

Ms. Jolene Lozewski, P.G.
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau A
625 Broadway 12th Floor
Albany, NY 12233-7015

Arcadis of New York, Inc.
201 Fuller Road
Suite 201
Albany, NY 12203
United States
Phone: 518 250 7300
www.arcadis.com

Date: July 10, 2024
Our Ref: ARC86277
Subject: Revised 2022 Groundwater Sampling Report
Von Roll Isola USA, Inc. (Riverview) Site
Rotterdam, New York
Site No.: 447005

Dear Ms. Lozewski,

On behalf of the General Electric Company (GE), attached for your review is the Revised 2022 Groundwater Sampling Report for the Von Roll Isola USA, Inc. property (formerly GE Riverview Plant) in Rotterdam, New York (New York State Department of Environmental Conservation [NYSDEC] Site No. 447005). This Report addresses the NYSDEC's June 13, 2024 comments on the original submittal dated November 2023. As requested by the NYSDEC, the recommendations for additional soil and groundwater investigation in the vicinity of VRI-1 will be provided under separate cover. Should you have any questions on this report, please contact me at (518) 514-8932, or Mr. Niel Walker from GE at niel.walker@ge.com.

Sincerely,
Arcadis of New York, Inc.



Doug Weeks
Project Manager

Email: doug.weeks@arcadis.com
Mobile: 518.514.8932

CC. Niel Walker, GE Aerospace
Andrew Gibson, Arcadis
Harolyn Hood, NYSDOH
Matthew Gregory, Von Roll USA, Inc.

General Electric Company

Revised 2022 Groundwater Sampling Report

**Von Roll Isola USA, Inc. (Riverview) Site
Rotterdam, New York
Site No.: 447005**

July 2024

Revised 2022 Groundwater Sampling Report

Von Roll Isola USA Inc. (Riverview) Site

Rotterdam, New York

Site No.: 447005

July 2024

Prepared By:

Arcadis U.S., Inc.
201 Fuller Road, Suite 201
Albany, NY 12203
United States

Prepared For:

General Electric Company
Schenectady, New York

Our Ref:

ARC86277

Contents

1	Introduction.....	1
2	Groundwater Sampling and Analysis.....	2
3	Groundwater Analytical Results	2
4	Recommendations.....	3
5	References	3

Table

Table 1	2022 Groundwater Analytical Data Summary
----------------	---

Figures

Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	Overburden Potentiometric Surface Elevation Contours – December 1, 2022
Figure 4	2022 Groundwater Sampling Analytical Results – Select VOCs
Figure 5	Historical Groundwater Sampling Analytical Results – Select VOCs

Appendices

Appendix A.	Groundwater Sampling Event Field Data Sheets
Appendix B.	2022 Groundwater Analytical Data Package
Appendix C.	Data Usability Summary Report

1 Introduction

The General Electric Company (GE) entered into an Order on Consent with the New York State Department of Environmental Conservation (NYSDEC) in December 2013 to investigate and remediate portions of the Von Roll Isola USA, Inc. site (the Riverview Site, or Site) located in Rotterdam, Schenectady County, New York (NYSDEC vs. GE, 2013). The Riverview Site is identified as a portion of Block 2 and Lot 2 on the Rotterdam, NY Tax Map ID #48.-2-8.2. The Site encompasses a 22.12-acre area bounded by a steep embankment and the Delaware and Hudson (D&H) Railroad to the north, Campbell Road and the Town of Rotterdam publicly owned treatment works (POTW) and Campbell Plastics to the south, residential areas to the east, and the D&H Railroad and Rotterdam Square Mall to the west. A Site Location Map is presented as **Figure 1**. A Site Plan is presented as **Figure 2**.

In February 2014, a Remedial Design/Remedial Action (RD/RA) Work Plan detailing the implementation of the remedial alternative for the Site was finalized (Conestoga Rovers & Associates [CRA] 2014). The selected remedy included the following components: in-situ chemical oxidation (ISCO) involving injections of sodium persulfate to treat volatile organic compounds (VOCs) in the soil and groundwater, post-injection groundwater monitoring to assess the performance of the injections, execution and recording of an Environmental Easement to restrict groundwater use and prevent future exposure to remaining impacts at the Site, and the development and implementation of a Site Management Plan (SMP). The first of two rounds of ISCO injections were completed in August 2014, and the second round was completed in April 2015, as detailed in the Draft Final Engineering Report (CB&I 2015). The SMP, which details the protocols for management of remaining Site impacts, is currently under review by NYSDEC (Arcadis 2017).

The groundwater sampling event conducted in 2019 constituted the final monitoring event specified under the NYSDEC-approved RD/RA Work Plan (CRA 2014). However, in the 2019 Annual Groundwater Sampling Report (Arcadis 2019), GE recommended continuation of the annual groundwater monitoring program to include a round of water level gauging at all accessible site wells and sampling at a subset of nine wells (injection wells IW-3 and IW-6, and monitoring wells VRI-1, VRI-3, VRI-4, VRI-9, GT-9R, GT-14, GT-16). Accordingly, groundwater monitoring was completed at the Site in 2020 and 2021 per the recommendations presented in the 2019 report.

On September 13, 2022, GE received a letter from NYSDEC indicating their concurrence with the recommendation to continue the groundwater monitoring program and requesting that the sampling frequency be reduced to every fifth quarter to assess the potential for seasonal fluctuations in contaminant concentrations. The NYSDEC letter also stated that “...groundwater in the vicinity of VRI-1 (specifically IW-6) is not approaching groundwater standards, which may indicate additional source material at depth”. The NYSDEC requested that GE submit a work plan with the next groundwater monitoring results, to address the groundwater contamination remaining in the vicinity of the VRI-1.

On November 15, 2023, GE submitted the 2022 Groundwater Sampling Report (Report) to NYSDEC. The Report presented the results of the groundwater sampling conducted at the Site in December 2022 (as well as a summary of the historical groundwater data for the Site) and also described the proposed additional investigation activities in the vicinity of VRI-1 to further assess the extent of the groundwater impacts and inform the scope of future remediation activities. On June 13, 2024, GE received comments from NYSDEC on the Report. This Revised 2022 Groundwater Sampling Report (Revised Report) addresses the NYSDEC’s comments on the original November 2023 submittal. As requested by NYSDEC in their June 2024 comment letter, the scope of the proposed additional

investigation activities in the vicinity of VRI-1 will be provided to NYSDEC in a separate deliverable and will incorporate the NYSDEC's comments on the scope as presented in their June 13, 2024 letter.

2 Groundwater Sampling and Analysis

The 2022 groundwater sampling event was conducted by Arcadis, on behalf of GE, on December 1 and December 2, 2022. Nine groundwater samples were collected from seven monitoring wells (VRI-1, VRI-3, VRI-4, VRI-9, GT-9R, GT-14, GT-16) and two injection wells (IW-3 and IW-6) for VOC analyses. The monitoring well and injection well locations are shown on **Figure 3**. Sampling was performed in accordance with the Arcadis Site Health and Safety Plan (HASP).

Prior to sampling, each well was gauged using a water level meter and depth to water and depth to bottom measurements were recorded to the nearest 0.01 foot from the top of the well casing¹. The measured groundwater elevations and potentiometric surface contours are shown in **Figure 3**.

Wells were pumped for 30 minutes or until field parameters stabilized, whichever was longer. Sampling was performed using a QED Sample Pro MicroPurge Pump and polyethylene bonded tubing. Groundwater geochemical field parameter data were measured and recorded on field data sheets prior to sample collection. These field parameters included temperature, potential hydrogen (pH), conductivity, oxidation-reduction potential, dissolved oxygen, and turbidity (as measured using a Horiba multi-parameter system with a flow-through cell). Purge water was collected in a labeled 55-gallon drum and staged on-site for subsequent off-site disposal. The water level meter and other applicable equipment was decontaminated between well locations (i.e., scrubbed using non-phosphate soap and rinsed with distilled water).

Once the field parameters had stabilized, groundwater samples were collected in pre-cleaned, preserved sample containers provided by the laboratory (Eurofins in Amherst, NY) Eurofins is a National Environmental Laboratory Accreditation Program (NELAP)-certified laboratory. Quality Assurance/Quality Control (QA/QC) samples included one Matrix Spike/Matrix Spike Duplicate (MS/MSD) pair collected from IW-3, one blind field duplicate sample collected from VRI-1, one field blank, and one trip blank (prepared by Eurofins). The completed field data sheets are included in **Appendix A**. Samples were labeled, packed on ice, and delivered under chain-of-custody (COC) to Eurofins for analysis. Samples were analyzed for Target Compound List (TCL) VOCs, as well as several non-standard VOCs of interest (1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, isopropylbenzene, and n-propylbenzene), via United States Environmental Protection Agency (USEPA) Method 8260C. A copy of the COC documentation is provided in the laboratory analytical data package provided in **Appendix B**.

3 Groundwater Analytical Results

The analytical results for the 2022 groundwater sampling event are summarized in **Table 1** and in **Figure 4**. A copy of the complete laboratory analytical report is provided in **Appendix B** and the data will be provided to NYSDEC

¹ Monitoring well VRI-2 was buried beneath large piles of trees and vegetation which had been cleared by others from within the nearby power line right-of-way; as a result VRI-2 could not be accessed for water level gauging. Note that the original 2022 Report submittal (Figure 3) mistakenly indicated that a water level measurement was collected from GT-13; rather the water level was collected from GT-3.

electronically using the EQulS database. The groundwater data were validated by Arcadis and a Data Usability Summary Report (DUSR) was prepared (**Appendix C**). All the data are considered valid and useable.

The 2022 groundwater VOC data are presented, along with historical VOC sampling results, in **Figure 5**. Analytical results for VOCs were compared to the New York State Ambient Water Quality Standards and Guidance Values, as defined in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1; NYSDEC 1998). Downgradient perimeter monitoring wells GT-14, VRI-3, and VRI-4 exhibited no detections for VOCs in 2022. There were no exceedances of any individual water quality standards at monitoring wells GT-14, GT-9R, VRI-3, and VRI-4. Trichloroethylene (TCE) was detected at a concentration exceeding the NYS standard of 5 µg/L at one well (GT-16, 7.2 ug/L); however, this concentration is generally within the range of concentrations detected at this well during historical monitoring events. In addition, the VOC compounds 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and total xylenes were detected at levels exceeding the NYS Ambient Water Quality Standards in IW-3, IW-6 and VRI-1; and isopropylbenzene and n-propylbenzene were detected at concentrations exceeding the NYS Ambient Water Quality Standards in IW-6 and VRI-1. In addition, ethylbenzene and acetone were detected at concentrations exceeding the NYS Ambient Water Quality Standards in VRI-1. No other VOC compounds were detected at levels exceeding the NYS Ambient Water Quality Standards (Table 1).

4 Recommendations

Historical analytical data (**Figure 5**) demonstrate that the groundwater impacts at the Site are primarily localized to a small area in the vicinity of VRI-1 and slightly to the east at GT-9R. The three monitoring wells located downgradient from VRI-1 and GT-9R at the perimeter of the Von Roll Site (i.e., GT-14, VRI-3, and VRI-4) have shown low or no detections of site-related COCs for the last several monitoring events dating back to 2016. Additionally, there are no potential downgradient groundwater receptors between the Site and the Mohawk River, located approximately one mile to the northeast².

Based on the results of the groundwater monitoring conducted at the Site in December 2022, GE recommends continued groundwater monitoring at the Site consistent with the work performed from 2020 – 2022 and NYSDEC's recommendation for sampling every fifth quarter. Specifically, groundwater monitoring will include water level gauging at all accessible Site wells and sampling the subset of nine wells that were sampled in 2020-2022 (injection wells IW-3 and IW-6, and monitoring wells VRI-1, VRI-3, VRI-4, VRI-9, GT-9R, GT-14, GT-16). The next monitoring event will be conducted in the first quarter of 2024. The data from the routine monitoring events will continue to be reported to NYSDEC and submitted electronically via EQulS. In addition to the continuation of the routine groundwater monitoring program at the Site, GE proposes to perform additional soil and groundwater investigation in the vicinity of VRI-1 to better define the horizontal and vertical extent of impacts and inform the scope of potential future remediation activities to address the residual groundwater impacts remaining in that area. As requested by NYSDEC, the scope of the additional investigation activities will be submitted to NYSDEC as a separate deliverable.

5 References

Arcadis. 2017. Draft Site Management Plan. Prepared for GE-Corporate Environmental Programs, Von Roll Site, Schenectady, NY. September.

² Groundwater beneath the Site is not in direct hydraulic connection with the Schenectady and Rotterdam well field aquifer (O'Brien & Gere Engineers, Inc. 1998)

2022 Groundwater Sampling Report

- Arcadis. 2019. 2019 Groundwater Sampling Report. Prepared for General Electric Company, Von Roll Site, Schenectady, NY. April.
- Arcadis. 2020. 2020 Groundwater Sampling Report. Prepared for General Electric Company, Von Roll Site, Schenectady, NY. April.
- Arcadis. 2021. 2021 Groundwater Sampling Report. Prepared for General Electric Company, Von Roll Site, Schenectady, NY. April.
- Arcadis. 2020. Site-Specific Health and Safety Plan. Prepared for General Electric Company, Von Roll Site, Schenectady, NY. July.
- Arcadis. 2023. 2022 Groundwater Sampling Report. Prepared for General Electric Company, Von Roll Site, Schenectady, NY. November.
- Conestoga-Rovers & Associates. 2014. Remedial Design/Remedial Action Work Plan. Prepared for GE-Corporate Environmental Programs, Von Roll Site, Schenectady, NY. February.
- New York State Department of Environmental Conservation. 1998. Technical & Operational Guidance Series (TOGS) 1.1.1 - Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. Division of Water Technical and Operational Guidance Series. June (and subsequent amendments). Available at: <http://www.dec.ny.gov/regulations/2652.html>.
- New York State Department of Environmental Conservation. 2022. Correspondence. Site # 447005 Von Roll Isola USA Inc. GE Riverview Facility; Annual Groundwater Report - 2020 and 2021; Order on Consent #A4-0800-12-12. September 12.
- New York State Department of Environmental Conservation vs. General Electric Company. 2013. Order on Consent and Administrative Settlement, Index #4A-0800-12-12-. Site #447005. December 16.
- O'Brien & Gere Engineers, Inc. 1998. Summary Report Riverview Facility Schenectady, New York. Prepared for General Electric Company. July.

Table

- Notes:**
1. Samples were collected by Arcadis of New York, Inc. and submitted to Eurofins Environmental Testing for analysis.
 2. Field duplicate sample results are presented in brackets.
 3. Gray shading and bolded text indicates detection exceeding the NYS Ambient Water Quality Standards and Guidance Values, defined in TOGS 1.1.1

Data Qualifiers:

J - Indicates an estimated value.

U - The analyte was not detected. The associated value is the analyte quantitation limit.

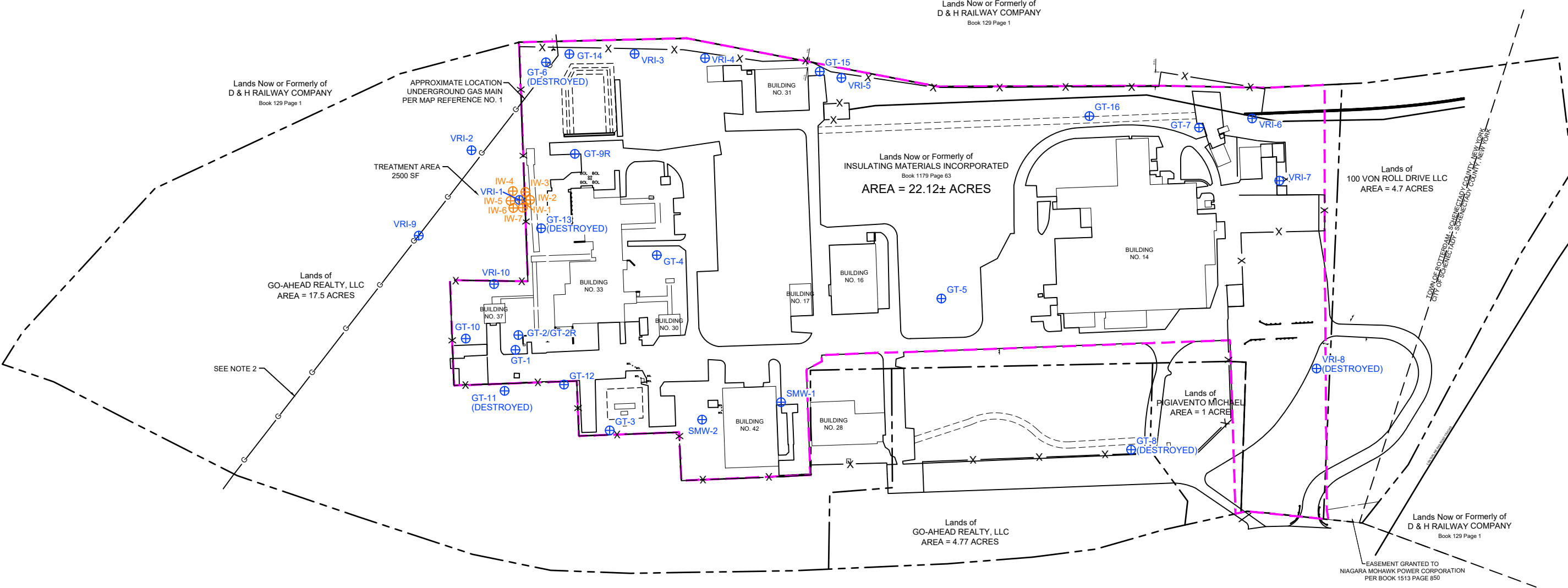
UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

UB - Compound is considered non-detect at the listed value due to associated blank contamination.

D - Concentration is based on a diluted sample analysis.

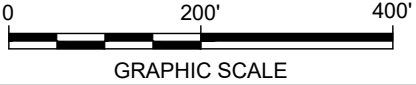
Figures

XREFS:
GEN-X-BASE



- NOTES:**
- 1. ALL PROPERTY BOUNDARIES SHOWN ARE APPROXIMATE.
 - 2. GAS LINE IS BELIEVED TO HAVE BEEN PARTIALLY OR COMPLETELY REMOVED. STATUS CURRENTLY UNCLEAR.

LEGEND:	
	APPROXIMATE VON ROLL ISOLA USA, INC. PROPERTY BOUNDARY
	PROPERTY BOUNDARY LINE
	CHAIN LINK FENCE
	BUILDING
	GAS
	GROUNDWATER MONITORING WELL
	ISCO INJECTION WELL



GENERAL ELECTRIC COMPANY
VON ROLL ISOLA USA, INC. PROPERTY (RIVERVIEW SITE)
ROTTERDAM, NEW YORK

SITE PLAN

ARCADIS

FIGURE
2

Appendix A

Groundwater Sampling Event Field Data Sheets



Water Level Measurement Form

Page 1 of 2

Project Name: GE Riverview

Date: 12/1/2022

Project Number: 30006483

Weather: 37 F, Cloudy

Field Personnel: A. Gibson

gallon/foot

2" = 0.16

3" = 0.37

4" = 0.65

2-½" = 0.26

3-½" = 0.50

6" = 1.47

Well ID	Time	DTB (ft)	DTW (ft)	Notes
VRI-9	1015	69.52	63.88	
IW-4	1007	71.36	62.89	
IW-5	1004	71.15	62.92	
IW-6	1000	70.4	62.87	
VRI-1	0944	69.83	63.39	
IW-1	0946	69.7	63.20	
IW-7	0949	71.24	63.12	
IW-3	0953	71.00	63.13	
IW-2	0957	71.92	63.40	
VRI-10	0936	72.30	63.80	
GT-10	0934	71.99	64.00	
G2-2R	0930	63.68	63.68	
GT-1	0932	65.48	62.20	
GT-3	0940	67.80	61.38	
SMW-2	0925	71.70	64.98	
SMW-1	0922			

Appendix B

2022 Groundwater Analytical Data Package

Eurofins Buffalo

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing Northeast, LLC Buffalo and its client. All questions regarding this report should be directed to the Eurofins Environment Testing Northeast, LLC Buffalo Project Manager or designee who has signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northeast, LLC Project Manager.

Authorization



Generated
12/19/2022 4:24:33 PM

Authorized for release by
Judy Stone, Senior Project Manager
Judy.Stone@et.eurofinsus.com
Designee for
John Schove, Project Manager II
John.Schove@et.eurofinsus.com
(716)504-9838

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	8
Surrogate Summary	26
QC Sample Results	27
QC Association Summary	38
Lab Chronicle	39
Certification Summary	41
Method Summary	42
Sample Summary	43
Chain of Custody	44
Receipt Checklists	46



Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: GE Riverview

Job ID: 480-204448-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	

