if present in contamination type F. fuels parameters.

^c Activity Category III-G: all parameters in contamination type A. Inorganics; and if present in contamination type B through F.

^d Activity Category IV-G, V-G, VI-G, VII-G, VIII-G: if present in contamination type A through F.

^e Activity Category III-H, IV-H, V-H, VI-H, VII-H, VIII-H: all parameters in contamination type A through F apply.

^f When "if present" is noted above, the effluent limitation and/or monitor-only requirement for a parameter in the Contamination Type applies to a site only if the given parameter is known or believed present at that site. When "any present" is noted above, the effluent limitations and/or monitor-only requirements for all parameters in the Contamination Type apply to a site when at least one parameter in that Contamination Type is known or believed present at that site, unless otherwise specified below. See Part 1.1 for additional definitions.

⁴ The limitation type for all parameters is monthly average. See Appendix IX for additional definitions.

⁵ For any parameter with a single effluent limitation, that effluent limitation applies to a site if that parameter is applicable to that site. For any parameter with both a TBEL and a WQBEL, the TBEL applies to a site, at a minimum, if that parameter is applicable to that site.

⁶ For any parameter with both a TBEL and a WQBEL, the WQBEL applies to a site if: 1) *The operator* determines that the WQBEL for a parameter calculated in accordance with Appendix V or VI applies; or 2) EPA or the appropriate State determines that a WQBEL is necessary to meet water quality standards. The calculation of WQBELs shall be as follows: 1) A dilution factor may be used to calculate the WQBEL for a parameter, if allowable and approved by the appropriate State prior to the submission of the NOI to EPA; 2) The calculations are completed in accordance with the instructions provided in Appendix V for sites located in Massachusetts or Appendix VI for sites located in New Hampshire; 3) The WQBEL calculations are included in the NOI submitted to EPA; and 4) The calculated WQBEL is confirmed by EPA in writing. In the event of a calculation error, the operator will be informed of any corrected WQBEL when notified of permit coverage by EPA. Operators are encouraged to use the additional resources provided by EPA at <u>https://www.epa.gov/region1/npdes/rgp.html</u> to follow the calculation methodologies for effluent limitations in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.

⁷ This parameter is expressed as ammonia nitrogen. The minimum level (ML) for analysis must be less than or equal to 0.1  $\mu$ g/L. See Appendix VII for additional definitions.

⁸ Sites located in Massachusetts must report concentrations of chloride. Sites located in New Hampshire may be subject to §401 certification requirements by the State of New Hampshire, including a numeric effluent limitation for chloride.
⁹ Effluent limitations for TRC only apply if TRC is present or if discharges are likely to contain residual chlorine (e.g., potable water is in use or chlorine is a chemical used for and/or byproduct of treatment). The TBEL applies to all discharges subject to a TRC effluent limitation. The WQBELs are shown with zero dilution. The FW or SW WQBELs are calculated as follows:

^a11  $\mu$ g/L x approved dilution factor for discharges to freshwater waterbodies ^b7.5  $\mu$ g/L x approved dilution factor for discharges to saltwater waterbodies

If the FW or SW limitation for TRC as calculated above is less than the TBEL for TRC, the FW or SW limitation for TRC applies. The compliance level for TRC is 50  $\mu$ g/L.

¹⁰ The TBEL and WQBEL for this parameter is expressed on the basis of total recoverable metal in the water column. The WQBEL is shown with zero dilution. For the antimony WQBEL in NH, EPA anticipates that the applicable revised WQC found in Env-Wq 1700 shall be incorporated into the RGP for sites in New Hampshire, once final. Based on the proposed revision for this value, 640  $\mu$ g/L, EPA expects to change the WQBEL from 4.3 mg/L to 640  $\mu$ g/L.

¹¹ The WQBEL for this parameter is expressed on the basis of dissolved metal in the water column. The WQBEL is shown with zero dilution. The WQBEL shall apply in the form of total recoverable metal in the water column. The WQBEL must be adjusted using the calculation methodology included in Appendix V for sites located in Massachusetts or Appendix VI for sites located in New Hampshire. For the saltwater cadmium WQBEL in NH, EPA anticipates that the applicable revised WQC found in Env-Wq 1700 shall be incorporated into the RGP for sites in New Hampshire, once final. Based on the proposed revision for this value, 7.9  $\mu$ g/L, EPA expects to change the WQBEL from 9.3  $\mu$ g/L to 7.9  $\mu$ g/L.

¹² This parameter is hardness-dependent in freshwater. The WQBEL shown assumes a hardness of 100 mg/L CaCO₃. Hardness-dependent metals WQBELs must be adjusted for actual hardness using the calculation methodology included in Appendix V for sites located in Massachusetts or Appendix VI for sites located in New Hampshire. The hardness-dependent calculation requirement does not apply to saltwater discharges.

¹³ The effluent limitations for chromium VI assume this metal is reduced to chromium III as a result of treatment. This metal is not hardness-dependent in freshwater.

¹⁴ The effluent limitations for cyanide only applies if this parameter is present. The TBEL is shown as total cyanide. The WQBEL is shown as free cyanide per liter. However, total cyanide must be reported. The compliance level for total cyanide is 5  $\mu$ g/L.

¹⁵ Total BTEX is the sum of: benzene (CAS No. 71432); toluene (CAS No. 108883); ethylbenzene (CAS No. 100-41-4); and (m,p,o) xylenes (CAS Nos. 108-88-3, 106-42-3, 95-47-6, and 1330-20-7). The Volatile Petroleum Hydrocarbon (VPH) method cannot be used for analysis of this parameter.

¹⁶ The effluent limitation for 1,4-dioxane only applies if this parameter and/or 1,1,1 trichloroethane is present. 1,4-dioxane analysis must achieve a ML less than or equal to 50  $\mu$ g/L. See Appendix VII for additional definitions.

¹⁷ The effluent limitation for EDB only applies if this parameter is present.

¹⁸ Total Phthalates is the sum of: diethylhexyl phthalate (CAS No. 117-81-7); butyl benzyl phthalate (CAS No. 85-68-7); di-n-butyl phthalate (CAS No. 84-74-2); diethyl phthalate (CAS No. 84-66-2); dimethyl phthalate (CAS No. 131-11-3); di-n-octyl phthalate (CAS No. 117-84-0). The effluent limitations for total phthalates and the individual phthalate, diethylhexyl phthalate, only apply if these parameters are present. For the diethylhexyl phthalate WQBEL in NH, EPA anticipates that the applicable revised WQC found in Env-Wq 1700 shall be incorporated into the RGP for sites in New Hampshire, once final. Based on the proposed revision for this value, 2.2  $\mu g/L$ , EPA expects to change the WQBEL from 5.9  $\mu g/L$  to 2.2  $\mu g/L$ .

¹⁹ Total Group I PAHs is the sum of: benzo(a)anthracene (CAS No. 56-55-3); benzo(a)pyrene (CAS No. 50-32-8); benzo(b)fluoranthene (CAS No. 205-99-2); benzo(k)fluoranthene (CAS No. 207-08-9; chrysene (CAS No. 218-01); dibenzo(a,h)anthracene (CAS No. 53-70-3); indeno(1,2,3-cd)pyrene (CAS No. 193-39-5). The compliance level for each individual PAH is 0.1  $\mu$ g/L using a test method in 40 CFR §136 with selected ion monitoring. The extractable petroleum hydrocarbon (EPH) method cannot be used for analysis of this parameter.

²⁰ Total Group II PAHs is the sum of: acenaphthene (CAS No. 83-32-9); acenaphthylene (CAS No. 208-96-8); anthracene (CAS No. 120-12-7); benzo(g,h,i)perylene (CAS No. 191-24-2); fluoranthene (CAS No. 206-44-0); fluorene (CAS No. 86-73-7); naphthalene (CAS No. 91-20-3); phenanthrene (CAS No. 85-01-8); pyrene (CAS No. 129-00-0). The EPH method cannot be used for analysis of this parameter.

²¹ Total PCBs is the sum of the following aroclors: PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, and PCB-1260. The compliance level for total PCBs is 0.5  $\mu$ g/L. The effluent limitation for total PCBs only applies if one or more of these parameters are present.

²² The VPH and EPH methods cannot be used for TPH analysis.

 23  The monitor-only requirement for ethanol only applies if ethanol is present (e.g., discharges are likely to contain ethanol at a site where a release of a petroleum product that contains ethanol or where ethanol has been used or stored). Ethanol analysis must achieve a ML less than or equal to 0.4 mg/L. See Appendix VII for additional definitions.

²⁴ The effluent limitation for this parameter only applies if this fuel additive/oxygenate is present (e.g., discharges are likely to contain this fuel additive/oxygenate at a site where a release of a petroleum product that contained this additive/oxygenate occurred or where oxygenates/additives have been used or stored).

2. Effluent Flow Limitations

Effluent flow shall be limited and monitored as specified below.

Table 3: Effluent Flow Limitations'		
Effluent Flow ²	Effluent Limitations	
	Design Flow BMP ³	1.0 MGD ⁴

# T 11 0 T 00

#### **Table 3 Footnotes**

¹ Effluent flow limitations apply to all discharges. The limitation type for effluent flow is daily maximum. Effluent flow shall be the sum of the recorded discharge volume for each day (i.e., 24 hours) that effluent is discharged.

²Effluent flow shall be measured after treatment using a continuous measurement flow meter (i.e., a device that records the instantaneous gallons per minute (gpm) and total gallons discharged). If an operator demonstrates that use of a meter is infeasible and such a change is provided to the operator in writing, effluent flow shall be based on an estimate. An estimate of effluent flow shall be determined by the operation time and design flow of the treatment system in use at a site, or the flow rate and dimensions of the outfall at a site, if no treatment system is in use, unless otherwise instructed by EPA and/or the appropriate State. An operator must provide justification in the NOI or through a subsequent Notice of Change (NOC) submitted to EPA for a site if the use of a meter is infeasible.

³ Effluent flow shall not exceed the design flow rate of any treatment system in use at a site, determined by the component of the treatment system with the most restricted flow and as reported in the NOI submitted to EPA for that site. Additional Design Flow BMP requirements are included in Part 2.5.2, below.

⁴ Effluent flow shall not exceed 1.0 MGD, unless an effluent flow limitation greater than 1.0 MGD is approved by EPA and the appropriate State on a case-by-case basis. Effluent flow shall not exceed the flow of receiving water, or alter the structural characteristics of the receiving water. Flow control measures must be used if necessary to dissipate energy and control erosion or scouring during discharge.

## 2.2 Water Quality-Based Effluent Limitations and Requirements

- 1. The discharge shall not cause a violation of the water quality standards of the receiving water.
- 2. The discharge shall be adequately treated to ensure that the receiving water(s) remain free from:
  - a. Pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum, form a visible sheen or other visible pollutants.
  - b. Color, odor, taste, or turbidity in concentrations that would render them unsuitable for their designated use, unless such concentrations are naturally occurring.
  - c. Oil, grease and petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or become toxic to aquatic life.

- 3. Toxics Control
  - a. The discharge shall not contain any pollutant or combination of pollutants in toxic amounts or in concentrations or combinations which are toxic to humans, aquatic life. or wildlife, or which would impair the uses designated by the classification of the receiving waters:
  - b. The discharge shall not contain any pollutant or combination of pollutants in concentrations or combinations which violate any applicable water quality standard; and
  - c. If a discharge contains any pollutant which is not limited by this general permit and the operator is otherwise eligible for coverage under this general permit, the operator must specifically disclose the pollutant and concentration in the Notice of Intent to request authorization to discharge that pollutant. EPA and the applicable State may authorize the discharge of additional pollutants on a case-by-case basis, including effluent limitations when necessary, provided that such a discharge does not violate Section 307 or 311 of the CWA or applicable State water quality standards.
- 4. EPA may impose additional effluent limitations on a case-by-case basis, or require an operator to obtain coverage under an individual permit, if information in the NOI, required reports, or from other sources indicates that the discharges are not controlled as necessary to meet water quality standards. If additional effluent limitations, including monitor-only requirements, are required, EPA will state the reasons for the additional effluent limitations, and will specify the monitoring and reporting requirements.

## 2.3 Massachusetts General Permit Limitations and Conditions

In addition to the Effluent Limitations and Monitor-Only Requirements included in Part 2.1 and Part 2.2, above, each outfall shall be limited and monitored as specified below.

1. pH Limitations for Discharges in Massachusetts

Table 4. pri Limitations for Discharges in Massachusetts		
<b>Receiving Water Class²</b>	Effluent Limitations ³	
Freshwater ⁴	6.5 to 8.3 SU	
Saltwater ⁵	6.5 to 8.5 SU	

#### **Table 4 Footnotes**

¹ pH effluent limitations apply to all discharges.

² There shall be no change from natural background conditions that would impair any use assigned to the class of the receiving water.

³ The limitation type for pH is range. The sample type required for pH is grab. Grab samples shall be analyzed using EPA Method 4500-H⁺-B 2000 or other EPA-approved methods in 40 CFR §136.

⁴ The pH of the effluent shall be in the range of 6.5 to 8.3 standard units (SU) and not more than 0.5 SU outside of the naturally occurring range for freshwater classes.

⁵ The pH of the effluent shall be in the range of 6.5 to 8.5 SU and not more than 0.2 SU outside of the naturally occurring range for saltwater classes.

2. Temperature Limitations for Discharges in Massachusetts

Receiving Water Class		Effluent Limitation ^{2,3}	ΔT Limitation ⁴	
Class A	Warm Water Fishery	83°F	≤ 1.5°F	
Class A Cold Water Fishe		68°F	≤1.5°F	
	Warm Water Fishery	83°F	$\leq$ 5°F	
Class B	Cold Water Fishery	68°F	$\leq 3^{\circ}F$	
Lakes a	Lakes and Ponds	83°F Warm Water Fishery	≤ 3°F	
		68°F Cold Water Fishery	in epilimnion	
Class SA		85°F	< 1 5°E	
		80°F (mean)	≥1.5 F	
Class SB	July to September	85°F	≤1.5°F	
	July to September	80°F (mean)		
	October to June	85°F	$\leq$ 4°F	
		80°F (mean)		

Table 5: Temperature Limitations for Discharges in Massachusetts¹

# Table 5 Footnotes

¹ Temperature effluent limitations apply on a case-by-case basis if heat is indicated as a pollutant in the NOI submitted to EPA, or if EPA and/or the State determine a discharge is likely to contain residual heat.

 2  The limitation type for temperature is daily maximum. The sample type required for temperature is grab. Grab samples shall be analyzed using EPA Method 2550-B-2000 or other EPA-approved methods in 40 CFR §136.

³ The effluent shall not exceed the maximum temperature noted in Table 5, above for the class of the receiving water. There shall be no change from natural background that would impair any uses assigned to this class including those conditions necessary to protect normal species diversity, successful migration, reproductive functions or growth of aquatic organisms.

⁴ The rise due to a discharge shall not exceed the change in temperature ( $\Delta$ T) noted for each class in Table 5, above. Change in temperature from background shall be determined by subtracting the temperature of the effluent from the temperature of the receiving water measured a point immediately upstream of a discharge(s) zone of influence at a reasonably accessible location.

- 3. Massachusetts State Permit Conditions
  - a. This discharge permit is issued jointly by the EPA and the MassDEP under Federal and State law, respectively. As such, all the terms and conditions of this permit are

hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chapter 21 §43, except where exempted under 310 CMR 40.0042(2) of the Massachusetts Contingency Plan. Each agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the agency taking such action, and shall not affect the validity or status of this permit as issued by the other agency, unless and until each agency has concurred in writing with such modification, suspension or revocation. In the event that any portion of this permit is declared invalid, illegal or otherwise issued in violation of State law, such permit shall remain in full force and effect under federal law as an NPDES permit issued by the EPA. In the event that this permit is declared invalid, illegal or otherwise issued in violation of federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts, except where exempted under 310 CMR 40.0042(2) of the Massachusetts Contingency Plan.

- b. An authorization to discharge under this General Permit, where the activity discharges to a municipal or private storm drain owned by another party, does not convey any rights or authorization to connect to that drain. If the storm sewer system is within an urbanized area, the applicant must notify the MS4 operator of the proposed discharge.
- c. At any time MassDEP determines that additional requirements are necessary to protect water quality and in lieu of requiring a discharger covered under a general permit to obtain an individual permit (314 CMR 3.06(8)), MassDEP may require a discharger to undertake additional control measures, BMPs, or other actions. MassDEP may exercise its authority to require the discharger to take these actions by imposing a condition in the general permit to that effect, or by taking an enforcement action against the discharger, or by any other means. Any such conditions shall be supplied to the permittee in writing.

## 2.4 New Hampshire General Permit Limitations and Conditions

In addition to the Effluent Limitations and Monitoring Requirements included in Part 2.1 and Part 2.2, above, each outfall shall be limited and monitored as specified below.

1. pH Limitations for Discharges in New Hampshire

Table 6: pH Limitations for Discharges in New Hampshire ¹		
Receiving Water Class	Effluent Limitations ^{2,3}	
Class B	6.5 to 8.0 SU	

#### Table 6 Footnotes

¹ pH effluent limitations apply to all discharges.

² The limitation type for pH is range. The sample type required for pH is grab. Grab samples shall be analyzed using EPA Method 4500-H⁺-B 2000 or other EPA-approved methods in 40 CFR §136.

³ The pH of the effluent shall be in the range of 6.5 to 8.0 standard units unless a different range is allowed in accordance with Part 2.4.3.b and 5.1.2.c.

2. Temperature Limitations for Discharges in New Hampshire

Table 7. Temperature Limitations in New Hampshire				
Receiving Water Class		Effluent Limitation ^{2,3}		
Class P	Warm Water Fishery	83°F		
Class D	Cold Water Fishery	68°F		

# Table 7: Temperature Limitations in New Hampshire¹

## Table 7 Footnotes

¹ Temperature effluent limitations apply on a case-by-case basis if heat is indicated as a pollutant in the NOI submitted to EPA, or if EPA and/or the State determine a discharge is likely to contain residual heat.

² The limitation type for temperature is daily maximum. The sample type required for temperature is grab. Grab samples shall be analyzed using EPA Method 2550-B-2000 or other EPA-approved methods in 40 CFR §136.

³ The effluent shall not exceed the maximum temperature noted in Table 7, above for the class of the receiving water. Any stream temperature increase associated with the discharge(s) shall not be such as to appreciably interfere with the uses assigned to the receiving water.

- 3. New Hampshire State Permit Conditions
  - a. This NPDES permit is issued by the EPA under Federal law. Upon final issuance by the EPA, the NHDES may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13. Each agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the agency taking such action, and shall not affect the validity or status of the permit as issued by the other agency, unless and until each agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared invalid, illegal, or otherwise issued in violation of State law, such permit shall remain in full force and effect under federal law as a NPDES permit issued by the EPA.
  - b. An operator may request a change in the permitted pH range of 6.5-8.0 standard units (SU) if the operator can demonstrate to NHDES: 1) that the range should be widened due to naturally occurring conditions in the receiving water; or 2) that the naturally occurring receiving water pH is not significantly altered by the authorized discharge. The scope of any demonstration project must receive prior approval from NHDES. The upstream or background sampling location identified by the operator shall be approved by NHDES prior to the initiation of sampling. In addition, the upstream and effluent sampling is to occur as close in time as possible, but not greater than 1 hour

apart. In no case, shall the above procedure result in pH limits less restrictive than 6.0–9.0 SU. Written approval from NHDES must be submitted to EPA for consideration of this change (see Part 5.1, below).

- c. The operator shall not at any time, either alone or in conjunction with any person or persons, cause directly or indirectly the discharge of waste into the said receiving water unless it has been treated in such a manner as will not lower the legislated water quality classification or interfere with the uses assigned to said water by the New Hampshire Legislature (RSA 485-A:13).
- d. Pursuant to New Hampshire Statute RSA 485-A:13I(c), any person responsible for a bypass or upset at a wastewater facility shall give immediate notice of a bypass or upset to all public or privately owned water systems drawing water from the same receiving water and located within 20 miles downstream of the point of discharge regardless of whether or not it is on the same receiving water or on another surface
   water to which the receiving water is tributary. Wastewater facility is defined at RSA
- 485-A:2XIX as the structures, equipment, and processes required to collect, convey, and treat domestic and industrial wastes, and dispose of the effluent and sludge. The operator shall maintain a list of persons, and their telephone numbers, who are to be notified immediately by telephone. In addition, written notification, which shall be postmarked within 3 days of the bypass or upset, shall be sent to such persons.
- e. An authorization to discharge under this general permit, where the activity discharges to a municipal or private storm drain owned by another party, does not convey any rights or authorization to connect to that drain.
- f. Persons filing a NOI for a new discharge that will last for one year or more will be required to supply NHDES with additional water quality data for the discharge and the receiving water. The data must be collected during both low flow and high flow (spring/autumn) conditions in accordance with an approved Scope of Work and Sampling/Analysis Plan. NHDES recommends that applicants meet with staff of the Wastewater Engineering Bureau at least one year prior to the date of the commencement of the discharge.
- g. At any time that NHDES determines that additional water quality certification requirements are necessary to protect water quality, an individual discharger may be required to meet additional conditions to obtain coverage or to continue coverage under this general permit. Any such conditions shall be supplied to the operator in writing.

#### 2.5 Special Conditions

1. Best Management Practices Plan (BMPP)

Operators must develop, implement, and maintain a BMPP for the discharges covered under this general permit.

- a. The BMPP shall provide a plan for compliance with the terms of this general permit and must document the implementation of control measures, including best management practices (BMPs), to meet the following non-numeric technology-based effluent limitations:
  - i. Minimize the potential for violations of the terms of this general permit, taking corrective actions, when necessary;

- ii. Minimize the number and quantity of pollutants and/or the toxicity generated, discharged, or potentially discharged at the site;
- iii. Minimize discharges of pollutants from the remediation activities, including: material storage areas, on-site control measures and materials, treatment and material handling areas, loading and unloading operations, and accidental leaks or spills, including implementation of material compatibility and good housekeeping practices; and
- iv. Use pollution control technologies when necessary to meet the effluent limitations and requirements in this general permit, including the proper operation and maintenance of any treatment system.
- b. The BMPP must include the following information, at a minimum:
  - i. Name and location of the site;
  - ii. Any necessary system schematics, drawings or maps, including up to date site plans with a detailed outfall diagram;
  - iii. Identification and contact information for the operator(s);
  - iv. Identification of potential sources of pollution;
  - v. Description of the specific control measures, including BMPs, the operator will take to reduce the pollutants associated with the following:
    - 1) Influent and effluent;
    - 2) Storage and handling areas;
    - 3) Site runoff;
    - 4) On-site transfer;
    - 5) Loading or unloading operations;
    - 6) Spillage or leaks;
    - 7) Sludge and waste disposal; and
    - 8) Drainage from material storage and handling areas.
  - vi. Specific control measures, including BMPs, used to meet the requirements of
    - this general permit and including the specific BMPs required for all discharges in Part 2.5.2, below.
- c. The BMPP must be prepared in accordance with good engineering practices and must be a written document (hardcopy or electronic). The BMPP may either be a standalone document or may be incorporated into any other BMPP, Pollution Prevention Plan, Spill Prevention Control and Counter Measures (SPCC) Plan, or other plan developed for the site as required under other permits or programs.⁹ Operators must provide BMPP certification in the NOI submitted to EPA for a site as follows:
  - i. Operators with existing discharges without an existing BMPP seeking coverage under this general permit shall develop and implement the BMPP and shall certify as part of the NOI that a BMPP meeting the requirements of this general permit has been developed and implemented;
  - ii. Operators with existing discharges with an existing BMPP seeking coverage under this general permit shall revise the BMPP to meet the terms of this general permit and shall certify as part of the NOI that a BMPP meeting the requirements of this general permit has been developed and implemented;

⁹ Operators may refer to *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA-833-B-93-004, 1993).

- iii. Operators with emergency discharges shall certify as part of the NOI that the BMP requirements included in Part 2.5.2 were met during provisional coverage and, if discharges will continue, shall certify as part of the NOI that a BMPP meeting the requirements of this general permit has been developed and implemented; and
- iv. Operators initiating new discharges shall certify as part of the NOI that a BMPP meeting the requirements of this general permit will be developed and implemented upon initiation of discharge.
- d. The operator must certify the BMPP as follows:
  - i. On or before January 15th each calendar year, or upon Notice of Termination (NOT) if a discharge lasts less than one year, the operator must prepare a statement certifying that the requirements of the BMPP were met for the previous calendar year, or for the duration of discharge if a discharge lasts less than a full calendar year;
  - ii. Each certification shall state whether the operation and maintenance activities were conducted, results recorded, and records maintained, and must indicate whether the discharges are in compliance with the requirements of the BMPP and meet the effluent limitations included in this general permit;
  - iii. The required certification statements must be maintained with a complete, up to date BMPP on site or at the location of the principal operator identified in the NOI and made available for inspection by EPA or the State;
  - iv. Any amendments to the BMPP resulting from any change which occurred at the site that increases the generation of pollutants, or the release or potential release of pollutants to the receiving water, or changes the operation and maintenance procedures covered by the BMPP must be explained in the certification for the reporting period in which the change(s) occurred;
  - v. Each certification must be signed in accordance with 40 CFR §122.22; and
  - vi. Failure to prepare the required certifications may result in permit termination and/or penalties imposed by EPA, the State, or both.

2. Best Management Practices (BMPs)

Operators must implement control measures, including the following best management practices (BMPs), to meet the effluent limitations and requirements in this general permit. The BMPs specified below are required for all operators.¹⁰

- a. An Effluent Flow BMP must include, at a minimum:
  - i. Flow control measures that prevent discharge(s) in exceedance of the design flow of the discharge (i.e., the maximum flow through the component with the lowest limiting capacity); and
  - ii. Documentation of the method(s) for measuring effluent flow.
- b. A Preventative Maintenance BMP must include, at a minimum:
  - i. Documented procedures and protocols that ensure all control measures, including all treatment system components and related appurtenances used to achieve the limitations in this general permit remain in effective operating condition and do not result in leaks, spills, and other releases of pollutants;

¹⁰ Additional guidance for BMPs can be found in *Guidance Manual for Developing Best Management Practices* (EPA 833-B-93-004).

- ii. A maintenance schedule for all treatment system components and related appurtenances used to meet the limitations of this general permit; and
- iii. Records of the completion of regular maintenance activities.
- c. A Site Management BMP must include, at a minimum:
  - i. Control measures that ensure proper management of solid and hazardous waste and prevent solids, sludge, or other pollutants removed in the course of treatment or control of water and wastewaters from entering Waters of the United States;
  - ii. Run-on and runoff management practices which divert, infiltrate, reuse, contain, or otherwise reduce extraneous uncontaminated waters and minimize the extent to which such uncontaminated waters commingle with remediation activity discharges; and
  - iii. Water quality control measures must ensure that the discharges covered by this general permit do not adversely affect existing water quality by preventing any erosion, stream scouring, or sedimentation, and/or any direct or indirect discharge which contributes additional pollutants.
- d. A Pollutant Minimization BMP must include, at a minimum:
  - i. Identification and assessment of the type and quantity of pollutants, including their potential to impact receiving water quality;
  - ii. Water quality control measures must ensure dilution is not used as a form of treatment, or as a means to achieve the limitations and requirements in this general permit; and
  - iii. Selection, design, installation and proper operation and maintenance of pollution control technologies necessary to meet the limitations and requirements in this general permit. The treatment technologies may include, but are not limited to any combination of the following: ¹¹

1) Adsorption/Absorption

- 2) Advanced Oxidation Processes
- 3) Air Stripping
- 4) Granulated Activated Carbon (GAC)/Liquid Phase Carbon Adsorption
- 5) Ion Exchange
- 6) Precipitation/Coagulation/Flocculation
- 7) Separation/Filtration
- e. An Administrative Controls BMP must include, at a minimum:
  - i. Documentation of the site security procedures appropriate for the treatment and other systems related to the NPDES discharge(s);
  - ii. Documentation of employee training conducted at least annually (or once, for discharges lasting less than one year) for site personnel who have direct or indirect responsibility for ensuring compliance with this general permit;
  - iii. Procedures for initiating corrective action and completing within a reasonable timeframe: evaluation, and revision (i.e., repair, modification, or replacement), if necessary, of any control measure used at the site if the control measure is identified as missing, installed incorrectly, or ineffective in

¹¹ Descriptions of these treatment technologies can be found in the Federal Remediation Technology Roundtable *Remediation Technologies Screening Matrix and Reference Guide, Version 4.0 (2007)* available at <u>http://www.frtr.gov/scrntools.htm</u>.

ensuring the discharge meets applicable water quality standards and/or effluent limitations and requirements in this general permit. The following actions are required upon discovery of a violation of a permit limitation or requirement, at a minimum:

- 1) The discharge must stop immediately, unless the operator is otherwise instructed by EPA and/or the appropriate State;
- 2) The operator must immediately take all reasonable steps to minimize or prevent the discharge of pollutants until a permanent solution is achieved;
- 3) Notification must be provided to EPA and to the appropriate State via telephone, e-mail or other verbal or written means in accordance with Part 4.6.3.b or c within twenty-four (24) hours; and
- 4) The cause of the permit violation must be identified and corrective action must be initiated within seventy-two (72) hours, if necessary, prior to resuming discharge in accordance with Part 4.3, or Part 4.1.2 when a treatment system is not in use, unless otherwise instructed by EPA and/or the appropriate State.
- iv. A schedule for and record of routine inspections conducted at least monthly by site personnel who have direct knowledge of the remediation activity at the site, the control measure(s) in use at the site, and the ability to assess the effectiveness of any control measure(s) in use at the site to meet the limitations and requirements of this general permit. Routine inspections must, at a minimum:
  - 1) Assess the influent, effluent, treatment system, and remediation activity areas, including the outfall, where practicable;
  - 2) Identify any uncontrolled leaks, spills or discharges; and
  - 3) Conduct visual inspection for indicators of pollution, including, but not limited to: objectionable aesthetic properties including color, odor, clarity, floating solids, settled solids, suspended solids, foam, and oil sheen.
- f. Quality Assurance/Quality Control (QA/QC) BMP must include, to the maximum extent practicable:
  - i. A description of applicable monitoring requirements;
  - ii. A map and/or treatment system diagram indicating the location of each monitoring point with a geographic identifier (i.e., latitude and longitude coordinates);
  - iii. Specifications for the number of samples, type of sample containers, type of preservation, holding times, type and number of quality assurance field samples (i.e., matrix spiked and duplicate samples and sample blanks), sample preparation requirements (e.g., sampling equipment calibration, clean sampling procedures), and sample storage and shipping methods, including
    - EPA QA/QC and chain-of-custody procedures;¹²
  - iv. Name(s), address(es), and telephone number(s) of the laboratories used by the operator;

¹² Described in *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5).

- v. Specifications for analytical methods, analytical detection and quantitation limits for each required parameter, and laboratory data delivery and documentation requirements;
- vi. A schedule for review of sample results, which must be reviewed by the operator no more than seventy-two (72) hours from receipt of the results; and vii. A description of data validation and data reporting processes.
- g. Materials Management BMP must include, at a minimum:
  - i. Good housekeeping practices and/or control measures that maintain areas that are potential sources of pollutants, including, but not limited to: contaminated soil and groundwater and treatment system chemicals, additives, materials or appurtenances;
  - Material compatibility practices and/or control measures must ensure safe handling, use and storage of materials including, but not limited to chemicals and additives (e.g., algaecides/biocides, antifoams, coagulants, corrosion/scale inhibitors/coatings, disinfectants, flocculants, neutralizing agents, oxidants, oxygen scavengers, pH conditioners, surfactants and bioremedial agents, including microbes);
  - iii. For any chemical and/or additive used or stored at a site, operators must document, at a minimum:
    - 1) Product name, chemical formula, and manufacturer of the chemical or additive;
    - 2) Purpose or use of the chemical or additive;
    - 3) Safety Data Sheet (SDS) and Chemical Abstracts Service (CAS) Registry number for each chemical or additive;
    - 4) The frequency (e.g., hourly, daily), duration (e.g., hours, days), magnitude (i.e., frequency as maximum and average concentration), and method of application for the chemical or additive;
    - 5) Any material compatibility risks for storage of the chemical or additive;
    - 6) If available, the vendor's reported aquatic toxicity (NOAEL and/or LC₅₀ for aquatic organism(s)); and
    - 7) A description of the material management control measures employed (e.g., inventory, containment devices, protected storage building(s) and/or cabinet(s)) and any measures taken to ensure material compatibility.
  - iv. Spill prevention practices and spill control measures, including other handling and collection methods, when necessary (e.g., containment devices), must reduce spills and leaks from the treatment system and the release of chemical and/or additives in use at a site. The following actions are required upon detection of a leak, spill, or other release containing a hazardous substance or oil, such as visual observation of a visible sheen, at a minimum:
    - 1) The discharge must stop immediately;
    - 2) Notification must be provided to EPA in accordance with Part 4.6.3.b or c within twenty-four (24) hours;¹³

¹³ State, tribal, or local requirements may necessitate additional notification to local emergency response, public health, and/or drinking water supply agencies.

- 3) The source of the leak, spill or other release must be identified and corrective action must be taken in accordance with Part 2.5.2.e, above, if necessary, prior to resuming discharge, unless instructed otherwise by EPA and/or the appropriate State; and
- 4) When a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs, the operator must document a description of the release, the circumstances leading to the release, the date of the release, a description of any corrective actions taken and the date such corrective actions are completed.
- 3. Conditions for Discharges of Chemicals & Additives
  - a. An operator shall not discharge any chemical or additive, including, but not limited to: algaecides/biocides, antifoams, coagulants, corrosion/scale inhibitors/coatings, disinfectants, flocculants, neutralizing agents, oxidants, oxygen scavengers, pH conditioners, surfactants and bioremedial agents, including microbes, which was not reported in the NOI submitted to EPA for a site or provided through a subsequent NOC submitted to EPA.
  - b. Upon authorization to discharge, chemicals and/or additives which have been disclosed to EPA and the appropriate State may be discharged up to the frequency and level disclosed, provided that such discharge does not violate Section 307 or 311 of the CWA or applicable state water quality standards.
  - c. EPA and/or the appropriate State may request additional information to provide authorization to discharge chemicals and/or additives, including but not limited to: WET testing.
  - d. To request authorization to discharge chemicals and/or additives in the NOI submitted to EPA for a site, or in a subsequent NOC, an operator must submit the following information in writing, at a minimum, in accordance with Appendix IV, Part 2 of this general permit:
    - i. All information required in Part 2.5.2.g.iii, above;
    - ii. An explanation which demonstrates that the addition of such chemicals:
      - 1) Will not add any pollutants in concentrations which exceed permit effluent limitations;
      - 2) Will not exceed any applicable water quality standard; and
      - 3) Will not add any pollutants that would justify the application of permit conditions that are different from or absent in this permit; or
      - 4) An operator may demonstrate through sampling and analysis using sufficiently sensitive test methods that each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the chemicals and/or additives.
- 4. Conditions for Pipeline and Tank Dewatering

In addition to meeting the BMP requirements for all discharges, above, discharges from pipeline and tank dewatering must meet the following requirements:

a. Discharges of tank bottom water are prohibited;

- b. Pipeline(s), tank(s) or similar structures and appurtenances must be pre-cleaned to remove scale, solids, and residues unless these structures are used only for water storage;¹⁴
- c. Water quality control measures must be implemented if potable water, groundwater or surface waters other than the receiving water will be discharged that prevent lower quality waters being transferred to higher quality waters;
- d. Discharges of chemicals and/or additives used for tank or pipeline cleaning, repair or installation are prohibited unless in accordance with Part 2.5.3, above; and
- e. Discharges of sludge generated in the dewatering of the pipelines or tanks is prohibited.

## PART 3 NOTICE OF INTENT (NOI)

## 3.1 Obtaining Coverage under this General Permit

- 1. To obtain authorization to discharge under this general permit, an operator must:
  - a. Have a discharge type described in Part 1.1, above;
  - b. Have a discharge located in the areas listed in Part 1.2, above;
  - c. Meet the eligibility requirements in Part 1.3 and Part 1.4, above;
  - d. Submit a complete and accurate Notice of Intent (NOI) in accordance with the requirements of this part, below; and
  - e. Receive a written authorization to discharge from EPA.¹⁵
- 2. Operators with one or more discharges eligible for coverage under this general permit must submit a NOI to EPA prior to the initiation of such discharge(s), except emergency discharges, as noted in Part 1.5, above. The NOI must be complete (i.e., contain all of the information required in the suggested NOI format included in Appendix IV, Part 1), accurate (i.e., prepared in accordance with the instructions provided in Appendix IV, Part 1), and signed by the operator in accordance with the signatory requirements of 40 CFR §122.22. In the event EPA and/or the appropriate State determines a NOI is incomplete, EPA will notify the operator of the information required for completeness and specify a timeframe for submission of the information. EPA may request additional information, including analytical data, as authorized under CWA §308(a), 33 U.S.C. §1318(a), when the information is necessary to adequately review the NOI and make a determination of coverage.

### 3.2 NOI Options

For purposes of this general permit, the NOI consists of either the suggested NOI format in Appendix IV, Part 1 of this permit or another form of official correspondence containing all of the information required in the NOI instructions in Appendix IV, Part 1 of this general permit. All NOIs submitted after **December 21, 2020** must be submitted electronically.

¹⁴ Discharges resulting from the hydrostatic testing of pipelines or tanks must follow the procedures detailed in the American Petroleum Institute 653 Standard and/or applicable State regulations.

¹⁵ See footnote 7, above.

- Under 310 CMR 40.0000, as a matter of *state law*, this general permit only applies to discharges that are not subject to the Massachusetts Contingency Plan (MCP). Therefore, sites subject to the MCP are not required to submit a copy of the NOI to MassDEP, the State form (BRPWM12, or as revised), or pay an application fee for this general permit. Any operator with a site that is not subject to the MCP must submit the State form and fee to MassDEP when submitting a copy of the NOI to MassDEP. Municipalities are feeexempt, but must send a copy of the transmittal form to MassDEP.¹⁶ EPA's suggested NOI format is found in Appendix IV, Part 1.
- 2. The State of New Hampshire does not have a State application form. Operators of sites located in New Hampshire are encouraged to submit EPA's suggested NOI format, found in Appendix IV, Part 1, to NHDES.

### 3.3 NOI Timeframes

- 1. **Existing Discharges**: For any existing discharge (i.e., discharges in accordance with the 2010 Remediation General Permit that expired on September 9, 2015), the following applies:
  - a. Operators of existing discharges must submit a NOI to EPA, and the appropriate State, when required, for coverage under this general permit no later than ninety (90) days after the effective date of this general permit. For operators with authorization to discharge under the 2010 Remediation General Permit that submit a complete NOI under this general permit within the 90-day period, coverage under the 2010 Remediation General Permit the submit a complete NOI under this general permit remains administratively continued until EPA authorizes the discharge under this general permit, or notifies the operator of permit termination. For enforcement purposes, failure to submit a NOI within 90 days of the effective date of this general permit for an existing discharge will be considered to be discharging without a permit. A NOI is not required if the operator submits a NOT before the 90-day period expires. See Appendix IV, Part 1 and/or Part 3.
- 2. Emergency Discharges: For any emergency discharge, including discharges conducted in response to a public emergency (e.g., natural disaster, which includes, but is not limited to: tornadoes/hurricanes/tropical storms, earthquakes, mud slides, or extreme flooding conditions; or widespread disruption in essential public services), the following applies:
  - a. Operators of emergency discharges must submit a NOI to EPA, and the appropriate State, when required, **no later than fourteen (14) days after the discharges commence**. An operator is required to provide documentation in the NOI submitted to EPA to substantiate the occurrence of a public emergency.
- 3. New Discharges: For any discharge not considered an existing or emergency discharge, including sites that received authorization to discharge under the 2010 Remediation General Permit but subsequently submitted a NOT or sites covered under other discharge permits that wish to seek coverage under this general permit, the following applies:

¹⁶ For State forms, see http://www.mass.gov/eea/agencies/massdep/.

- a. Operators of new discharges must submit a NOI to EPA, the appropriate State, when required, and the municipality in which the proposed discharge is located **at least** seven (7) days prior to the commencement of discharge.
- 4. EPA will post NOIs received for a minimum of seven (7) days on EPA's RGP website.¹⁷

## 3.4 NOI Requirements

- 1. For each eligible discharge, the NOI submitted to EPA for a site must include, in writing, all information required in the suggested NOI format, found in Appendix IV, Part 1, including:
  - a. General site information;
  - b. Receiving water information;
  - c. Source water information;
  - d. Discharge information;
  - e. Treatment system information;
  - f. Treatment chemical/additive information;
  - g. Determination of Endangered Species Act Eligibility;
  - h. Documentation of National Historic Preservation Act Requirements;
  - i. Supplemental Information; and
  - j. Signature Requirements.
- 2. The NOI must meet the monitoring requirements specified in Part 4, including monitoring locations, test methods and minimum level and detection limit requirements, Appendix VII, and Appendix IX, Standard Conditions, for the parameters required for the applicable activity category or categories.
- 3. Additional NOI monitoring is required, as specified in Part 4.2, below and Appendix IV, Part 1.
- 4. All operators must meet the requirements of Appendix I, regarding obligations under the Endangered Species Act, and Appendix III, regarding obligations under the National Historic Preservation Act.
- 5. The NOI must be signed by the operator(s) of the site, as defined in Part 1, above, in accordance with the signatory requirements of 40 CFR §122.22.
- 6. All operators must submit a NOI to the appropriate State in accordance with Part 4.6, when required, as noted in Appendix IV, Part 1, prior to the initiation of discharges.
- 7. The operator must provide certification that the following notifications have been given prior to the initiation of such discharge(s):
  - a. All operators must notify the municipality in which the proposed discharge will be located. The operator must provide a copy of the NOI to the municipality, if

¹⁷ Available at: https://www.epa.gov/region1/npdes/rgp.html.

requested. Authorization to discharge under this general permit does not convey any authorization from a municipality.

- b. All operators intending to discharge to a municipal or non-municipal storm sewer system must notify the owner of this system, and must obtain permission to discharge to this system prior to initiating discharges. An operator must include a description of any requirements imposed by the owner of the municipal or non-municipal storm sewer system to which they are proposing discharge and certify that these conditions will be complied with. Authorization to discharge under this general permit does not convey any rights or authorization to connect to a municipal or non-municipal storm sewer system.
- c. Where there is separate ownership and/or different operators of the area where discharges to be covered under this general permit will occur and the area associated with discharges covered by other discharge permit(s) (e.g., EPA's Construction General Permit and EPA's Multi-Sector General Permit), the operator seeking authorization to discharge under this general permit must certify that notification has been given to the owner/operator of the area associated with the activities covered by the other discharge permit(s) in the NOI submitted to EPA for that site.

## 3.5 When the Director May Require Application for an Individual NPDES Permit

The Director may require any operator authorized by or requesting coverage under this general permit to apply for and obtain an individual NPDES permit. Any interested person may petition the Director to take such action. Instances where an individual permit may be required include the following:

- 1. A determination under 40 CFR §122.28(b)(3), including:
  - a. A change has occurred in the availability of the demonstrated technology of practices for the control or abatement of pollutants applicable to the point source(s);
  - b. Effluent limitation guidelines are promulgated for the point source(s) covered by this permit;
  - c. A Water Quality Management Plan or Total Maximum Daily Load containing requirements applicable to such point source(s) is approved and inconsistent with this permit;
  - d. Circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary; and
  - e. The discharge(s) is a significant contributor of pollutants.
- 2. The discharger is not in compliance with the conditions of this general permit.
- 3. The discharge(s) is in violation of State water quality standards for the receiving water.
- 4. Actual or imminent harm to aquatic organisms, including ESA or human health, is identified.

- 5. The discharge adversely impacts any federally-managed species for which critical habitat (under ESA) or EFH has been designated.
- 6. The point source(s) covered by this general permit no longer:
  - a. Involves the same or substantially similar types of operations;
  - b. Discharges the same types of wastes;
  - c. Requires the same effluent limitations or operating conditions; or
  - d. Requires the same or similar monitoring.
- 7. In the opinion of the Director, is more appropriately controlled under an individual or alternate general permit.

If the Director requires that an individual permit be issued, the operator will be notified in writing that an individual permit is required, and will be given a brief explanation of the reasons for this decision. When an individual NPDES permit is issued to an operator otherwise subject to this general permit, the applicability of this permit to that operator is automatically terminated upon the effective date of the individual permit.

# 3.6 When an Individual Permit May Be Requested

Any operator may request to be excluded from the coverage under this general permit by applying for an individual NPDES permit. When an individual NPDES permit is issued to an operator otherwise subject to this general permit, the applicability of this permit to that owner or operator is automatically terminated on the effective date of the individual permit.

# **3.7 EPA Determination of Coverage**

Any operator may request to be covered under this general permit but the final authority rests with EPA. Coverage under this general permit will not be effective until EPA has reviewed the NOI, made a determination that coverage under this general permit is authorized, and has notified the operator in writing of its determination. The effective date of coverage will be the date indicated in the authorization to discharge provided by EPA in writing. Any additional State conditions will be provided in writing.

Any operator authorized to discharge under the RGP will receive written notification from EPA. Failure to submit to EPA a NOI to be covered and/or failure to receive from EPA written notification of permit coverage means that the operator is not authorized to discharge under this general permit. An operator that is denied permit coverage by EPA is not authorized under this general permit to discharge to Waters of the United States.

# PART 4 MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

In addition to any monitoring, record-keeping and reporting requirements specified in Parts 1, 2 and 3, above, and in the Standard Conditions of this general permit (Appendix IX), the following monitoring, record-keeping and reporting requirements apply to discharges covered under this general permit. EPA may notify the operator of additional monitoring requirements. Any such

notice will briefly state the reasons for the monitoring and will specify the monitoring and reporting requirements.

## 4.1 Monitoring Requirements

Sampling of the influent, effluent and/or receiving water must yield data representative of the discharge under authority of Section 308(a) in accordance with 40 CFR §122.41(j), §122.44(i), and §122.48. The sample type for all monitoring locations is grab. Each grab sample must be analyzed and cannot be composited.

- 1. Monitoring Locations
  - a. **Influent** (i.e., the untreated influent) samples shall be taken at a consistent point defined by geographic coordinates in the NOI (i.e., latitude and longitude), immediately prior to treatment of the water, before entering any treatment system component. If the influent sampling location as defined has not been established prior to submittal of the NOI, the operator must provide a detailed description of the sample location(s) selected such that an inspector from EPA or the State could replicate the sample upon site inspection. The following requirements apply:
    - i. Influent samples must be collected from areas of contamination, when known;
    - ii. The influent sample must ensure that the highest concentrations of pollutants that may be treated and/or discharged are represented;
    - iii. If a monitoring well is used as the sampling location for the influent, the monitoring well must be located within the maximum extent of contamination.
    - iv. If influent is generated from multiple areas of a site across which contamination types and/or concentrations can vary, the operator must collect additional samples such that the data provided are representative of the expected influent characteristics, and each location must be defined;¹⁸
    - v. If the influent concentrations are unknown or vary widely across a site, additional samples must be collected that are representative of the expected variability, and each location must be defined.¹⁹
  - b. Effluent (i.e., the treated effluent) samples shall be taken at a consistent point defined by geographic coordinates in the NOI (i.e., latitude and longitude), following all treatment, immediately prior to discharge to the receiving water, private or municipal separate storm sewer system, or, if the treated effluent is commingled with another discharge, prior to such commingling.
  - c. **Receiving water** samples shall be taken at a consistent point defined by geographic coordinates in the NOI (i.e., latitude and longitude), from a reasonably accessible location, upstream or otherwise immediately outside of the zone of influence of the discharge or other site activities that could affect water quality.

¹⁸ Operators of such sites are encouraged to contact EPA in accordance with Part 4.6.3 for assistance in influent sample design.

¹⁹ See footnote 18, above.

- 2. Monitoring Frequency
  - a. The routine monitoring frequency for discharges covered under this general permit is **monthly** (i.e. at least one sample per each calendar month) for both **influent and effluent**, as follows:
    - i. Beginning no more than thirty (30) days from the effective date of permit coverage for existing discharges, no more than thirty (30) days following the end of provisional coverage for emergency discharges, and no more than thirty (30) days following completion of the treatment system startup monitoring requirements for new discharges (Part 4.3.2) or treatment system interruption or shutdown monitoring requirements for discharges that have been interrupted (Parts 4.3.3 and 4.3.4);
    - ii. Continuing a minimum of six (6) months and ten (10) samples, prior to submission of any request for modification of this monitoring frequency in accordance with Part 5.1 below; and
    - iii. Continuing thereafter for the term of this general permit, or until Notice of Termination, whichever occurs first, unless modified by EPA in writing.
  - b. The monitoring frequency specified applies to all discharges covered under this general permit unless sampling would not otherwise be required (e.g., during a treatment system interruption as in 4.3.2, below), or unless otherwise specified (e.g., certain short-term discharges as in Part 4.4, below).
  - c. Changes to the specified monitoring frequency must be approved by EPA in writing through a Notice of Change. See Appendix IV, Part 2.
- 3. Test Methods
  - a. All samples shall be tested using the analytical methods found in 40 CFR §136, or alternative test methods approved by EPA, in accordance with the procedures in 40 CFR §136, unless specifically prohibited in this general permit. Test methods which can be used for analysis of the parameters included in this general permit are summarized in Appendix VII.
  - b. All analyses must be conducted using a sufficiently sensitive test method in accordance with 40 CFR §122.44(i)(1)(iv) and as specified in Part 4.1.4, below.
- 4. Minimum Levels and Detection Limits
  - a. For the purposes of this general permit, the minimum level (ML) for analysis is the lowest level at which the test equipment produces a recognizable signal and acceptable calibration point for a pollutant or pollutant parameter, representative of the lowest concentration at which a pollutant or pollutant parameter can be measured with a known level of confidence.
  - b. For the purposes of this general permit, the detection limit (DL) is the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions (i.e., the level above which an actual value is reported for an analyte, and the level below which an analyte is reported as non-detect).
  - c. Operators must achieve the MLs for analysis specified in in Appendix VII of this general permit and the following requirements:

- i. Analysis of influent, effluent and/or receiving water samples shall use test methods with a ML at or below the level of the effluent limitation²⁰ for the given parameter, or the applicable water quality criterion for a parameter with a monitor-only requirement;
- ii. The DL must be less than or equal to the ML for an analyte using a sufficiently sensitive test method. When an analyte is not detected, the operator must report results using the data qualifier signifying less than the DL reported for that analyte (i.e.  $<0.1 \ \mu g/L$ , if the DL reported for an analyte is 0.1  $\mu g/L$ );
- iii. Where the sample concentration of an analyte is above the ML, any of the test methods listed for that analyte in Appendix VII may be used, unless otherwise noted; and
- iv. Where the ML for the approved test methods are above the permit effluent limitations, the test method that has the lowest ML of the analytical methods in 40 CFR §136 must be used.
- d. When a parameter is required to be reported as a total value, the total value must be calculated by adding the measured concentration of each individual compound noted for that parameter. If the measurement of an individual compound analyzed for a total value is less than the DL and the test method and minimum level meet the requirements in this Part and Appendix VII, the operator shall use a value of zero for that compound in the total value calculation.

## 5. Existing Data Substitution

Existing data substitution is allowed for the purposes of preparing a NOI and for the purposes of meeting the monitoring requirements included in this general permit if the following requirements are met:

- a. Sampling and analysis must have been conducted pursuant to: Massachusetts Regulations 310 CMR 40.0000, the Massachusetts Contingency Plan (Chapter 21E); New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; the 2010 Remediation General Permit; or other existing data if allowed by EPA on a case-by-case basis;
- b. Sampling and analysis must meet the monitoring requirements specified in Part 2 and Parts 4.1.1 through 4.1.4, above, and, for data submitted with a NOI, Part 4.2, below;
- c. For data submitted with a NOI, the date of analysis for the existing data may not be greater than twelve (12) months for existing discharges or six (6) months for new discharges;
- d. For data submitted to meet reporting requirements, the date of analysis for the existing data must approximately coincide with other sampling and analysis conducted for the general permit; and
- e. Existing data must be submitted in accordance with Part 4.6.1, below, and meet the requirements specified in Part 2.5.2.f, above, and Part 4.6.2, below.

²⁰ When a compliance level is specified for an effluent limitation, the sufficiently sensitive test method ML shall be no greater than the compliance level.

- 6. Whole Effluent Toxicity (WET) Testing
  - a. Activity Categories I and II must conduct one (1) acute WET test:²¹
    - i. No later than thirty (30) days following authorization to discharge for existing discharges;
    - ii. No later than twelve (12) months following initiation of discharges for new discharges if discharges are expected to last twelve (12) months or more; and
    - iii. If requested by EPA and/or the appropriate State on a case-by-case basis for short-term discharges, including emergency discharges.
  - b. Activity Categories III, IV, V, VI, VII, and VIII must conduct WET testing if requested by EPA and/or the appropriate State on a case-by-case basis.
  - c. If the result of any WET test indicates toxicity (i.e., a  $LC_{50} < 100\%$ ), notification must be provided within twenty-four (24) hours to EPA in accordance with Part 4.6.3.c and to the appropriate State via telephone, e-mail or other verbal or written means in accordance with Part 4.6.3.b or c.
  - d. If EPA and/or the appropriate State determine that a discharge may cause or contribute to an excursion above applicable water quality standards, EPA and/or the appropriate State may require additional WET testing, limitations and/or requirements as authorized at 40 CFR §122.44(d)(1)(v). If additional WET requirements apply, EPA will provide the reasons for the additional requirements to the operator in writing, and will specify the monitoring and reporting requirements and/or limitation.
  - e. Results of the WET requirements specified above must be submitted in accordance with Part 4.6.1, below, and must meet the QA/QC requirements specified in Part 2.5.2.f, above, and Part 4.6.2, below. The results of WET testing above its required frequency must also be submitted to EPA (see Appendix IX, Standard Conditions); and
  - f. If any parameter is analyzed in accordance with Attachment A for the requirement in this Part, the WET test result may be reported for any parameter for which monitoring is required in Part 4.1.2, above, or elsewhere in Part 4. A duplicate sample is not required.

# 4.2 NOI Monitoring Requirements

Samples collected and analyzed for the purposes of a NOI submitted for coverage under this general permit must be representative of the proposed discharge(s) and must meet the monitoring requirements specified in Part 2 and Part 4.1, above. Samples must be collected in accordance with the instructions included in Appendix IV, Part 1, and as required below.

- 1. Analysis for a minimum of one (1) influent sample is required for:
  - a. Activity Category I for:
    - i. all parameters in contamination type A. Inorganics;
    - ii. any present in contamination type B. non-halogenated VOCs;
    - iii. if present in contamination type C. halogenated VOCs;
    - iv. any present in contamination type D. non-halogenated SVOCs;

²¹ Acute Whole Effluent Toxicity Testing must be completed in accordance with USEPA Region 1 Freshwater Acute Toxicity Test Procedure and Protocol (February, 2011) for discharges to freshwater and Marine Acute Toxicity Test Procedure and Protocol (July 2012) for discharges to saltwater, including estuaries. See Attachment A.

- v. if present in contamination type E. halogenated SVOCs; and
- vi. any present in contamination type F. fuels parameters.
- b. Activity Category II for:
  - i. all parameters in contamination type A. Inorganics;
  - ii. any present in contamination type B. non-halogenated VOCs;
  - iii. any present in contamination type C. halogenated VOCs;
  - iv. any present in contamination type D. non-halogenated SVOCs;
  - v. if present in contamination type E. halogenated SVOCs; and
  - vi. if present in contamination type F. fuels parameters.
- c. Activity Category III-G for:
  - i. all parameters in contamination type A. Inorganics; and
  - ii. if present in contamination type B through F
- d. Activity Category IV-G, V-G, VI-G, VII-G, VIII-G for:
  - i. if present in contamination type A through F.
- e. Activity Category III-H, IV-H, V-H, VI-H, VII-H, VIII-H for: i. all parameters in contamination type A through F.
- f. All Activity Categories:
  - i. pH, temperature, and hardness (freshwater receiving waters only);
  - ii. Any parameter listed in Part 2.1.1, if present, but not otherwise specified in this Part for the Activity Category that applies to a site;
  - iii. Any parameter listed in Part 2.1.1 if it is unknown whether the given parameter is present or absent; and
  - iv. Any parameter present that is not included in this general permit.
- g. When "if present" is noted in Part 4.2.1, above, the monitoring requirement for a parameter in the Contamination Type applies to a site only if the given parameter is known or believed present at that site. When "any present" is noted in Part 4.2.1, above, the monitoring requirement for all parameters listed in the Contamination Type apply to a site when at least one parameter listed for that Contamination Type is known or believed present at that site.
- 2. Analysis is required for a minimum of one (1) receiving water sample for:
  - a. All activity categories: pH, temperature, hardness (freshwater receiving waters), salinity (saltwater receiving waters), and ammonia; and
  - b. All activity categories for total recoverable antimony, total recoverable arsenic, total recoverable cadmium, total recoverable chromium III and VI, total recoverable copper, total recoverable iron, total recoverable lead, total recoverable mercury, total recoverable nickel, total recoverable selenium, total recoverable silver, total recoverable zinc, if present and if a dilution factor applies.
- 3. Results of the NOI monitoring requirements specified above must be submitted to EPA as an attachment to the NOI in accordance with Appendix VIII, and must meet the QA/QC requirements specified in Part 2.5.2.f, above, and the reporting requirements specified in Part 4.6.2, below.
- 4. The results of sampling for any parameter above its required minimum must be submitted to EPA as an attachment to the NOI.

- 5. EPA and/or the appropriate State may require additional NOI monitoring on a case-bycase basis. If additional monitoring is required, EPA and/or the appropriate State will briefly state the reasons for the monitoring, and will specify the monitoring and reporting requirements.
- 6. Where an operator conducts any of the monitoring specified above prior to the submission of a NOI, additional samples are not required, so long as the monitoring requirements specified in Part 2.1 and elsewhere in Part 4, are met, including Part 4.1.5 for existing data substitution.

## 4.3 Treatment System Monitoring Requirements

All operators must perform treatment system monitoring when a treatment system is in use at a site. Treatment system monitoring requirements for startup, interruption and shutdown are specified below.

- 1. Treatment System Startup
  - a. The operator must perform the following sampling and analysis for all parameters required for the applicable activity category or categories as specified in Part 2.1, above, when a discharge is either initiated for the first time, or upon the re-initiation of discharge following a treatment system interruption lasting ninety (90) or more consecutive days, unless otherwise specified:
    - i. During the first week of discharge, operators must sample the **influent and effluent** two (2) times: one (1) sample of the influent and one (1) sample of the effluent must be collected on the first day of the discharge; and one (1) sample of the influent and one (1) sample of the effluent must be collected on one additional non-consecutive day within the first week of discharge;
    - ii. During the first week of discharge, samples must be analyzed in accordance with 40 CFR §136 unless otherwise specified in this general permit with a maximum five (5)-day turnaround time and results must be reviewed no more than forty-eight (48) hours from receipt of the results of each sampling event. After the first week, samples may be analyzed with up to a ten (10)-day turnaround time and results must be reviewed no more than seventy-two (72) hours from receipt of the results;
    - iii. If the treatment system is operating as designed and achieving the effluent limitations in this general permit, sampling of the **influent and effluent** shall be as follows, thereafter:
      - 1) 1/Week for three (3) additional weeks beginning no earlier than twentyfour hours following the sampling required in Part 4.3.2.a.ii, above;
      - 2) 1/Month in accordance with Part 4.1.2, above for the remaining term of the permit; and
      - 3) Adjusted for any monitoring frequency reduction approved by EPA in writing.
  - b. If the treatment system is shut down during startup or interrupted as a result of a problem, including when discharge concentrations for any parameter exceeds effluent

limitations, corrective actions must be taken in accordance with Part 2.5.2.e, above and as follows:

- i. Upon system restart and/or re-initiation of discharge, the operator shall collect one (1) sample with a maximum five (5)-day turnaround time and results must be reviewed no more than forty-eight (48) hours from receipt of the results of the sampling event;
- ii. If the problem has been corrected, the operator may resume with treatment system startup as specified in Part 4.3.1.a.iii, above, or routine monitoring specified in Part 4.1.2 following a treatment system interruption; and
- iii. If the problem persists, the operator must immediately halt discharge again and notify EPA and the appropriate State via telephone, e-mail or other verbal or written means in accordance with Part 4.6.3.b or c within twenty-four (24) hours of the need to cease discharge a second time; discharge may resume upon completion of corrective actions unless otherwise directed by EPA and/or the State contact.
- 2. Treatment System Interruption
  - a. In addition to the requirements for certain upset and/or bypass conditions specified in Appendix IX, Standard Conditions, if the operator has any indication of treatment system upset or violation of effluent limitations, corrective actions must be taken in accordance with Part 2.5.2.e, above.
  - b. If the discharge has been interrupted for ninety (90) or more consecutive days, the same monitoring requirements apply as specified in Part 4.3.1.a.i and Part 4.3.1.b, above, upon treatment system re-start.
  - c. If the discharge has been interrupted less than ninety (90) consecutive days, the same monitoring requirements apply as specified in Part 4.3.1.b, above, upon treatment system re-start.
- 3. Treatment System Shutdown
  - a. The operator must perform the following monitoring for all parameters required for the applicable activity category or categories as specified in Part 2.1.1, above, prior to permanent treatment system shutdown (i.e., termination), and must submit the results with the NOT, in accordance with Part 5.2, below, and Appendix IV, Part 3.:
    - i. During the final week of discharge, operators must sample the **influent and effluent** two (2) times: one (1) sample of the influent and one (1) sample of the effluent must be collected on the last day of the discharge; and one (1) sample of the influent and one (1) sample of the effluent must be collected on one additional non-consecutive day within the last week of discharge; and
    - ii. Samples must be analyzed in accordance with 40 CFR §136 unless otherwise specified in this general permit with up to a ten (10)-day turnaround time and results must be reviewed no more than seventy-two (72) hours from receipt of the results, or upon confirmation that additional sampling prior to treatment system shutdown is not necessary.
  - b. Where an operator collects any portion of the information specified above no more than three (3) months prior to treatment system shutdown, an additional sample is not required, so long as the information was collected in accordance with the monitoring

requirements of this general permit or otherwise meets the requirements for existing data substitution in Part 4.1.5, above; and

c. In the event the treatment system has been interrupted for more than ninety (90) consecutive days prior to treatment system shutdown, existing data may be substituted for the data required for the submission of a NOT from equivalent monitoring conducted nearest in time to NOT submission, so long as the requirements in Part 4.1.5, above, are otherwise met.

## 4.4 Short-Term Discharge Monitoring Requirements

For the purposes of this general permit, discharges lasting twelve (12) months or less (e.g., emergency discharges, immediate response actions, pump tests, temporarily containerized waters and dewatering of pipelines and tanks), which are then terminated and will not be re-started are considered "short-term discharges". The monitoring requirements for short-term discharges are as follows:

- 1. Discharges from Dewatering of Pipelines and Tanks
  - a. The operator must take a minimum of five (5) grab samples, including:
    - i. For **influent**, the operator must take one (1) sample of the source water during the fill process, except when infeasible. A representative sample the source water may be used for influent if sampling during the fill process is infeasible;
    - ii. For tanks, the operator shall take a minimum of one (1) in-process sample representative of the tank water following maintenance or testing, but before draining. If the tank contents are likely to undergo phase separation or stratification, multiple samples from multiple depths within the water column must be collected and composited. The operator shall analyze and review the in-process sample prior to discharge. If the analysis demonstrates that the tank water does not meet the effluent limitations in this general permit, the operator shall not discharge the tank water unless treatment reduces the pollutant levels below the effluent limitations established in this general permit;
    - iii. For pipelines, the operator shall take one (1) in-process sample of the pipeline water following depressurization. The operator shall analyze and review the in-process sample prior to discharge. If the analysis demonstrates that the pipeline water does not meet the effluent limitations in this general permit, the operator shall not discharge the pipeline water unless treatment reduces the pollutant levels below the effluent limitations established in this general permit; and
    - iv. For effluent, the operator must take one (1) sample of the discharge during the first 10% of discharge, one (1) sample of the discharge at the approximate midpoint of discharge, and one (1) sample of the discharge during the last 10% of discharge. If at any time the analysis demonstrates that the discharge does not meet the effluent limitations and requirements in this general permit, corrective action must be taken in accordance with Part 2.5.2.e, above prior to resuming discharge, unless instructed otherwise by EPA and/or the appropriate State.

- Short-Term Discharges Other than Those from Dewatering of Pipelines and Tanks

   a. For any short-term discharge lasting twenty-four (24) hours or less:
  - i. The operator must take a minimum of one (1) representative sample of the influent and effluent;
  - ii. Samples must be analyzed in accordance with 40 CFR §136 or by other methods authorized by this general permit with no more than a ten (10) day turnaround time and results must be reviewed within seventy-two (72) hours of the date of receipt of the sample results; and

iii. The monitoring frequencies specified in Part 4.1.2 and Part 4.3 do not apply.

- b. For any short-term discharge lasting seven (7) days or less:
  - i. The operator must take a minimum of two (2) samples of the **influent and effluent**: one (1) sample of the influent and one (1) sample of the effluent must be collected on the first day of discharge; and one (1) sample of the influent and one (1) sample of the effluent must be collected on one additional non-consecutive day within the first week of discharge;
  - ii. Samples must be analyzed in accordance with 40 CFR §136 or by other methods authorized by this general permit with no more than a ten (10) day turnaround time and results must be reviewed within seventy-two (72) hours of the date of receipt of the sample results; and

iii. The monitoring frequencies specified in Part 4.1.2 and Part 4.3 do not apply.

- c. For any short-term discharge lasting more than seven (7) calendar days but not more than twelve (12) months, sampling must proceed as follows:
  - i. Operators must perform treatment system monitoring in accordance with Part 4.3.1.a.i, above, when a treatment system is in use at a site;
  - ii. If a treatment system is not in use at a site, operators must perform monitoring as follows:
    - The operator must take a minimum of two (2) representative samples of the influent and effluent: one (1) sample of the influent and one (1) sample of the effluent must be collected on the first day of discharge; and one (1) sample of the influent and one (1) sample of the effluent must be collected on one additional non-consecutive day within the first week of discharge;2) The operator must take a minimum of one (1) sample of the influent and effluent weekly for three (3) additional weeks beginning no earlier than twenty-four hours following the sampling required in Part 4.4.2.c.ii.1, above; and
    - 3) The operator must take a minimum of one (1) sample of the **influent and effluent** monthly in accordance with Part 4.1.2, above, until Notice of Termination, beginning no earlier than twenty-four hours following the sampling required in Part 4.4.2.c.ii.2, above.
  - iii. During the first week of discharge, samples must be analyzed in accordance with 40 CFR §136 unless otherwise specified in this general permit with a maximum five (5) day turnaround time and results must be reviewed no more than forty-eight (48) hours from receipt of the results of each sampling event. After the first week, samples may be analyzed with up to a ten (10) day turnaround time and results must be reviewed no more than seventy-two (72) hours from receipt of the results.

- d. Where the monitoring frequencies specified in Part 4.4, above, are duplicative of the monitoring required elsewhere in this general permit, duplicate sampling is not required; and
- e. The reporting requirements specified in Part 4.6.1.a do not apply.

# 4.5 Record-Keeping Requirements

- 1. Records Content: Operators must include the following records (hardcopy or electronic) pertaining to coverage under this general permit:
  - a. Data used to complete the NOI for this general permit;
  - b. Sample collection information, including: the date, exact location, and time of sampling or measurement; the name of the individual(s) who performed the sampling or measurement; and the sample chain of custody for each sample;
  - c. Analytical laboratory reports for each sample analysis, which: identifies the sample(s), the target analyte(s), the test method(s), the dates collected and analyzed, the analytical result(s), the detection limit for each analyte, and the names of the laboratory and individual that conducted the analysis; includes a legible copy of the signed sample chain of custody; and indicates if all appropriate QA/QC procedures were met and were within acceptable limits;
  - d. Documentation for the development, implementation and maintenance of the BMPP, including certifications;
  - e. Discharge monitoring data in the suggested format included in Appendix VIII, or other format containing all of the information included in Appendix VIII;
  - f. Any records of monitoring instrumentation, field monitoring, and visual observations (e.g. portable organic vapor monitoring, turbidity meter, visible sheen observations);
  - g. Any records of system operation and maintenance; and
  - h. Any records of site inspections and employee training.
- 2. On-Site Records: The following records (hardcopy or electronic) must be maintained onsite and/or with the operator to be made available upon inspection and/or request by EPA or the appropriate State:
  - a. A complete copy of this general permit;
  - b. A copy of EPA's authorization to discharge and any subsequent modifications, if applicable;
  - c. Copies of any information submitted to EPA, the appropriate State, and the municipality in which the site is located;
  - d. Copies of any correspondence received from EPA, the appropriate State, and the municipality in which the site is located regarding permit coverage; and
  - e. A copy of the BMPP.
- 3. Retention of Records: Operators must retain the records specified above for a minimum of three (3) years from the date of the sample, measurement, report or notice, whichever applies. This period may be extended at the request of EPA or the appropriate State.

# 4.6 Reporting Requirements

- 1. Discharge Monitoring Reports
  - a. For discharges lasting twelve (12) months or more, in addition to the reporting requirements found in Appendix IX, Standard Conditions, of this general permit, the operator shall submit the following information to EPA and the appropriate State: i. Submittal of DMRs and the Use of NetDMR
    - 1) Beginning the effective date of the authorization to discharge the operator must record all monitoring data collected to comply with this general permit;
    - 2) Beginning the first full calendar month following twelve (12) months after the effective date of the authorization to discharge, the operator shall begin reporting monitoring data in DMRs to EPA and the State, due no later than the 15th day of the month following the completed reporting period; the reporting periods for this general permit consist of each calendar month, inclusive;
    - 3) All DMRs must be submitted electronically using NetDMR, unless, in accordance with Part 4.6.1.a.iii, below, the operator is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs. NetDMR is a web-based tool that allows operators to electronically submit DMRs and other required reports via a secure internet connection;²² the operator must continue to use NetDMR after beginning to do so.
    - 4) The operator must utilize an appropriate No Data Indicator (NODI) Code(s)²³ in instances where monitoring data have not been obtained or are otherwise not required. Commonly applicable NODI Codes for this general permit include, but are not limited to:
      - (A) "C" if no discharge occurs during a required sample frequency;
      - (B) "A" if an operator is exempted from the requirement to sample for a parameter, such as when EPA approves, in writing, sample frequency reduction and/or elimination;
      - (C) "2" if operation is shut down, such as during a treatment system interruption; and/or
    - (D) "9" if an effluent limitation is conditional and does not apply during a required sample frequency (e.g., TRC effluent limitation applies only if a discharge is likely to contain residual chlorine such as when a chemical additive containing chlorine is being used).
    - ii. Submittal of Reports as NetDMR Attachments
      - When the operator begins submitting DMR reports to EPA electronically using NetDMR, the operator shall electronically submit other reports to EPA as NetDMR attachments rather than as hard copies, unless otherwise specified in this general permit. Because the due dates for reports described in this general permit may not coincide with the due date for submitting DMRs (which is no later than the 15th day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted

²² NetDMR is currently accessed from: <u>http://www.epa.gov/netdmr</u>.

²³ DMR instructions are currently accessed from: <u>http://www3.epa.gov/region1/npdes/dmr.html</u>.

to EPA using NetDMR with the next DMR due following the particular report due date specified in this general permit.

- iii. Submittal of NetDMR Opt-Out Requests
  - NetDMR opt-out requests must be submitted in writing to EPA for written approval at least 60 days prior to the date a site would be required under this general permit to begin using NetDMR. This demonstration shall be valid for 12 months from the date of EPA approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to EPA unless the operator submits a renewed opt-out request and such request is approved by EPA. All
     opt-out requests should be sent to EPA at the following address:

Attn: NetDMR Coordinator U.S. Environmental Protection Agency, Water Technical Unit 5 Post Office Square, Suite 100 (OES04-4) Boston, MA 02109-3912

- b. For discharges lasting less than twelve (12) months, the operator is not subject to the DMR reporting requirements defined in Part 4.6.1.a, above, but remains subject to the monitoring requirements of this general permit, the reporting requirements in 4.6.2 through 4.6.6, below, the requirements found in Appendix IX, Standard Conditions, and the requirements of a NOI, NOC and NOT. Information that must be submitted with an operator's NOI, NOC and NOT is defined in Appendix IV, Part 1, Part 2 and Part 3 of this general permit, respectively. Also see and Part 3, above, and Part 5, below.
- 2. Analytical Reports
  - a. Operators shall submit a copy of the laboratory analytical report(s) for each sampling event, concurrent with the submittal of discharge monitoring data in accordance with Part 4.6.1, as applicable. The laboratory case narrative shall include a copy of the laboratory analytical reports for each sample analysis, which: identifies the sample(s), the target analyte(s), the test method(s), the dates collected and analyzed, the analytical result(s), the detection limit for each analyte, and the names of the laboratory and individual(s) that conducted the analysis; includes a legible copy of the signed sample chain of custody; and indicates if all appropriate QA/QC procedures were met and were within acceptable limits.
- 3. Notification Requirements
  - a. As required in 40 CFR §122.44(f), all operators must notify EPA as soon as they have reason to believe that any activity has occurred or will occur which would result in the discharge of any toxic pollutant (see 40 CFR §401.15) which is not limited in this general permit which exceeds:
    - i. The notification level of in 40 CFR §122.42; or
    - ii. Any other notification level established in accordance with 40 CFR §122.44(f) and State regulations.
  - b. Written notifications required in this general permit, unless otherwise specified, shall be made to both EPA and to the appropriate State. Written notifications shall be made

in accordance with Part 4.6.4 and Part 4.6.5 or 4.6.6, as applicable, below, unless otherwise specified.

c. Verbal notifications required in this general permit, unless otherwise specified, shall be made to both EPA and to the appropriate State. This includes verbal notifications which require reporting within 24 hours (e.g., see Appendix IX Parts B.4.c.(2), B.5.c.(3), and D.1.e). Verbal notifications shall be made to:

- i. The EPA and appropriate State contacts listed on EPA's website for this general permit²⁴; and
- ii. EPA's Office of Environmental Stewardship at: 617-918-1510 for Verbal Notifications required under Appendix IX, if Part 4.6.1.a applies.
- 4. EPA Region 1 Addresses
  - a. Submittal of Notifications and Reports to EPA/OEP
    - i. The following notifications and reports described in this general permit shall be submitted to the EPA/OEP RGP Coordinator in the EPA Office Ecosystem Protection (OEP):²⁵
      - 1) Notice of Intent (NOI);
      - 2) Notice of Change (NOC);
      - 3) Notice of Termination (NOT);
      - 4) Written notifications required in this general permit; and
      - 5) Reports and DMRs in electronic format, if NetDMR is not required
        - (i.e., if Part 4.6.1.a does not apply).

ii. These notifications and reports shall be submitted to EPA/OEP electronically at <u>NPDES.Generalpermits@epa.gov</u>, or, where an operator is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes submittal in electronic format, in hard copy form:

U.S. Environmental Protection Agency Office of Ecosystem Protection EPA/OEP RGP Coordinator 5 Post Office Square - Suite 100 (OEP06-01) Boston, MA 02109-3912

#### b. Submittal of Notifications and Reports to EPA/OES

- i. The following notifications and reports shall be signed and dated originals, submitted in hard copy, with a cover letter describing the submission, if Net DMR is required (i.e., if Part 4.6.1.a applies):
  - 1) NetDMR Opt-Out Requests;
  - 2) DMRs and transmittal record of DMRs submitted, when a NetDMR Opt-Out Request has been approved; and
  - 3) Written notifications required under Appendix IX.
- ii. This information shall be submitted to EPA/OES at the following address:

U.S. Environmental Protection Agency

²⁴ See footnote 17.

²⁵ See footnote 17.

Office of Environmental Stewardship (OES) Water Technical Unit 5 Post Office Square, Suite 100 (OES4-SMR) Boston, MA 02109-3912

- 5. MassDEP Address
  - a. Massachusetts sites must submit copies of all notifications and reports required in Part 4.6.4.a, above, to the MassDEP RGP Coordinator,²⁶ or, where an operator is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes submittal in electronic format, in hard copy form:

Massachusetts Department of Environmental Protection Bureau of Water Resources 1 Winter St. 5th Floor Boston, MA 02108

- b. Massachusetts sites must submit copies of all notifications and reports required in Part 4.6.4.b, above, to the appropriate regional office as follows:
  - i. Massachusetts Department of Environmental Protection Central Region 8 New Bond Street
    - Worcester, Massachusetts 01606
  - ii. Massachusetts Department of Environmental Protection Northeast Region 205B Lowell Street
    - Wilmington, Massachusetts 01887
  - iii. Massachusetts Department of Environmental Protection Southeast Region 20 Riverside Drive Lakeville, MA 02347
  - iv. Massachusetts Department of Environmental Protection Western Region 436 Dwight Street Springfield, MA 01103
- 6. NHDES Address
  - a. New Hampshire sites must submit copies of all notifications and reports to the NHDES RGP Coordinator,²⁷ or, where an operator is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes submittal in electronic format, in hard copy form:

New Hampshire Department of Environmental Services Water Division, Wastewater Engineering Bureau 29 Hazen Drive, P.O. Box 95 Concord, NH 03302-0095

²⁶ See footnote 17.

²⁷ See footnote 17.

## PART 5 ADMINISTRATIVE REQUIREMENTS

#### 5.1 Notice of Change (NOC)

Operators covered under this general permit may request a change to certain conditions through submission of a NOC to EPA and the appropriate State, when required, prepared in accordance with the instructions provided in Appendix IV, Part 2, and signed in accordance with 40 CFR §122.22.

- 1. For the purposes of this general permit, a NOC may consist of either:
  - a. The suggested NOC format in Appendix IV, Part 2 of this general permit; or
  - b. Other form of official correspondence containing all of the information included in the NOC suggested format in Appendix IV, Part 2 of this general permit.
- 2. Eligible changes, which are not otherwise major permit modifications as provided for under 40 CFR §122.62, may consist of:
  - a. Request for reduction in monitoring requirements: Certain monitoring requirements may be reduced upon demonstration of compliance if the eligibility requirements for reduction are met. Written approval by EPA is required for this change to be effective. Prior to receiving written approval, the operator must continue to monitor the parameters required in this general permit at the frequency specified in this general permit. This request requires supporting rationale and monitoring data as follows:
    - i. To be eligible for a reduction in treatment system monitoring (Part 4.3) or shortterm monitoring (Part 4.4) due to technical infeasibility, the operator must provide justification for each parameter for which reduction is being requested that must include a proposed monitoring frequency;
    - ii. To be eligible for a reduction in **influent** monitoring (Part 4.1.2), the operator must provide monitoring data for a minimum of six (6) consecutive months and ten (10) samples for each parameter for which reduction is being requested;
    - iii. To be eligible for a reduction in effluent monitoring (Part 4.1.2), the operator must provide monitoring data for a minimum of six (6) consecutive months and ten (10) samples for each parameter for which reduction is being requested;
    - iv. Monitoring data must be submitted in support of requests for reduction of monitoring frequency in Part 5.1.2.a.ii and iii, above. Monitoring data submitted in support of this request must be in compliance with the monitoring and reporting requirements of this general permit, including the QA/QC requirements specified in Part 2.5.2.f, above, and must be attached in accordance with the instructions in Appendix VIII;
    - v. The discharge must be in compliance with the effluent limitation for any parameter for which a reduction is requested in Part 5.1.2.a.ii and iii, above; and

- vi. A proposed monitoring frequency must be included for each parameter for which a reduction is requested in Part 5.1.2.a.ii and iii, which shall be no less than once per year for any parameter.
- b. Request for a change in the site-specific effluent flow limitation: A NOC must be submitted if effluent flow increases, a change in flow conditions will decrease the daily maximum effluent flow by more than 25 percent, or an operator believes use of a flow meter is infeasible. Written approval by EPA is required for this change to be effective. Prior to receiving written approval, the operator must continue to limit effluent flow as required in this general permit at the frequency specified in this general permit. Written rationale provided in the NOC for this request must indicate:
  - i. The effluent flow will not exceed 1.0 MGD;
  - ii. The design flow of the treatment system will not be exceeded;
  - iii. WQBEL calculations for any limited parameter that applies to the discharge that is based on effluent flow; and
  - iv. Certification that any revised effluent limitation or monitoring requirement will be complied with.
- c. Request for a change in pH range for sites in New Hampshire: A NOC must be submitted to request a change in pH range due to naturally occurring conditions in the receiving water or where the naturally occurring source water is unaltered by the remediation activities. An operator must request and receive approval from NHDES for a change in pH range prior to submitting a NOC to EPA. See Part 2.4.3.b, above. Supporting documentation from the State must be provided with the NOC. Written approval by EPA is required for this change to be effective.
- d. Request for a change in authorized pollutants or pollutant parameters: A NOC must be submitted if: 1) A parameter limited in this general permit that is not included in an operator's authorization to discharge is identified; 2) The concentration of any parameter present in the effluent differs significantly from the influent, once effluent sampling begins; and/or 3) a WQBEL change is required or is otherwise requested. Written approval by EPA is required for this change to be effective. Additional effluent limitations and/or monitoring requirements may apply. Changes in a pollutant or pollutant parameter not limited in this general permit require a new NOI or an individual NPDES permit.
- e. Request to discharge chemical(s) and/or additive(s): A NOC must be submitted when an operator intends to discharge a chemical or additive that was not disclosed in the NOI submitted for a site. Written approval by EPA is required for this change to be effective. Monitoring data submitted in support of this request must be in compliance with the monitoring and reporting requirements specified in this general permit, including the QA/QC requirements specified in Part 2.5.2.f, and must be attached in accordance with the instructions in Appendix VIII. Written rationale provided in the NOC for this request must include:

i. All information required in Part 2.5.2.g.iii, above; and

ii. An explanation as required in Part 2.5.3.b.i through iii, above; or

iii. Monitoring data that demonstrates that each of the 126 priority pollutants are non-detect in discharges with the addition of the requested chemicals and/or additives. All data submitted in support of this request must be in compliance with the monitoring and reporting requirements of this general permit,

including the QA/QC requirements specified in Part 2.5.2.f, above, and must be attached in accordance with the instructions in Appendix VIII.

- f. Notification of change to administrative information: This includes, but is not limited to: expected date of initiation of discharge; a change in the address for an owner or operator; a change in contact information for an owner or operator; and a change in ownership, so long as the operator authorized to discharge under this general permit remains unchanged. A requested change to administrative information is automatic unless EPA notifies the operator otherwise. Examples of when EPA is likely to provide such notification is when EPA intends to revoke and reissue coverage under this general permit or intends to issue an individual permit. For a change in operator, a new NOI is required. For a change in ownership, the new owner must submit:
  - i. Written notification to EPA no more than thirty (30) days following the date of ownership change; and
  - ii. Written notification containing the new ownership information, the specific date for ownership change, and an acknowledgement of permit responsibility, coverage, and liability.
- g. Notification of a change in discharge location: Notification may be provided in a NOC for a change in discharge location so long as the receiving water identified in the NOI remains unchanged. Supporting documentation for this notification must indicate the new discharge location. A change in discharge location is automatic unless EPA notifies the operator otherwise. For a change in receiving water, a new NOI is required.
- h. Notification of a change in activity area: Notification may be provided in a NOC for a change in activity area so long as the receiving water identified in the NOI and the operator authorized to discharge under this general permit remain unchanged, and any change in treatment or discharge location are either included in the NOC, or are unchanged. Supporting documentation for this notification must indicate the new activity area. A change in activity area is automatic unless EPA notifies the operator otherwise. For a change in receiving water and/or operator, a new NOI is required.
- i. Notification of a change to a treatment system or process: Notification may be provided in a NOC for a change to a treatment system or process that adds or removes any major component. Written rationale for this notification must indicate:
  - i. Why the addition or removal is necessary, including when necessary to meet an effluent limitation in this general permit, or to meet a State permit condition; and
  - ii. The discharge will meet the effluent limitations in this general permit with the addition or removal.
- j. Notification of a discharge interruption planned or encountered which will extend greater than ninety (90) days. Written rationale for this notification must indicate:
  - i. The reason(s) for the interruption of discharge;
  - ii. When the discharge ceased or will cease;
  - iii. When the discharge will be re-initiated; and
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- iv. An acknowledgment that the additional monitoring required for system re-start will be conducted and routine sampling will be resumed as specified in the RGP.
- 3. Attach a brief narrative statement that describes the change. Include any written rationale or supporting documentation for the change, if required, or if otherwise being provided.
- 4. Attach monitoring data, if required, or if otherwise being provided, in accordance with the instructions in Appendix VIII.

#### 5.2 Notice of Termination (NOT)

All operators covered under this general permit must submit a written NOT to EPA, and the appropriate State, when required, in accordance with Part 4.6, above, signed in accordance with 40 CFR §122.22 and in accordance with the instructions provided in Appendix IV, Part 3.

- 1. A NOT is required when one or more of the following conditions have been met:
  - a. All discharges covered under the RGP have been terminated;
  - b. Coverage under an individual or other general NPDES permit has been obtained;
  - c. There is a change in operator; or
  - d. Authorization to discharge has expired and coverage under a new general permit will not be requested.
- 2. For purposes of this general permit, the NOT may consist of either:
  - a. The suggested NOT format in Appendix IV, Part 3 of this general permit, or
  - b. Another form of correspondence containing all of the information included in the NOT suggested format in Appendix IV, Part 3 of this general permit.
- 3. A NOT must be submitted no later than thirty (30) days following the identification of the condition(s) requiring a NOT.
- 4. A NOT must include the following general site information:
  - a. The NPDES permit number assigned by EPA;
  - b. The name of the site and the street address (or a description of location using approximate geographic coordinates if no street address is available) for which the notification is submitted;
  - c. The name, address and telephone number of the owner of the site;
  - d. The name, address and telephone number of the operator of the site, if different from the owner;
  - e. Discharge identification (i.e., the outfall number), the discharge location (i.e., longitude and latitude), and the receiving water(s).
- 5. A NOT must include the following discharge information:
  - a. Indicate that all discharges have been permanently terminated.
  - b. Indicate the reason for the termination (e.g., completion of construction project, remediation completion, termination of temporary discharge).

#### NPDES Permit No. MAG910000 and NHG910000

- c. Indicate the date of the initiation of discharge, the date of the termination of discharge, the daily maximum effluent flow, and frequency of discharge.
- d. Attach a summary of all monitoring results from the initiation of discharge through termination, including the results of monitoring requirements included in Part 4.3 of the RGP, when required for treatment system start-up(s), interruption(s), and shutdown, in accordance with the instructions in Appendix VIII.
- 6. Failure to submit a NOT shall result in continuation of general permit coverage until expiration, including continuation of all monitoring, record-keeping and reporting requirements.

# 5.3 Continuation of this General Permit after Expiration

If this general permit is not reissued prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and in effect as to any individual operator. However, EPA cannot provide written notification of coverage under this general permit to any operator who submits a NOI to EPA after the permit's expiration date. Any operator who was granted general permit coverage prior to the expiration date will automatically remain covered by the continued general permit until the earlier of:

- 1. Reissuance of this general permit, at which time the operator must comply with the NOI requirements of the new general permit to maintain authorization to discharge;
- 2. The operator's submittal of a NOT;
- 3. Issuance of an individual permit for the operator's discharges; or
- 4. A formal decision by EPA not to reissue the general permit, at which time the operator must seek coverage under an individual permit or other general NPDES permit.

#### PART 6 STANDARD CONDITIONS

The Standard Conditions are included in Appendix IX.

### PART 7 ADDITIONAL PERMIT CONDITIONS APPLICABLE TO SPECIFIC STATES

If required, this section is reserved and will be completed following the State certification process and the public notice period.

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Mann-Kendall Analysis for MtBE

#### Rennie Farm Hanover, New Hampshire

Mann-Kendall Analysis for 1,4-dioxane (Post-Off-Site System Startup)

	1,4- Dioxane Conc
Date	(ug/L)
2/3/2021	17
2/10/2021	12
2/17/2021	20
3/8/2021	35
3/11/2021	18
3/23/2021	29
4/5/2021	7.7
4/13/2021	20
4/14/2021	15
4/28/2021	36
5/10/2021	20
5/11/2021	21
5/24/2021	21
6/7/2021	26
6/10/2021	16
6/22/2021	23
7/12/2021	5.9
7/14/2021	7.1
7/29/2021	6.3
8/10/2021	18
8/16/2021	5.5
8/23/2021	28
9/7/2021	24
9/16/2021	21
9/28/2021	25
10/11/2021	27
10/18/2021	27
11/8/2021	25
11/18/2021	19
11/22/2021	19
12/7/2021	19
12/13/2021	22
12/20/2021	21

																	1,4-Diox	ane																	
ys Inf.		·																																	
onc.	(µg/L)	17	12	20	35	18	29	7.7	20	15	36	20	21	21	26	16	23	5.9	7.1	6.3	18	5.5	28	24	21	25	27	27	25	19	19	19	22	21	SUM
			-1	1	1	1	1	-1	1	-1	1	1	1	1	1	-1	1	-1	-1	-1	1	-1	1	1	1	1	1	1	1	1	1	1	1	1	16
				1	1	1	1	-1	1	1	1	1	1	1	1	1	1	-1	-1	-1	1	-1	1	1	1	1	1	1	1	1	1	1	1	1	21
					1	-1	1	-1	0	-1	1	0	1	1	1	-1	1	-1	-1	-1	-1	-1	1	1	1	1	1	1	1	-1	-1	-1	1	1	4
						-1	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-27
							1	-1	1	-1	1	1	1	1	1	-1	1	-1	-1	-1	0	-1	1	1	1	1	1	1	1	1	1	1	1	1	13
								-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-25
									1	1	1	1	1	1	1	1	1	-1	-1	-1	1	-1	1	1	1	1	1	1	1	1	1	1	1	1	18
										-1	1	0	1	1	1	-1	1	-1	-1	-1	-1	-1	1	1	1	1	1	1	1	-1	-1	-1	1	1	4
											1	1	1	1	1	1	1	-1	-1	-1	1	-1	1	1	1	1	1	1	1	1	1	1	1	1	16
												-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-23
													1	1	1	-1	1	-1	-1	-1	-1	-1	1	1	1	1	1	1	1	-1	-1	-1	1	1	4
														0	1	-1	1	-1	-1	-1	-1	-1	1	1	0	1	1	1	1	-1	-1	-1	1	0	0
															1	-1	1	-1	-1	-1	-1	-1	1	1	0	1	1	1	1	-1	-1	-1	1	0	0
																-1	-1	-1	-1	-1	-1	-1	1	-1	-1	-1	1	1	-1	-1	-1	-1	-1	-1	-13
																	1	-1	-1	-1	1	-1	1	1	1	1	1	1	1	1	1	1	1	1	10
																		-1	-1	-1	-1	-1	1	1	-1	1	1	1	1	-1	-1	-1	-1	-1	-5
																			1	1	1	-1	1	1	1	1	1	1	1	1	1	1	1	1	14
																				-1	1	-1	1	1	1	1	1	1	1	1	1	1	1	1	11
																					1	-1	1	1	1	1	1	1	1	1	1	1	1	1	12
																						-1	1	1	1	1	1	1	1	1	1	1	1	1	11
																							1	1	1	1	1	1	1	1	1	1	1	1	12
																								-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-11
																									-1	1	1	1	1	-1	-1	-1	-1	-1	-2
																										1	1	1	1	-1	-1	-1	1	0	2
																											1	1	0	-1	-1	-1	-1	-1	-3
																												0	-1	-1	-1	-1	-1	-1	-6
																													-1	-1	-1	-1	-1	-1	-6
																														-1	-1	-1	-1	-1	-5
																															0	0	1	1	2
																																0	1	1	2
																																	1	1	2
																																		-1	-1
														Mann-Kei	ndall Stat	istic (S) =																			47
	VAR(S) =	4,165																																	
	Z =	0.744		No Tre	nd																														

Number of Rounds (n)	33
Non-detect samples	0
Minimum Value	6
Maximium Value	36
Average	19.9
Standard Deviation	7.7
Coefficient of Variation(CV)	0.385
Adjustment for tied groups	0
Mann-Kendall Statistic (S)	47
Confidence Level	0.95
Ζ _{(1-α} )	1.645

Rennie Farm Hanover, New Hampshire Mann-Kendall Analysis for 1,4-dioxane (Pre-Off-Site System Startup)



Rennie Farm Hanover, New Hampshire Mann-Kendall Analysis for 1,4-dioxane (Pre-Off-Site System Startup)

	1-4	Dioxane																																															-
																																														-			
17	14	19	21	17	11	11	18	19	17	15	20	20	18	11	16	11	14	10	14	12	15	15	15	18	18	14	22	14	16	27	19	11	22	11	15	11	15	13	13	12	9.8	8.4	14	10	11	12	6.3	6.7	SUM
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-82
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-88
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-87
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-88
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-87
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-83
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-78
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-80
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-72
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-68
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-64
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-76
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-63
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-70
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-72
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-56
0	-1	1	1	0	-1	-1	1	1	0	-1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	1	-1	1	-1	-1	1	1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-60
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-73
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-58
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-63
-1	-1	0	1	-1	-1	-1	-1	0	-1	-1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-1	-1	1	0	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-24
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-67
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-68
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	1	-1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-46
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-65
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-54
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-58
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-60
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	1	-1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-50
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-61

(Kendal7)(K.039003.22 - Sprinn Influent-Marco Kendal) - startup in 8.1420

GZA GeoEnvironmental, Inc.



Table E.1 - Groundwater Treatment System Resin Regeneration Log

# TABLE E-1 SUMMARY OF TREATMENT SYSTEM RESIN REGENERATION DATES

## Dartmouth College, Rennie Farm Site Hanover, New Hampshire DES Site #201111109, DES Project #27737

Regeneration #	Start Date
1	5/23/2017
2	6/1/2017
3	6/7/2017
4	6/14/2017
5	6/21/2017
6	6/29/2017
7	7/12/2017
8	7/26/2017
9	8/15/2017
10	9/12/2017
11	10/18/2017
12	11/13/2017
13	11/27/2017
14	12/13/2017
15	1/2/2018
16	1/22/2018
17	2/5/2018
18	2/21/2018
19	3/6/2018
20	3/19/2018
21	4/2/2018
22	4/12/2018
23	4/25/2018
24	5/7/2018
25	5/22/2018
26	6/12/2018
27	7/18/2018
28	9/6/2018
29	10/18/2018
30	11/19/2018
31	12/13/2018
32	1/2/2019
33	1/21/2019
34	2/6/2019
35	2/25/2019
36	3/20/2019
37	4/8/2019
38	4/22/2019
39	5/13/2019

Regeneration #	Start Date
79	12/7/2021
80	12/20/2021

Regeneration #	Start Date
40	6/10/2019
41	7/1/2019
42	7/21/2019
43	8/21/2019
44	10/14/2019
45	11/18/2019
46	12/16/2019
47	1/7/2020
48	2/3/2020
49	3/4/2020
50	3/25/2020
51	4/15/2020
52	5/7/2020
53	6/1/2020
54	8/3/2020
55	10/13/2020
56	11/23/2020
57	12/29/2020
58	1/18/2021
59	2/3/2021
60	2/17/2021
61	3/8/2021
62	3/23/2021
63	4/5/2021
64	4/14/2021
65	4/28/2021
66	5/11/2021
67	5/24/2021
68	6/7/2021
69	6/22/2021
70	7/14/2021
71	7/29/2021
72	8/10/2021
73	8/23/2021
74	9/7/2021
75	9/27/2021
76	10/18/2021
77	11/8/2021
78	11/22/2021

\\GZABedford\Jobs\04Jobs\0190000s\04.0190030.00\04.0190030.02\Report\2021 ASR\Appendices\Appendix E - Treatment System Documents\Table E.1 - Groundwater Treatment System Resin Regneration Log\ Table E.1 - Treatment System Resin Regneration Date Summary.xl



Appendix F – Off-Site Groundwater Extraction System Documents

										TEST BOR									
C	77		GZA GeoEnvi Engineer	ronmenta s and Scie	al, Inc. entists					Dartmouth Co Rennie Far Hanover, New Ha	llege m mpshire			BORING NO.: SHEET: PROJECT NO REVIEWED B	OPM 1 of 1 : 04.01 f: JMW	-6A 190030 /	.02		
Dr Fo Lo	rilling orem ogge	g Co.: ian: d By:	New I M. Th E. Dy	England E ompson rness	Boring	Contr	actors	Гуре с Rig Mo Drilling	of Rig:A odel: M g Metho	TV D B-57 <b>od:</b> Drive & Wash	Boring Locati Ground Surfa Final Boring I Date Start - Fi	on: ce E Depth nish	See lev. (ft. n (ft.): : 10/11	Plan ): 869.4 10 I/2021 - 10/11/202	21	,	H. Datum V. Datum	n: n:	
A	uger	/Casing	g Type:	HW				Samp	ler Typ D (in )	e: SS 1-3/8"/2"		D'	ato	Ground	water	Depth	(ft.)		toh Timo
H	lmr V	.D.: Veight	(lb.):	4 /4-1/2				Sample	er Hmr V	Vt: 140 lb			ale	Time	vvate	г Бери	i Casi	ng S	tap. Time
H	mr F ther:	all (in.)	):					Sample Other:	er Hmr F :	all: 30 in									
De	oth	Casing Blows/			Samp	le				Sample Doco	intion	ark	Field	⊊Stratum		Equipr	nent Installe	d	
(f	t)	Core Rate Min/ft	No.	Depth (ft.)	Pen.	Rec. (in)	Blc (per	ows 6 in.)	SPT Value	Modified Burr	nister	Rem	Test Data		(ff)		-~	- FLUS ROAE	H MOUNTEI D BOX
		WILLING	S-1	0-2	24	13	2	5		S-1: Loose, gray/tan, fine t	o medium		ND					-Cuttin	gs
	1						4	6	9	SAND, little Silt, trace Grav	/el, moist.	1						0-1 fe -2" PV	et C
	1													SAND & GRAV	'EL			0-10 1 Bento	reet nite
	1													4'	865.4'			1-3 fe	et
5	5		S-2	4-6	24	12	6	3		S-2: Loose, gray, fine SAN	D and SILT,		ND					-Sand 3-10 1	feet
							2	3	5	clayey Silt, trace Gravel, w	et.								
	1																		
	1													GLACIAL TIL	L			-Slotte	d PVC
	1		S-3	8-10	24	15	2	3		S-3: Loose, gray, fine SAN	D and SILT,		ND					5-101	eet
10							4	4	7	Clayey Silt, trace Gravel, w	/et.			10'	859.4'				
										Bottom of boring a	t 10 feet.								
	1																		
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15	5																		
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30	, †																		
	1.	Field te	sting res	ults repres	sent tota	al orga	nic vapo	or levels	s, referer	nced to a isobutylene standa	rd, measured in th	ne hea	adspace	of sealed soil samp	le jars u	ising a lo	on Scienc	e - Tiger	organic
KS		vapor m (<0.1 pp	omv).	apped with		UUUIIZa	auon de		, שויין and	i io.oeviamp. Results in pa	ans her minion by	volum	ne (ppm	vj. אין וועוכמנפא hot	UEIECIE	u above	msuumei	n uetect	
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Se be	e log drock	key for types.	explana Actual t	ation of sa ransitions	mple o may b	descrip e grad	tions ar ual. W	nd iden ater lev	ntificatior vel readi	n procedures. Stratification ngs have been made at th	ines represent ap e times and und	oproxi er the	imate bo e condit	oundaries between ions stated. Fluctua	soil and tions of		Bori	ng N	0.:
gro	oundw	ater ma	ay occur	due to othe	er facto	ors than	those	present	t at the ti	mes the measurements wer	e made.						OP	IVI-6A	۹.

								TEST BOR	RING LOG						
G		GZA GeoEnvi Engineer	ironmenta rs and Scie	<b>al, Inc</b> . entists				Dartmouth Co Rennie Far Hanover, New Ha	ollege m Impshire			BORING NO.: SHEET: PROJECT NO REVIEWED B	OPM-6B 1 of 1 : 04.019003 7: JMW	30.02	
Drill Fore Loge	ing Co.: eman: ged By:	: New M. Th E. Dy	England I ompson rness	Boring	Contr	r _{actors} Type o Rig M Drillin	of Rig:A odel: M g Metho	TV ID B-57 <b>od:</b> Drive & Wash	Boring Locati Ground Surfa Final Boring I Date Start - F	ion: Ice E Depti inish	See ilev. (ft. h (ft.): i: 10/11	Plan ): 869.4 20 //2021 - 10/11/202	?1	H. Datum V. Datum	1: 1:
Aug	er/Casi	ng Type	: HW			Samp	ler Typ	e: SS 1-3/8"/2"			ata	Ground	water Dep	th (ft.)	otala Tima
I.D. Hm	r Weigh	it (lb.):	4"/4-1/2			Sampl	er Hmr V	Vt: 140 lb			ale	Time	water De	otn Casi	ng Stab. I ime
Hm	r Fall (ir	า.):				Sampl Other	er Hmr F :	Fall: 30 in							
Dunt	Casing	9		Samp	le					1 X	Field	Stratum	Equ	ipment Installe	d
Depti (ft)	Core Rate	No.	Depth	Pen.	Rec.	Blows	SPT	Sample Desc Modified Burr	ription nister	ema	Test	E Description	t (€) (E) (E)		- FLUSH MOUNTE
. ,	Min/ft	S-1	0-2	24	13	(per 6 m.) 5 7	value	S-1: Medium dense, gray,	fine to medium	<u> </u>	Data ND		<u> </u>		RUAD BUX
5_	-	S-2	4-6	24	0	13 12 3 2 3 2	20	SAND, some Gravel, little S-2: No Recovery	Silt, wet.	1		SAND & GRAV	EL 865.4'		-Cuttings 0-2 feet -2" PVC 0-15 feet
10 _	-	S-3	9-11	24	5	6 6 5 4	11	S-3: Medium dense, gray, trace Gravel, wet.	SILTY CLAY,		ND	GLACIAL TIL	L	-	-Bentonite 2-13 feet
15 _	-	S-4	14-16	24	6	25 44	9	S-4: Medium dense, gray, SILT, trace Gravel, wet.	fine SAND and		ND				-Sand 13-20 feet
20	_	S-5	18-20	24	13	12 43	6	S-5: Loose, gray, fine SAN trace Gravel, wet.	ID and SILT,		ND	20'	849.4'		-Slotted PVC 15-20 feet
								Bottom of boring a	t 20 feet.						
25	-														
30									nd monorate at	het	oderation				
REMARKS	3U       Image: Starting results represent total organic vapor levels, referenced to a isobutylene standard, measured in the headspace of sealed soil sample jars usin vapor meter equipped with a photoionization detector (PID) and 10.6eV lamp. Results in parts per million by volume (ppmv). ND indicates not detected a (<0.1 ppmv).													a lon Scienca ve instrumer	e - Irger organic nt detection limit
See I bedro groun	og key f ck types dwater n	or explan . Actual t nay occur	ation of sa transitions due to oth	mple o may b er facto	descrip be grad ors thar	tions and ider lual. Water le n those presen	ntificatior vel readi t at the ti	n procedures. Stratification ngs have been made at th mes the measurements we	lines represent a le times and und re made.	pprox ler th	imate bo e conditi	oundaries between s ions stated. Fluctua	soil and tions of	Borii OP	ng No.: M-6B

C2A Description         Description         Description         BORNET No. 10 PM-60 SHEET. To of description         BORNET No. 10 PM-60 SHEET. To of description         Description           Drilling car. New Figure District         Registration         Registration         Registration         No. 20 PM-60 SHEET. To of description 0.02 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 PM -10 P									TEST BOR	RING LOG								
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Child         Case         No.         Depth (H)         Presc.         Skyling         Skyling         Description         Skyling	Dent	Casing Blows	g /	1	Samp	le			Comunita Dana		ark	Field	न्द्र Stratum		Equipm	ent Installed	d	
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1       1-flat being results represent total organic vego tends, referenced to a lookuptees standard, measured in the headquee of sealed solt sample jets using a kin Science - Tiger organic sign million by vikume (gmm). ND indicates not detected above instrument detected limit.         20       1       1-flat being results represent total organic vego tends, referenced to a lookuptees standard, measured in the headquee of sealed solt sample jets using a kin Science - Tiger organic sign million by vikume (gmm). ND indicates not detected above instrument detected limit.         20       1       1-flat being results represent total organic vego tends, referenced to a lookuptees standard, measured in the headquee of sealed solt sample jets using a kin Science - Tiger organic sign million by vikume (gmm). ND indicates not detected above instrument detected limit.         20       1       1-flat being results represent total organic vego tends. Total to a lookuptees standard, measured in the headquee of sealed solt sample jets using a kin Science - Tiger organic sign million by vikume (gmm). ND indicates not detected above instrument detected limit.         20       1       1-flat being results represent total organic vego tends. Total to a geo tender of the production detector (PD) and 10.6v lamp. Results in parts per million by vikume (gmm). ND indicates not detected above instrument detected limit.         20       1       1-flat being results represent total organic vego tends. Total total sign match to a lookuptees standard, measured in the headquee of sealed solt sample jets using a kin Science - Tiger organic sign matches more detected above instrument detected limit.         20       1       1       1<		-											SAND & GRAV	EL			0-10 fee	et e
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30       1. Field testing results represent total organic vapor levels, referenced to a isobutylene standard, measured in the headspace of sealed soil sample jars using a lon Science - Tiger organic vapor meter equipped with a photoionization detector (PID) and 10.6eV lamp. Results in parts per million by volume (ppmv). ND indicates not detected above instrument detection limit (<0.1 ppmv).	25	-																
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See log key for explanation of sample descriptions and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.	REMARKS	1. Field vapor (<0.1	testing res meter equ ppmv).	ults repres	sent tota	al orga toioniza	nic vapor lev ation detecto	els, refere r (PID) and	nced to a isobutylene standa d 10.6eV lamp. Results in p	rd, measured in ti arts per million by	he he volun	adspace ne (ppm	e of sealed soil samp v). ND indicates not	le jars u detecte	sing a lo d above i	n Science nstrumen	e - Tiger or It detectior	ganic 1 limit
bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of OPM-6C	See I	oa kev f	for explan	ation of se	ample (	descrip	tions and id-	entificatio	procedures Stratification	lines represent a	oprovi	imate h	oundaries between	soil and		Dari		
	bedro groun	ock types idwater n	s. Actual inay occur	ransitions due to oth	may b er facto	oe grad	lual. Water I those prese	evel read ent at the t	ings have been made at the measurements we	e times and und re made.	er the	e condit	ions stated. Fluctua	tions of		OP	M-6C	•

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G	ZN	GZA GeoEnvi Engineer	ironmenta rs and Scie	<b>al, Inc.</b> entists				Dartmouth Co Rennie Far Hanover, New Ha	ollege m Impshire			BORING NO.: SHEET: PROJECT NO REVIEWED BY	OPM-6 1 of 1 : 04.019 Y: JMW	D 0030.02			
Drill For Log	ing Co. eman: ged By:	: New M. Th E. Dy	England B compson rness	Boring	Contr	r _{actors} Type o Rig Mo Drilling	of Rig:A odel: M g Metho	TV ID B-57 <b>od:</b> Drive & Wash	Boring Locati Ground Surfa Final Boring I Date Start - Fi	on: ce E Depti nish	See lev. (ft. h (ft.): : 10/12	Plan ): 869.3 20 2/2021 - 10/12/202	21	H. C V. C	)atum: )atum:		
Aug	jer/Casi	ng Type	: HW			Samp	ler Typ	e: SS 1-3/8"/2"			ata	Ground	water D	epth (ft	.) Osolina	04-1	Times
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(ft)	Core Rate	No.	Depth	Pen.	Rec.	Blows	SPT	Sample Desci Modified Burr	ription nister	eme	Test	ਰਿ ⊡ ਿ	ו <u>א</u> ≣≣			FLUSH M	
	Min/f	S-1	0-2	24	8	(per 0 iii.) 3 5	value	S-1: Medium dense, gray/t	an, fine to	8	ND		- 6	র চিহ	त्रे	NOAD DC	
5	-	S-2	4-6	24	0	10 8 7 4	15	medium SAND, and GRAN moist. S-2: No Recovery	/EL, little Silt,	1		SAND & GRAV	'EL 865.3'			Cuttings 0-3 feet 2" PVC 0-15 feet	
5	-	S-3	9-11	24	14	43 56 86	8	S-3: Medium dense, gray, SILT some Gravel wet	fine SAND and		ND				<b>≺</b> -E	3entonite 3-13 feet	
15	-	S-4	14-16	24	10	2 2 2 2	4	S-4: Very loose, gray, fine some Gravel, Silty Clay, w	SAND and SILT, et.		ND	GLACIAL TIL			<b>⊲</b> −5	Sand 13-20 fee	ət
20	-	S-5	18-20	24	9	WOR WOR 24	2	S-5: Very loose, fine SANI some Gravel, Silty Clay, w	D and SILT, et.		ND	20'	849.3'		: 	Slotted P 15-20 fee	VC et
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REMARKS	1. Field vapor (<0.1	testing res meter equ ppmv).	ults repres	ent tot	al organ toioniza	nic vapor levels	s, referer PID) and	nced to a isobutylene standa 10.6eV lamp. Results in p	ırd, measured in ti arts per million by	volun	adspace ne (ppm	, of sealed soil samp ν). ND indicates not	le jars usii	ng a lon S above inst	rument	- Tiger org detection l	anic limit
See bedro grour	log key t ock types ndwater r	or explant a. Actual may occur	ation of sa transitions due to oth	mple o may b er facto	descript e grad ors thar	tions and ider lual. Water lev n those present	ntificatior vel readi t at the ti	n procedures. Stratification ings have been made at th mes the measurements wer	lines represent a le times and und re made.	oproxi er the	imate bo e conditi	oundaries between sions stated. Fluctua	soil and tions of	B	oring OPN	g No.: /I-6D	

									TEST BOR	ING LOG								
C		GZA GeoEnv Engineer	ironment: rs and Sci	al, Inc. entists					Dartmouth Co Rennie Far Hanover, New Ha	llege m mpshire			BORING NO.: SHEET: PROJECT NO REVIEWED B	OPN 1 of 1 : 04.0′ Y:JMW	I-11A I 190030.( /	)2		
Dri Fo Lo	lling Co reman: gged By	<b>b.:</b> New M. Th <b>y:</b> E. Dy	England I nompson rrness	Boring	Contr	_{actors} t F C	Type o Rig Ma Drilling	of Rig:A odel: M g Metho	TV D B-57 <b>od:</b> Drive & Wash	Boring Locati Ground Surfa Final Boring I Date Start - Fi	on: ice E Depti inish	See ilev. (ft. h (ft.): n: 10/13	Plan ): 869.4 10 3/2021 - 10/13/202	21	н v	. Datum: . Datum:	:	
Au 1.0	ger/Cas )./O.D.:	sing Type	: HW 4"/4-1/2			5 	Sampl .D./O.	ler Typ D (in.):	e: SS 1-3/8"/2"		D	ate	Ground Time	water Wate	Depth er Depth	(ft.) Casin	g Stal	b. Time
Hr Hr Ot	nr Weig nr Fall ( her:	jht (lb.): jin.):				5	Sample Sample Other:	er Hmr V er Hmr F	vt: 140 lb fall: 30 in									
Dep /ft	oth Blov	ng /s/	Depth	Samp Pen.	le Rec.	Blo	ws	SPT	Sample Desci	ription	emark	Field Test	Stratum ਰੂੰ∉ੇ Descriptior	l ≥i∉:	Equipm	ent Installed	- FLUSH I	MOUNTE
(11	) Rai Min	/ft S-1	(ft.) 0-2	(in) 24	(in) 2	(per 6	6 in.) 12	Value	S-1: Medium dense, fine to	nister o medium SAND	Re	Data ND		ΞŬ			ROAD B	OX
						8 2	22	20	and GRAVEL, some Silt, c	lry.	1		SAND & GRAV	'EL			0-1.5 fe 2" PVC 0-10 fee	et et
													4'	865.4'			Bentonit 1.5-3 fe Sand	e et
5	_	S-2	4-6	24	11	5 1	4 2	5	S-2: Top 0-5": Loose, gray SILT and GRAVEL, wet.	, fine SAND and		ND					3-10 fee	et
	S-3 8-10 24 11 16 13 S-3: Medium dense, gray, fine SAND and ND GLACIAL TILL																	
	S-3       8-10       24       11       16       13       S-3: Medium dense, gray, fine SAND and       ND       GLACIAL TILL       Solution       Solu															PVC et		
10	S-3       8-10       24       11       16       13       S-3: Medium dense, gray, fine SAND and       ND       Image: Solution of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec																	
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KS	1. Field vapo (<0.	d testing res or meter equal 1 ppmv). ble 4-4 5	sults repres uipped with	sent tota n a phot	al orga toioniza	nic vapo ation det	or levels tector (	s, referer PID) and	nced to a isobutylene standa I 10.6eV lamp. Results in pa	rd, measured in t arts per million by	he he volur	adspace ne (ppm	of sealed soil samp v). ND indicates not	le jars ι detecte	using a lor ed above i	n Science nstrument	- Tiger or detectior	ganic i limit
EMAR	2. 005	510 4 4.0																
Ř																		
See bed	log key rock type	for explan es. Actual	ation of sa transitions	ample o may b	descrip e grad	tions an lual. Wa	nd iden ater lev	tification el readi	n procedures. Stratification ngs have been made at th	lines represent a e times and und	pprox ler th	imate bo e conditi	oundaries between ions stated. Fluctua	soil and tions of	I F	Borin	g No.	:
grou	undwater	may occur	due to oth	er facto	ors thar	n those p	present	at the ti	mes the measurements wer	e made.						UPIN	1-11A	

	TEST BORING LOG																
GZ		GZA GeoEnvi Engineer	ironmenta 's and Scie	al, Inc. entists	•		Dartmouth College Rennie Farm Hanover, New Hampshire						BORING NO.: OPM-11B SHEET: 1 of 1 PROJECT NO: 04.0190030.02 REVIEWED BY: JMW				
Drilli Fore Logg	ng Co.: man: Jed By:	New M. Th E. Dy	England B compson rness	Boring	Contr	ractors ^T ype Rig I Drilli	e of Rig:A Model: M ng Methe	TV ID B-57 <b>od:</b> Drive & Wash	Boring Locat Ground Surfa Final Boring Date Start - F	ion: ace E Depti	See ilev. (ft. h (ft.): h: 10/13	Plan ): 869.3 20 3/2021 - 10/13/202	21	H. Datum: V. Datum:			
Auge	er/Casii	ng Type	: HW			Sam	pler Typ	e: SS			th (ft.)						
I.D./	O.D.: Weigh	t (Ib.):	4"/4-1/2			Sam	pler Hmr V	Vt: 140 lb			ale	lime	water Dep	Depth Casing Stab. Time			
Hmr	Fall (in	.):				Sam	pler Hmr F	Fall: 30 in									
Othe	casing			Samo	le	Oure				<u>-</u>	Field	– Stratum	Equ	ipment Installed			
Depth (ft)	Blows/ Core Rate	No	Depth	Pen.	Rec.	Blows	SPT	Sample Desc	ription E Tes			E Description	<u>≧</u> ∉	/	FLUSH MOUNTE		
()	Min/ft	S-1	(ft.) 0-2	(in) 24	(in) 8	(per 6 in.	) Value	S-1: Loose tan/gray fine t	n medium	<u>الم</u>	Data 6		-		ROAD BOX		
- - - 5 _	-	S-2	4-6	24	13	2 2 5 4 3 1	5	SAND and GRAVEL, little S-2: Loose, tan/gray, fine t SAND and SILT, little Grav	Silt, wet. to medium rel, wet.	1	ND	SAND & GRAV 4'	'EL 865.3'		Cuttings 1-3 feet " PVC D-10 feet		
- - - - - - - - - -	-	S-3	9-11	24	0	74 68	10	S-3: No Recovery				GLACIAL TI		<b>⋖</b> -E	entonite 3-13 feet		
- 15 _ -	-	S-4	14-16	24	9	1 2 5 4	7	S-4: Loose, gray, CLAYEY Gravel, wet.	Ý SILT, trace		ND				Sand 13-20 feet Glotted PVC		
20		S-5	18-20	24	2	13 33	6	S-5: Loose, gray, CLAYEY Gravel, wet.	′ SILT, trace		ND	20'	849.3		15-20 feet		
25	. Field t vapor (<0.1	esting res neter equ ppmv).	sults repres	sent tot	al orga	nic vapor lev ation detecto	els, referer r (PID) and	Bottom of boring a nced to a isobutylene standa 1 10.6eV lamp. Results in p	ard, measured in t arts per million by	the he	adspace ne (ppm	e of sealed soil samp v). ND indicates not	ble jars using a detected abor	a lon Science - ve instrument d	Tiger organic detection limit		
See lo bedroo ground	og key fø ck types dwater m	or explana Actual ay occur	ation of sa transitions due to oth	ample o may b er facto	descrip be grad ors thar	tions and id lual. Water l n those prese	entificatior evel readi ent at the ti	n procedures. Stratification ings have been made at th mes the measurements we	lines represent a le times and uno re made.	approx der th	imate bo e condit	oundaries between a ions stated. Fluctua	soil and tions of	Boring OPM	g No.: -11B		

	TEST BORING LOG																		
	GZ		GZA GeoEnvi Engineer	ronmenta s and Scie	al, Inc. entists			Dartmouth College Bd Rennie Farm Sł Hanover, New Hampshire PF Rł							BORING NO.: OPM-11C SHEET: 1 of 1 PROJECT NO: 04.0190030.02 REVIEWED BY: JMW				
C 1 L	Drillir Forer Logge	ig Co.: nan: ed By:	New I M. Th E. Dy	England I ompson rness	Boring	Contr	r _{actors} Type o Rig M Drillin	of Rig:A odel: M g Metho	TV ID B-57 <b>od:</b> Drive & Wash	Boring Locati Ground Surfa Final Boring I Date Start - F	ion: Ice E Depti inish	See fl <b>ev. (ft</b> . h (ft.): h: 10/12	Plan ): 869.0 10 2/2021 - 10/12/202	21	н. V.	Datum:	:		
1	Auge	r/Casin	g Type:	HW			Samp	ler Typ	e: SS 1-3/8"/2"			ato	Ground	water	Depth (ft.)				
	Hmr	Weight	(lb.):	4 /4-1/2			Sampl	er Hmr V	Vt: 140 lb			ale	Time	vvale	r Deptii	Casili	iy Stau	. Time	
	Hmr Othei	Fall (in. ":	):				Other	er Hmr F :	•all: 30 In										
D	epth	Casing Blows/		Dopth	Samp	le Poc	Blows	SDT	Sample Desc	ription	Jark	Field	Stratum		Equipme	ent Installed			
	(ft)	Rate Min/ft	No.	(ft.)	(in)	(in)	(per 6 in.)	Value	Modified Burr	nister	Ren	Data		(Ħ) (Ħ)		$\times$	ROAD B		
	_		S-1	0-2	24	10	23	7	and GRAVEL, little Silt.								Cuttings 0-1 feet		
	-						10	'			1		SAND & GRAV	'EL			2" PVC 0-10 feet	t	
	-															<ul> <li></li> <li></li> </ul>	Bentonite 1-3 feet	9	
	-		5-2	4-6	24	7	7 9		S-2: Medium dense, tan/a	ray fine SAND		ND	4'	865.0'			Sand		
	5 _			- 0		'	75	16	and SILT, trace Gravel, we	t.							3-5 feet		
	-																		
	-												GLACIAL TIL	L			Slotted P	VC	
	-		S-3	8-10	24	11	23		S-3: Loose, gray, fine SAN	ID and SILT,		ND					5-10 feet	t	
	o_						33	6	trace Gravel, wet.				10'	859.0'					
									Bottom of boring a	t 10 feet.				000.0					
	-																		
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13	30 1.	Field te	 sting res	ults repres	ent tota	al orga	nic vapor level	s, referei		ard, measured in t	 he he	adspace	of sealed soil same	ole jars u	sing a lor	Science	- Tiger ord	anic	
ç	0	vapor m (<0.1 p	neter equ omv).	ipped with	n a phot	toioniza	ation detector	(PID) and	d 10.6eV lamp. Results in p	arts per million by	volur	ne (ppm	v). ND indicates not	detecte	d above ir	nstrument	t detection	limit	
	IAKI																		
	N N N																		
9		a kev fo	explana	ation of se	mple c	lescrin	tions and ide	ntification	procedures Stratification	lines represent a	pprov	imate b	oundaries between	soil and		Dorin			
b	edroc	k types. water ma	Actual tay occur	ransitions due to oth	may b er facto	e grad	ual. Water le	vel readi t at the ti	ings have been made at the mes the measurements we	e times and und re made.	ler th	e condit	ions stated. Fluctua	itions of			ig NO.: /I-11C		

	TEST BORING LOG															
GZ		GZA GeoEnvi Engineer	ironmenta rs and Scie	al, Inc. entists				Dartmouth Co Rennie Far Hanover, New Ha	ollege rm ampshire			BORING NO.: OPM-11D SHEET: 1 of 1 PROJECT NO: 04.0190030.02 REVIEWED BY: JMW				
Drilli Fore Logg	ng Co.: man: jed By:	New M. Th E. Dy	England I ompson rness	Boring	Contr	r _{actors} Type o Rig Mo Drilling	of Rig:A odel: M g Metho	TV ID B-57 <b>od:</b> Drive & Wash	Boring Locati Ground Surfa Final Boring Date Start - F	ion: Ice E Depti inish	See ilev. (ft. h (ft.): i: 10/12	Plan ): 869.1 20 2/2021 - 10/12/202	21	H. Datum V. Datum	:	
Auge	er/Casii	ng Type	: HW			Samp	ler Typ	e: SS 1_3/8"/2"			ata	Ground	water Dept	epth (ft.)		
I.D./ Hmr	O.D.: Weigh	t (lb.):	4"/4-1/2			Sample	er Hmr V	Vt: 140 lb			ale	Time	water De	otn Casir	ig Stab. I ime	
Hmr	Fall (in	.):				Sample Other:	Sampler Hmr Fall: 30 in Other:									
Durt	Casing			Samp	le					1 X	Field	Stratum	Equ	ipment Installed	3	
Ueptr (ft)	Core Rate	No.	Depth	Pen.	Rec.	Blows	SPT	Sample Desci Modified Burr	ription E Test			ਰਿ≣ੂੰ Descriptior	ו שׂבׂ שׂבׂ		- FLUSH MOUNTE	
	Min/ft	S-1	0-2	24	10	(per 0 m.) 4 4	value	S-1: Loose, tan/gray, fine t	to coarse SAND		ND		- 64		NOAD BOX	
5_	-	S-2	4-6	24	17	52 33 55	9	and GRAVEL, trace Silt, m S-2: Loose, gray, fine SAN little Gravel, wet.	noist. ID and SILT,	1	ND	SAND & GRAV	'EL 665.1'		Cuttings 1-3 feet 2" PVC 0-15 feet	
10 _	-	S-3	9-11	24	6	4 7 9 8	16	S-3: Medium dense, gray, SILT, trace Gravel, wet.	fine SAND and		ND	GLACIAL TIL	L	4	Bentonite 3-13 feet	
15 _	-	S-4	14-16	24	12	56 55	11	S-4: Top 0-6": Medium der and SILT, trace Gravel, we Bottom 6-12": Medium der CLAY, trace Gravel, wet.	nse, fine SAND it. nse, gray, SILTY		ND				Sand 13-20 feet	
20	-	S-5	18-20	24	24	WOR 1 2 2	3	S-5: Very loose, gray, SILT Gravel, wet.	TY CLAY, trace		ND	20'	849.1		15-20 feet	
25 _ 30 1	I. Field t	esting res meter equ ppmv).	sults repres	sent tot	al orga	nic vapor levels	s, referer PID) and	Bottom of boring a nced to a isobutylene standa i 10.6eV lamp. Results in p	ard, measured in t arts per million by	he he	adspace ne (ppm	of sealed soil samp v). ND indicates not	ble jars using a detected abo	a lon Science ve instrumen	e - Tiger organic t detection limit	
See lo bedroi ground	og key fo ck types dwater m	or explana Actual t ay occur	ation of sa transitions due to oth	mple o may b er facto	descrip be grad ors thar	tions and ider lual. Water lev n those present	ntificatior vel readi t at the ti	n procedures. Stratification ngs have been made at th mes the measurements we	lines represent a ne times and und re made.	pprox ler th	imate bo e conditi	oundaries between ions stated. Fluctua	soil and tions of	Borir OPN	ng No.: A-11D	

	TEST BORING LOG																	
(	672		GZA GeoEnvi Engineer	ronmenta s and Scie	al, Inc. entists				Dartmouth Co Rennie Far Hanover, New Ha	BORING NO.: OPM-14A SHEET: 1 of 1 PROJECT NO: 04.0190030.02 REVIEWED BY: JMW								
D F L	rillin oren ogge	g Co.: nan: ed By:	New I M. Th E. Dy	England I ompson rness	Boring	Contr	r _{actors} Type o Rig Mo Drilling	of Rig:A odel: M g Metho	TV D B-57 <b>od:</b> Drive & Wash	Boring Locati Ground Surfa Final Boring I Date Start - Fi	on: ce E Deptl inish	See lev. (ft. h (ft.): : 10/14	Plan ): 867.5 10 !/2021 - 10/14/202	21	н. v.	Datum: Datum:		
4	luge	/Casin	g Type:	HW			Samp	ler Typ D (in ) [.]	e: SS 1-3/8"/2"			ato	Ground	water I	Depth (ft.)			
1	Imr \	Neight	(lb.):	4 /4-1/2	-		Sample	er Hmr V	Vt: 140 lb				Time	vvale	Deptil	Casin	y Stat	J. Time
l C	Imr I Other	-all (in. :	):				Other:											
De (	epth ft)	Casing Blows/ Core Rate	No.	Depth	Samp Pen.	Rec.	Blows	SPT Value	Sample Desci Modified Burr	ription nister	temark	Field Test	ू Stratum क ⊕ □	ש. ש.(ש).	Equipmer	nt Installed		
	-	<u>Min/ft</u>	S-1	0-2	24	16	6 3 3 8	6	S-1: Top 0-6": Tan/gray, fir SAND and GRAVEL, some Bottom 6-16": Tan/gray, fir	ne to coarse e Gravel, moist. ne SAND and	1	ND ND	SAND & GRAV 2'	'EL 865.5'			Cuttings 0-1 feet 2" PVC 1-5 feet Bentonit	<u></u>
	- - 5 _		S-2	4-6	24	18	32 33	5	S-2: Tan/gray, SILTY CLAY wet.	Y, little Gravel,		ND					1-3 feet Sand 3-10 fee	t
	-		6.2	0 10	24	16	2.6						GLACIAL TIL	L			Slotted F 5-10 fee	PVC
1	- 0 _			0-10	24		7 6	13	Gravel, wet. Bottom of boring a	t 10 feet.			10'	857.5'				
	-																	
1	5_																	
	_																	
2	- 0 -																	
	-																	
2	5																	
	0																	
BEMARKS 0, 0		Field te vapor m (<0.1 p	sting res neter equ omv).	ults repres iipped with	sent tota	al orga toioniza	nic vapor levels	, referer PID) and	roced to a isobutylene standa i 10.6eV lamp. Results in pr	ırd, measured in ti arts per million by	ne he volur	adspace ne (ppm	of sealed soil samp of. ND indicates not	le jars u	sing a lon d above in	Science strument	- Tiger org detection	ganic limit
S be	ee log edroci	g key for types. water ma	r explana Actual t ay occur	ation of sa ransitions due to oth	ample o may b er facto	descrip e grad ors than	tions and iden lual. Water lev n those present	tificatior /el readi t at the ti	n procedures. Stratification ngs have been made at th mes the measurements wer	lines represent a le times and und re made.	pprox er the	imate bo e conditi	oundaries between ions stated. Fluctua	soil and tions of		Borin OPN	g No. I-14A	:

	TEST BORING LOG															
G		GZA GeoEnvi Engineer	ironmenta rs and Scie	al, Inc. entists			Dartmouth College Rennie Farm Hanover, New Hampshire					BORING NO.:         OPM-14B           SHEET:         1 of 1           PROJECT NO:         04.0190030.02           REVIEWED BY:         JMW				
Drilli Fore Logg	ing Co.: eman: ged By:	: New M. Th E. Dy	England B compson rness	Boring	Contr	r _{actors} Type o Rig Mo Drilling	of Rig:A odel: M g Metho	TV D B-57 <b>od:</b> Drive & Wash	Boring Locati Ground Surfa Final Boring I Date Start - Fi	on: ce E Depti inish	See ilev. (ft. h (ft.): i: 10/14	Plan ): 867.7 20 I/2021 - 10/14/202	21	H. Datum V. Datum	n: n:	
Aug	er/Casi	ng Type	: HW			Samp	ler Typ	e: SS 1-3/8"/2"			at a	Ground	water Dep	epth (ft.)		
Hm	r Weigh	it (lb.):	4"/4-1/2			Sample	er Hmr V	Vt: 140 lb			ale	Time	water De	ter Depth Casing Stab. Time		
Hm	r Fall (ir	า.):				Sample Other:	er Hmr F	<b>all:</b> 30 in								
Durt	Casing	9		Samp	le					ž	Field	Stratum	Equ	uipment Installe	d	
Depti (ft)	Core Rate	No.	Depth	Pen.	Rec.	Blows	SPT	Sample Desci Modified Burr	ription nister	ema	Test	E Description	E) (≣) (≣)			
	Min/ft	S-1	0-2	24	14	(per 6 11.) 6 2	value	S-1: Top 0-5": Loose, tan/g	gray, SAND and	1	ND ND		<u> </u>		KOAD BOX	
5 _	-	S-2	4-6	24	10	39 32 23	5	GRAVEL. Middle 5-12": Brown, fine S Organics, (mud). Bottom 12-14": Tan/gray, f SILT, trace Gravel, moist. S-2: Very loose, tan/gray, S little Gravel, wet.	SAND and SILT, ine SAND and SILTY CLAY,	1	4 ND ND	SAND & GRAV 2'	EL 90		-Cuttings 1-3 feet -2" PVC 0-15 feet	
10 _	-	S-3	9-11	24	19	6 10 10 11	20	S-3: Medium dense, gray, SILT, trace Gravel, wet.	fine SAND and		ND	GLACIAL TIL	L	~	-Bentonite 3-13 feet	
15 ₋	-	S-4	14-16	24	12	1 1 2 2	3	S-4: Very loose, gray, SILT Gravel, wet.	ſY CLAY, little		ND				-Sand 5-20 feet	
20	-	S-5	18-20	24	24	WOR 1 WOR 1	1	S-5: Very loose, gray, SILT Gravel, wet.	TY CLAY, trace		ND	20'	847.7'		-Slotted PVC 15-20 feet	
25 30 9		testing res meter equ	sults repres	sent tot	al orga toioniza	nic vapor levels	s, referen PID) anc	Bottom of boring a nced to a isobutylene standa i 10.6eV lamp. Results in pa	t 20 feet. Ird, measured in ti arts per million by	he he volur	adspace ne (ppm	of sealed soil samp v). ND indicates not	le jars using detected abc	a lon Science	e - Tiger organic tt detection limit	
REMARK		or evolo-	ation of co	mpla	lesorie	tions and idea	tification	a proceduros. Stratification	lings represent -		imate b	aundaries between	soil and			
bedro groun	ck types dwater n	s. Actual t nay occur	transitions due to oth	may b er facto	be grad	ual. Water lev those present	/el readi at the ti	ngs have been made at th mes the measurements wer	e times and und me made.	er th	e condit	ions stated. Fluctua	tions of	OPI	ng No.: M-14B	

	TEST BORING LOG																		
Ċ	57		GZA GeoEnvi Engineer	ronmenta s and Scie	al, Inc. entists			Dartmouth College B Rennie Farm SI Hanover, New Hampshire P R							BORING NO.: OPM-14C SHEET: 1 of 1 PROJECT NO: 04.0190030.02 REVIEWED BY: JMW				
Dr Fo Lo	rilling orem ogge	g Co.: ian: d By:	New I M. Th E. Dy	England E ompson rness	Boring	Contr	r _{actors} Type ( Rig M Drillin	of Rig:A odel: M g Metho	TV ID B-57 <b>od:</b> Drive & Wash	Boring Locati Ground Surfa Final Boring I Date Start - Fi	on: ce E Deptl inish	See fl <b>ev. (ft</b> . h (ft.): h: 10/14	Plan ): 867.5 10 I/2021 - 10/14/202	21	н v	l. Datum: 7. Datum	:		
A	uger/	/Casin	g Type:	HW			Samp	ler Typ D (in.):	e: SS 1-3/8"/2"			ato	Ground	water	Depth r Dopth	(ft.)	a Stab	Timo	
H	mr V	Veight	(lb.):	4 /4-1/2			Sampl	er Hmr V	Vt: 140 lb			uic	Time	vvale	a Depui	Casili	ig Stab	. Time	
н О	mr F ther:	all (in.	):				Other	:											
De	pth	Casing Blows/ Core		Depth	Samp Pen.	le Rec.	Blows	SPT	Sample Desc	ription	nark	Field	d _ Stratum		Equipm	Equipment Installed			
(f	t)	Rate Min/ft	No.	(ft.)	(in)	(in)	(per 6 in.)	ar 6 in.) Value Modified Burmister			Rer	Data		Ele. (ff.		<u> </u>	ROAD BC	DX	
			5-1	0-2	24	0	3 4 5 5	9	S-1: No Recovery		1		SAND & GRAV 2'	'EL 865.5'			Cuttings 0-1 feet 2" PVC 0 10 feet		
	-																Bentonite 1-3 feet		
Ę	5_		S-2	4-6	24	16	32 34	5	S-2: Loose, tan/gray, fine s little Gravel, wet.	SAND and SILT,		ND					3-5 feet		
	-												GLACIAL TIL	L			Slotted P	VC.	
	S-3 8-10 24 17						36 57	3     6     S-3: Medium dense, gray, fine SAND and       5     7     11     SILT, little Gravel, wet.									5-10 feet		
10	) –								Bottom of boring a	t 10 feet.			10'	857.5'		<u></u> ]			
	-																		
15	5_																		
	-																		
	-																		
20	5																		
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í i																			
25	5_																		
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3(	<u></u>																		
REMARKS	1.	Field te vapor m (<0.1 p	sting res ieter equ omv).	ults repres ipped with	ent tota	al orga oioniza	nic vapor level ation detector	s, referei (PID) and	nced to a isobutylene standa d 10.6eV lamp. Results in p	rd, measured in ti arts per million by	he he volur	adspace ne (ppm	e of sealed soil sam; v). ND indicates not	ble jars ( detecte	using a lo ed above i	n Science nstrument	- Tiger orga t detection I	anic limit	
Se be gro	e log drock oundw	key for types. /ater ma	explana Actual t ay occur	ation of sa ransitions due to othe	mple o may b er facto	lescrip e grad ors than	tions and iden lual. Water le n those presen	ntificatior vel readi t at the ti	n procedures. Stratification ings have been made at th mes the measurements we	lines represent a e times and und e made.	oprox er the	imate be e condit	oundaries between ions stated. Fluctua	soil and itions of	f	Borin OPN	ng No.: //-14C		

	TEST BORING LOG																	
G	ZN	GZA GeoEnv Engineer	ironmenta rs and Scie	al, Inc. entists				Dartmouth Co Rennie Far Hanover, New Ha	BORING NO.: OPM-14D SHEET: 1 of 1 PROJECT NO: 04.0190030.02 REVIEWED BY: JMW									
Drill For Log	ling Co. eman: ged By:	: New M. Th E. Dy	England I ompson rness	Boring	Contr	r _{actors} Type o Rig Mo Drilling	of Rig:A odel: M g Metho	TV ID B-57 <b>od:</b> Drive & Wash	Boring Locati Ground Surfa Final Boring Date Start - F	ion: ace E Depti inish	See Elev. (ft. h (ft.): h: 10/13	Plan ): 867.4 20 3/2021 - 10/13/202	21	H. Dati V. Dat	um: um:			
Aug	ger/Casi	ng Type	: HW			Samp	ler Typ D (in ) [.]	e: SS 1-3/8"/2"			ato	Ground	Water De	r Depth (ft.)				
Hm	r Weigł	nt (Ib.):	4 /4-1/2	-		Sample	er Hmr V	Vt: 140 lb			ate	Time	Water L		ising a	Stab. Time		
Hm	r Fall (i er:	n.):				Sample Other:	er Hmr F :	all: 30 in										
Dept	Casing Bows/ Core     Sample       Depth     Bows/ Core     Depth       Depth     Depth       Pen     Rec       Blows/     SPT       Sample Description     Test       Blows/     Test       Blows/     SPT													Equipment Inst	alled			
(ft)	Core Rate	No.	Depth (ft.)	Pen.	Rec.	Blows (per 6 in.)	SPT  Value	Modified Burr	nister	Sem	Test Data	ਿਊ ਦੇ Description	ן ∰ Ele`	FLUSH M ROAD BC				
		S-1	0-2	24	8	2 4		S-1: Loose, tan/gray, fine t	e, tan/gray, fine to coarse SAND					र छित्रे				
5	-	S-2	4-6	24	14	5 5 1 2 4 3	9	and GRAVEL, little Silt, mo S-2: Loose, tan/gray, CLA Gravel, wet.	oist. YEY SILT, trace	1	ND	SAND & GRAV 2'	YEL 865.4' (C		<ul> <li>←Cuttir 1-3 fe</li> <li>—2" PV 0-15</li> <li>←Bentc 3-5 fe</li> </ul>	ngs eet /C feet onite eet		
10	-	S-3	9-11	24	8	4 4 5 5	9	S-3: Loose, gray, CLAYEY Gravel, wet.	′ SILT, trace		ND	GLACIAL TIL			<ul><li>Sand 5-20</li></ul>	feet		
15	-	S-4	14-16	24	10	3 4 3 10	7	S-4: Loose, gray, CLAYEY Gravel, wet.	ŚILT, trace		ND							
20	-	S-5	18-20	24	13	53 55	8	S-5: Loose, gray, CLAYEY Gravel, wet.	' SILT, trace		ND	20'	847.4		Slotte 15-20	ed PVC 0 feet		
	1							Bottom of boring a	t 20 feet.									
25	- - - - - -								rd monuted in t							rorgania		
REMARKS	1. Field vapor (<0.1	for evolop	ation of so	ample of	al orga toioniza	nic vapor level ation detector ( tions and iden	s, referer (PID) and	nced to a isobutylene standa d 10.6eV lamp. Results in pro-	rd, measured in t arts per million by	he he volur	imate b	e of sealed soil samp v). ND indicates not	ole jars usin detected a	g a lon Scie bove instrun	nce - Tige nent detec	r organic tion limit		
bedro groui	ock type: ndwater i	s. Actual may occur	transitions due to othe	may b er facto	be grad	lual. Water level those present	vel readi t at the ti	ings have been made at th	e times and und re made.	ler th	e conditi	ions stated. Fluctua	itions of	О В0	ring N PM-14	D.:		
-						-												



GZA GeoEnvironmental, Inc.