ARCADIS Design & Consultancy for natural and built assets

AUGUST 2016 SEMI-ANNUAL GROUNDWATER SAMPLING REPORT

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

October 2016

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Rotterdam, New York
Site No.: 447005

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ACRONYMS AND ABBREVIATIONS

CB&I	CB&I Environmental & Infrastructure, Inc.
COC	Chain-of-Custody
D&H	Delaware and Hudson
DF	Dilution Factor
DUSR	Data Usability Summary Report
EDD	Electronic Data Deliverable
GE	General Electric Company
ISCO	In-Situ Chemical Oxidation
MRL	Method Reporting Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NELAP	National Environmental Laboratory Accreditation Program
NYSDEC	New York State Department of Environmental Conservation
NYSGWQS	New York State Ground-Water Quality Standards
POTW	Publicly Owned Treatment Works
QA/QC	Quality Assurance/Quality Control
RD/RA	Remedial Design/Remedial Action
RPD	Relative Percent Difference
Site	Riverview Site
SMP	Site Management Plan
TCL	Target Compound List
TOGS	Technical and Operational Guidance Series
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

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. property (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 is situated on an approximate 22.12-acre area bounded by a steep embankment and 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 (see **Figure 1**). See **Figure 2** for Site Plan.

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) 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 any remaining contamination at the Site, and the development and implementation of a draft Site Management Plan (SMP) (Chicago Bridge and Iron, Inc. [CB&I] 2015). The draft SMP, which was submitted to the NYSDEC in September 2015, details the protocols for management of remaining Site impacts as required by the Environmental Easement.

In accordance with the schedule presented in the RD/RA Work Plan (Conestoga Rovers & Associates 2014), in the second year (i.e., 2016) following the initial ISCO injections, semi-annual groundwater monitoring and reporting was to be performed. The first semi-annual event in 2016 was completed in February by CB&I. The second semi-annual event in 2016 was completed in August by Arcadis of New York, Inc. (Arcadis). This report includes the information from the August 2016 semi-annual monitoring event and a summary of historical monitoring events associated with the remedial actions specified in the RD/RA Work Plan (CRA 2014).

2 GROUNDWATER SAMPLING AND ANALYSIS

The August 2016 semi-annual groundwater sampling event was conducted between August 15 and August 17, 2016. A total of 21 groundwater samples, including quality assurance/quality control (QA/QC) samples, were collected from the following 10 monitoring wells: VRI-1, VRI-2, VRI-3, VRI-4, VRI-9, GT-7, GT-9R, GT-14, GT-15, and GT-16[1], and seven injection wells: IW-1, IW-2, IW-3, IW-4, IW-5, IW-6, and IW-7 (refer to **Figure 3** for locations). The work was performed in accordance with the RD/RA Work Plan and the Site Health and Safety Plan (HASP) (Arcadis 2016). QA/QC samples included one Matrix Spike/Matrix Spike Duplicate (MS/MSD) pair collected from IW-4, one field duplicate sample collected from IW-6, one field blank, and one trip blank (prepared by Pace Analytical Services, Inc.[Pace]).

Prior to sampling, each well was gauged for depth to water and depth to bottom measurements using a water level meter. These measurements were recorded to the nearest 0.01 foot from the top of the well casing. The wells were sampled utilizing low-flow techniques, including a bladder pump with a QED compressor. The pump was positioned such that the intake was located at the approximate midpoint of the well screen. The wells were pumped until field parameters stabilized or at least three well volumes were evacuated. Groundwater geochemical field parameter data were collected and documented on field data sheets prior to sample collection. These field parameters included temperature, pH, conductivity, oxidation-reduction potential, dissolved oxygen, and turbidity (as measured using a YSI multi-parameter system with a flow cell). Field data sheets are included in **Appendix A**. All purge water was collected in a properly labeled 55-gallon drum, and staged for subsequent characterization and off-site disposal by Arcadis. The water level meter and all other applicable equipment was cleaned using non-phosphate soap and distilled water rinse between each well location.

Once the field parameters properly stabilized, groundwater samples were collected and transferred into pre-cleaned USEPA-approved sample containers provided by Pace. Samples were labeled, packed on ice, and delivered under proper COC to Pace upon completion of the sampling event on August 17, 2016. All 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 and USEPA prep method 5030C by Pace Analytical Services, Inc. (Pace), a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory in Schenectady, NY. A copy of the COC documentation is provided in **Appendix B**. The lab noted that due to a foamy matrix, several samples (VRI-1, IW-2, IW-3, IW-5, and IW-6 [and duplicate]) were analyzed at a dilution factor (DF) to bring the target analysis within calibration range. Following the completion of laboratory analyses, the resulting data packages were validated by Arcadis and a Data Usability Summary Report (DUSR) was prepared.

[1] Monitoring well GT-16, which was noted by CB&I as having an obstruction during the February 2016 semi-annual groundwater monitoring event, was inspected by Arcadis on July 22, 2016. Upon inspection, Arcadis determined that the obstruction was caused by sample tubing that had been left inside the well casing. Arcadis removed the tubing from the well and a push-rod camera was utilized to verify that GT-16 was not compromised; with the removal of the tubing, Arcadis determined that the well could be sampled in August 2016.

3 ANALYTICAL RESULTS

The analytical results for the August 2016 semi-annual groundwater sampling event are summarized on **Table 1** and **Figure 3**. A copy of the complete laboratory analytical report is provided in **Appendix B** and the Electronic Data Deliverable (EDD) is provided in **Appendix C**. The Data Usability Summary Report in **Appendix D** presents a review of the analytical report, duplicate sample, field blank sample, and trip blank and indicates that the data are considered valid and useable.

These analytical results have been compared to the New York State Ground-Water Quality Standards (NYSGWQS) as defined in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) (NYSDEC 1998). TCE was detected at a concentration of 7 µg/L in monitoring well GT-16. While this concentration slightly exceeds the NYSDEC groundwater standard of 5 µg/L, it is within the historical range of detected concentrations at this well. TCE was also detected in monitoring well GT-15, but at a concentration of 4 ug/L, which is below the NYSDEC groundwater standard. TCE was not detected in any of the seven injection wells surrounding VRI-1, or VRI-1 itself, but each of these wells exhibited at least one detection of VOCs at a concentration greater than the NYSGWQS.

The August 2016 semi-annual sampling event results have also been compared to historical sampling results in **Figure 4**. Monitoring well VRI-1, which in 2002 exhibited a total VOC concentration exceeding 29,000 µg/L and was the primary focus of the initial ISCO injections, had a total VOC concentration during the August 2016 sampling event of 561 J µg/L. Total VOC concentrations in the injection wells ranged from 16 J µg/L in IW-4 to 9,780 J µg/L in IW-5. Whereas in February 2016 the Total VOC concentrations in the injection wells ranged from 46 µg/L at IW-7 to 17,280 µg/L in IW-5. Total VOC concentrations at IW-3, IW-4, IW-5, and IW-6 decreased in comparison to the February 2016 sampling event, whereas total VOC concentrations at IW-1, IW-2, IW-7, and VRI-1 increased in comparison to the February 2016 sampling event. Total VOC concentrations increased slightly at monitoring wells GT-14, GT-15, and VRI-4, and five of the monitoring well locations were non-detect for select VOCs (GT-7, GT-9R, VRI-2, VRI-3, and VRI-9).

4 SUMMARY

The August 2016 semi-annual groundwater sampling event was successfully completed in accordance with the RD/RA Work Plan. Samples were collected from 10 groundwater monitoring wells and the 7 injection wells.

In general, the field parameters and analytical results obtained during this event are consistent with those from previous sampling events. The VOC concentrations detected in GT-16 in August 2016, specifically TCE, were observed to be within the historical range of detections and trending downward when compared to earlier data. Compared to the February 2016 data, total VOC concentrations decreased at 4 of the 7 injection wells (IW-3, IW-4, IW-5, and IW-6), and increased at the others (IW-1, IW-2, and IW-7).

The next groundwater sampling event (the first of the three annual monitoring events outlined in the RD/RA Work Plan) is tentatively planned for May 2017. The May 2017 groundwater sampling is to include the collection of groundwater and associated QA/QC samples from the same wells sampled in August 2016.

5 REFERENCES

Arcadis. 2016. Site-Specific Health and Safety Plan. Prepared for General Electric Company, Von Roll Site, Schenectady, NY. July.

Chicago Bridge and Iron, Inc. 2015. Draft Site Management Plan. Prepared for GE-Corporate Environmental Programs, Von Roll Site, Schenectady, NY. September.

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TABLE

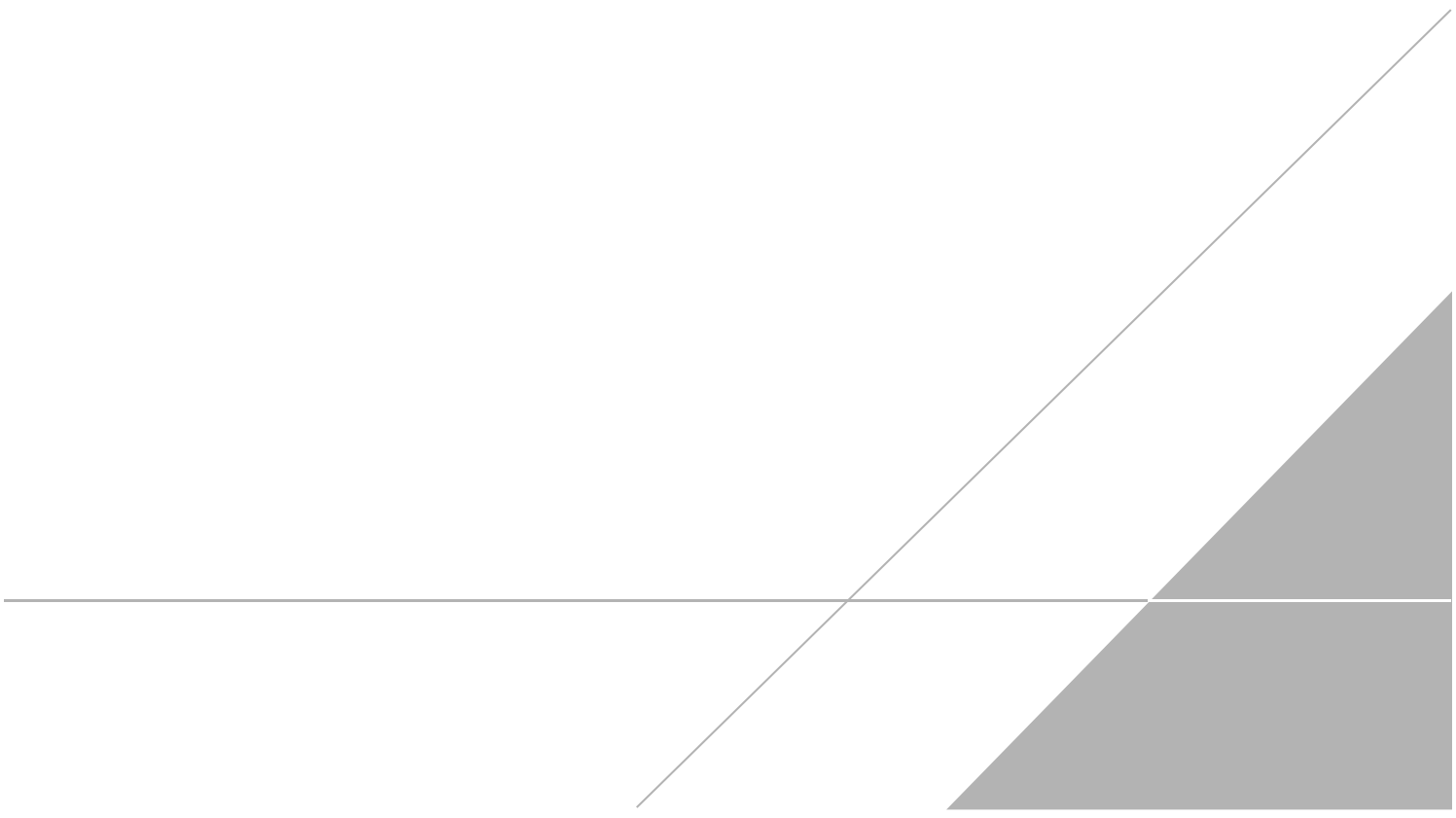

Table 1
August 2016 Groundwater Analytical Summary - Volatile Organic Compounds
August 2016 Semi-Annual Groundwater Sampling Report
Von Roll Isola USA, Inc. (Riverview)
Rotterdam, New York

ARCADIS Design & Consultancy for natural and built assets

Location ID: Date Collected: Sample Name:	Units	GT-7 08/17/16 GT-7_20160817	GT-9 08/17/16 GT-9_20160817	GT-14 08/17/16 GT-14_20160817	GT-15 08/17/16 GT-15_20160817
Volatile Organics					
1,1,1-Trichloroethane	ug/L	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U
1,1,2-trichloro-1,2,2-trifluoroethane	ug/L	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	1 U	1 U	1 U	1 U
1,1-Dichloroethene	ug/L	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	ug/L	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	ug/L	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	ug/L	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dibromoethane	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	ug/L	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U
2-Butanone (MEK)	ug/L	5 UJ	5 UJ	5 UJ	5 UJ
4-Methyl-2-Pentanone	ug/L	5 UJ	5 UJ	5 UJ	5 UJ
Acetone	ug/L	5 UJ	5 UJ	**1 J**	5 UJ
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U
Bromoform	ug/L	1 UJ	1 UJ	1 UJ	1 U
Bromomethane	ug/L	1 U	1 U	1 U	1 U
Carbon Disulfide	ug/L	1 UJ	1 UJ	1 UJ	1 U
Carbon Tetrachloride	ug/L	1 U	1 U	1 U	1 U
CFC-11	ug/L	1 U	1 U	1 U	1 U
CFC-12	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U
Chlorodibromomethane	ug/L	1 U	1 U	1 U	1 U
Chloroethane	ug/L	1 U	1 U	1 U	1 U
Chloroform	ug/L	1 U	1 U	1 U	1 U
Chloromethane	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
cis-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
Cyclohexane	ug/L	1 U	1 U	1 U	1 U
Dichloromethane	ug/L	1 U	1 U	1 U	1 U
Isopropylbenzene	ug/L	1 U	1 U	1 U	1 U
Methyl Acetate	ug/L	1 U	1 U	1 U	1 U
Methyl N-Butyl Ketone (2-Hexanone)	ug/L	5 UJ	5 U	5 UJ	5 UJ
Methylcyclohexane	ug/L	1 U	1 U	1 U	1 U
N-Propylbenzene	ug/L	1 U	1 U	1 U	1 U
Styrene (Monomer)	ug/L	1 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
Trichloroethene	ug/L	1 U	1 U	1 U	**4**
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U
Benzene	ug/L	1 U	1 U	1 U	1 U
Toluene	ug/L	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U
Total Xylenes	ug/L	3 U	3 U	3 U	3 U
Methyl-tert-butylether	ug/L	1 U	1 U	1 U	1 U
Total VOCs (Max DL)	ug/L	5 U	5 U	1 J	4

Table 1
August 2016 Groundwater Analytical Summary - Volatile Organic Compounds
August 2016 Semi-Annual Groundwater Sampling Report
Von Roll Isola USA, Inc. (Riverview)
Rotterdam, New York

ARCADIS Design & Consultancy for natural and built assets

Location ID: Date Collected: Sample Name:	Units	GT-16 08/17/16 GT-16_20160817	IW-1 08/16/16 IW-1_20160816	IW-2 08/16/16 IW-2_20160816	IW-3 08/16/16 IW-3_20160816
Volatile Organics					
1,1,1-Trichloroethane	ug/L	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U
1,1,2-trichloro-1,2,2-trifluoroethane	ug/L	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	1 U	1 U	1 U	1 U
1,1-Dichloroethene	ug/L	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	ug/L	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	ug/L	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	ug/L	1 U	**150**	**1,100 D**	**1,600 D**
1,2-Dibromo-3-chloropropane	ug/L	1 UJ	1 UJ	1 U	1 UJ
1,2-Dibromoethane	ug/L	1 UJ	1 UJ	1 U	1 UJ
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	ug/L	1 U	**87**	**720 D**	**1,700 D**
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U
2-Butanone (MEK)	ug/L	5 UJ	5 UJ	**11 J**	**2 J**
4-Methyl-2-Pentanone	ug/L	5 UJ	5 UJ	5 UJ	5 UJ
Acetone	ug/L	5 UJ	5 UJ	**310 DJ**	**44**
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U
Bromoform	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
Bromomethane	ug/L	1 U	1 U	1 U	1 U
Carbon Disulfide	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
Carbon Tetrachloride	ug/L	1 U	1 U	1 U	1 U
CFC-11	ug/L	1 U	1 U	1 U	1 U
CFC-12	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U
Chlorodibromomethane	ug/L	1 U	1 U	1 U	1 U
Chloroethane	ug/L	1 U	1 U	1 U	1 U
Chloroform	ug/L	**2**	1 U	1 U	1 U
Chloromethane	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
cis-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
Cyclohexane	ug/L	1 U	1 U	1 U	1 U
Dichloromethane	ug/L	1 U	1 U	1 U	1 U
Isopropylbenzene	ug/L	1 U	**4**	**130**	**110**
Methyl Acetate	ug/L	1 U	1 U	1 U	1 U
Methyl N-Butyl Ketone (2-Hexanone)	ug/L	5 U	5 UJ	5 UJ	5 UJ
Methylcyclohexane	ug/L	1 U	1 U	1 U	1 U
N-Propylbenzene	ug/L	1 U	**4**	**190**	**93**
Styrene (Monomer)	ug/L	1 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 UJ	1 UJ	1 UJ	1 UJ
Trichloroethene	ug/L	**7**	1 U	1 U	1 U
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U
Benzene	ug/L	1 U	1 U	1 U	1 U
Toluene	ug/L	1 U	1 U	**2**	1 U
Ethylbenzene	ug/L	1 U	1 U	**14**	**3**
Total Xylenes	ug/L	3 U	**97**	**880 D**	**1,100 D**
Methyl-tert-butylether	ug/L	1 U	1 U	1 U	1 U
Total VOCs (Max DL)	ug/L	9	342	3,360 J	4,650 J

Table 1
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August 2016 Semi-Annual Groundwater Sampling Report
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Rotterdam, New York

ARCADIS Design & Consultancy for natural and built assets

Location ID: Date Collected: Sample Name:	Units	IW-4 08/16/16 IW-4_20160816	IW-5 08/16/16 IW-5_20160816	IW-6 08/16/16 IW-6_20160816	IW-7 08/16/16 IW-7_20160816
Volatile Organics					
1,1,1-Trichloroethane	ug/L	1 U	1 U	1 U [1 U]	1 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U [1 U]	1 U
1,1,2-trichloro-1,2,2-trifluoroethane	ug/L	1 U	1 U	1 U [1 U]	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U [1 U]	1 U
1,1-Dichloroethane	ug/L	1 U	1 U	1 U [1 U]	1 U
1,1-Dichloroethene	ug/L	1 U	1 U	1 U [1 U]	1 U
1,2,3-Trichloropropane	ug/L	1 U	1 U	1 U [1 U]	1 U
1,2,4-Trichlorobenzene	ug/L	1 U	1 U	1 U [1 U]	1 U
1,2,4-Trimethylbenzene	ug/L	**1**	**5,000 D**	**280 D [370 D]**	**48**
1,2-Dibromo-3-chloropropane	ug/L	1 UJ	1 UJ	1 UJ [1 UJ]	1 UJ
1,2-Dibromoethane	ug/L	1 UJ	1 U	1 UJ [1 UJ]	1 UJ
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U [1 U]	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U [1 U]	1 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U [1 U]	1 U
1,3,5-Trimethylbenzene	ug/L	**11**	**2,800 D**	**260 D [340 D]**	**140**
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U [1 U]	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U [1 U]	1 U
2-Butanone (MEK)	ug/L	5 U	5 U	5 U [5 UJ]	5 UJ
4-Methyl-2-Pentanone	ug/L	5 UJ	5 UJ	5 UJ [5 UJ]	5 UJ
Acetone	ug/L	**4 J**	**10 J**	**3 J [3 J]**	**6 J**
Bromodichloromethane	ug/L	1 U	1 U	1 U [1 U]	1 U
Bromoform	ug/L	1 UJ	1 UJ	1 UJ [1 UJ]	1 UJ
Bromomethane	ug/L	1 U	1 U	1 U [1 U]	1 U
Carbon Disulfide	ug/L	1 UJ	1 UJ	1 UJ [1 UJ]	1 UJ
Carbon Tetrachloride	ug/L	1 U	1 U	1 U [1 U]	1 U
CFC-11	ug/L	1 U	1 U	1 U [1 U]	1 U
CFC-12	ug/L	1 UJ	1 UJ	1 UJ [1 UJ]	1 UJ
Chlorobenzene	ug/L	1 U	1 U	1 U [1 U]	1 U
Chlorodibromomethane	ug/L	1 U	1 U	1 U [1 U]	1 U
Chloroethane	ug/L	1 U	1 U	1 U [1 U]	1 U
Chloroform	ug/L	1 U	1 U	1 U [1 U]	1 U
Chloromethane	ug/L	1 UJ	1 UJ	1 UJ [1 UJ]	1 UJ
cis-1,2-Dichloroethene	ug/L	1 U	1 U	1 U [1 U]	1 U
cis-1,3-Dichloropropene	ug/L	1 UJ	1 UJ	1 UJ [1 UJ]	1 UJ
Cyclohexane	ug/L	1 U	1 U	1 U [1 U]	1 U
Dichloromethane	ug/L	1 U	1 U	1 U [1 U]	1 U
Isopropylbenzene	ug/L	1 U	**160**	**21 [22]**	**44**
Methyl Acetate	ug/L	1 U	1 U	1 U [1 U]	1 U
Methyl N-Butyl Ketone (2-Hexanone)	ug/L	5 UJ	5 UJ	5 UJ [5 UJ]	5 UJ
Methylcyclohexane	ug/L	1 U	1 U	1 U [1 U]	1 U
N-Propylbenzene	ug/L	1 U	**110**	**21 [21]**	**30**
Styrene (Monomer)	ug/L	1 U	1 U	1 U [1 U]	1 U
Tetrachloroethene	ug/L	1 U	1 U	1 U [1 U]	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U [1 U]	1 U
trans-1,3-Dichloropropene	ug/L	1 UJ	1 UJ	1 UJ [1 UJ]	1 UJ
Trichloroethene	ug/L	1 U	1 U	1 U [1 U]	1 U
Vinyl chloride	ug/L	1 U	1 U	1 U [1 U]	1 U
Benzene	ug/L	1 U	1 U	1 U [1 U]	1 U
Toluene	ug/L	1 U	1 U	1 U [1 U]	1 U
Ethylbenzene	ug/L	1 U	**2**	**2 [2]**	**1**
Total Xylenes	ug/L	3 U	**1,700 D**	**380 [390]**	**94**
Methyl-tert-butylether	ug/L	1 U	1 U	1 U [1 U]	1 U
Total VOCs (Max DL)	ug/L	16 J	9,780 J	967 J [1,150 J]	363 J

Table 1
August 2016 Groundwater Analytical Summary - Volatile Organic Compounds
August 2016 Semi-Annual Groundwater Sampling Report
Von Roll Isola USA, Inc. (Riverview)
Rotterdam, New York

ARCADIS Design & Consultancy for natural and built assets

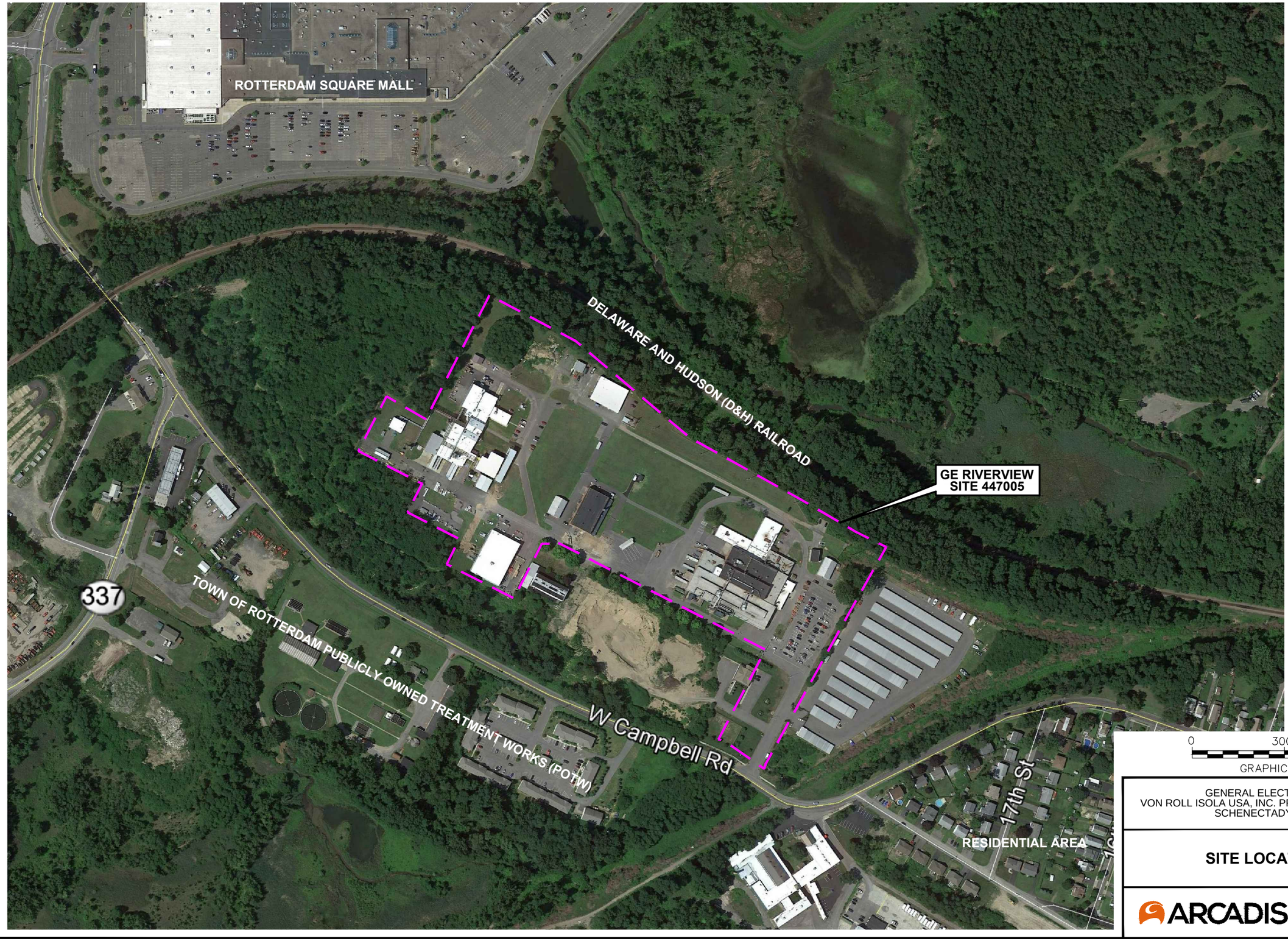
Location ID: Date Collected: Sample Name:	Units	VRI-1 08/16/16 VRI-1_20160816	VRI-2 08/15/16 VR1-2_20160815	VRI-3 08/17/16 VR1-3_20160817	VRI-4 08/17/16 VR1-4_20160817	VRI-9 08/15/16 VR1-9_20160815
Volatile Organics						
1,1,1-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U
1,1,2-trichloro-1,2,2-trifluoroethane	ug/L	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	ug/L	**41**	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dibromoethane	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	ug/L	**260 D**	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U
2-Butanone (MEK)	ug/L	5 UJ	5 U	5 UJ	5 UJ	5 U
4-Methyl-2-Pentanone	ug/L	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Acetone	ug/L	**2 J**	5 UJ	5 UJ	**2 J**	5 UJ
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Bromomethane	ug/L	1 U	1 U	1 U	1 U	1 U
Carbon Disulfide	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Carbon Tetrachloride	ug/L	1 U	1 U	1 U	1 U	1 U
CFC-11	ug/L	1 U	1 U	1 U	1 U	1 U
CFC-12	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	ug/L	1 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	1 U	1 U	1 U	1 U	1 U
Chloroform	ug/L	1 U	1 U	1 U	1 U	1 U
Chloromethane	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
cis-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Cyclohexane	ug/L	1 U	1 U	1 U	1 U	1 U
Dichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	ug/L	**130**	1 U	1 U	1 U	1 U
Methyl Acetate	ug/L	1 U	1 U	1 U	1 U	1 U
Methyl N-Butyl Ketone (2-Hexanone)	ug/L	5 UJ	5 UJ	5 UJ	5 U	5 UJ
Methylcyclohexane	ug/L	1 U	1 U	1 U	1 U	1 U
N-Propylbenzene	ug/L	**86**	1 U	1 U	1 U	1 U
Styrene (Monomer)	ug/L	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	ug/L	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	ug/L	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Trichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	ug/L	1 U	1 U	1 U	1 U	1 U
Benzene	ug/L	1 U	1 U	1 U	1 U	1 U
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	**6**	1 U	1 U	1 U	1 U
Total Xylenes	ug/L	**36**	3 U	3 U	3 U	3 U
Methyl-tert-butylether	ug/L	1 U	1 U	1 U	1 U	1 U
Total VOCs (Max DL)	ug/L	561 J	5 U	5 U	2 J	5 U

Table 1
August 2016 Groundwater Analytical Summary - Volatile Organic Compounds
August 2016 Semi-Annual Groundwater Sampling Report
Von Roll Isola USA, Inc. (Riverview)
Rotterdam, New York

Notes:
1. Samples were collected by Arcadis of New York, Inc. and submitted to Pace Analytical Services, Inc. for analysis.
2. Field duplicate sample result is presented in brackets.
3. Bold values indicate analyte detected by laboratory.
4. Grey shading indicates detection exceeding the NYSDEC NYSGWQS defined in TOGS 1.1.1.

Data Qualifiers:
D - Compound quantitated using a secondary dilution.
J - Indicates an estimated value.
U - The analyte was analyzed for, but not detected. The associated value is the analyte quantitation limit.

FIGURES



0 300' 600'

GRAPHIC SCALE

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

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

CITY: SYRACUSE, NY DIV/GROUP: EBC-IM/DV DB: L.POSENAUER PM: D.WEEKS TM: S.ELLSWORTH LYR:(On|ON=*;OFF=*REF*
C:\ENVCAD\SYRACUSE\GE-ACT-CA\AP086277\3000\GE-RiverviewSITEAP086277B01.dwg LAYOUT: 1 SAVED: 9/28/2016 11:25 AM ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 9/28/2016 12:16 PM BY: POSENAUER, LISA
XREFS: IMAGES:
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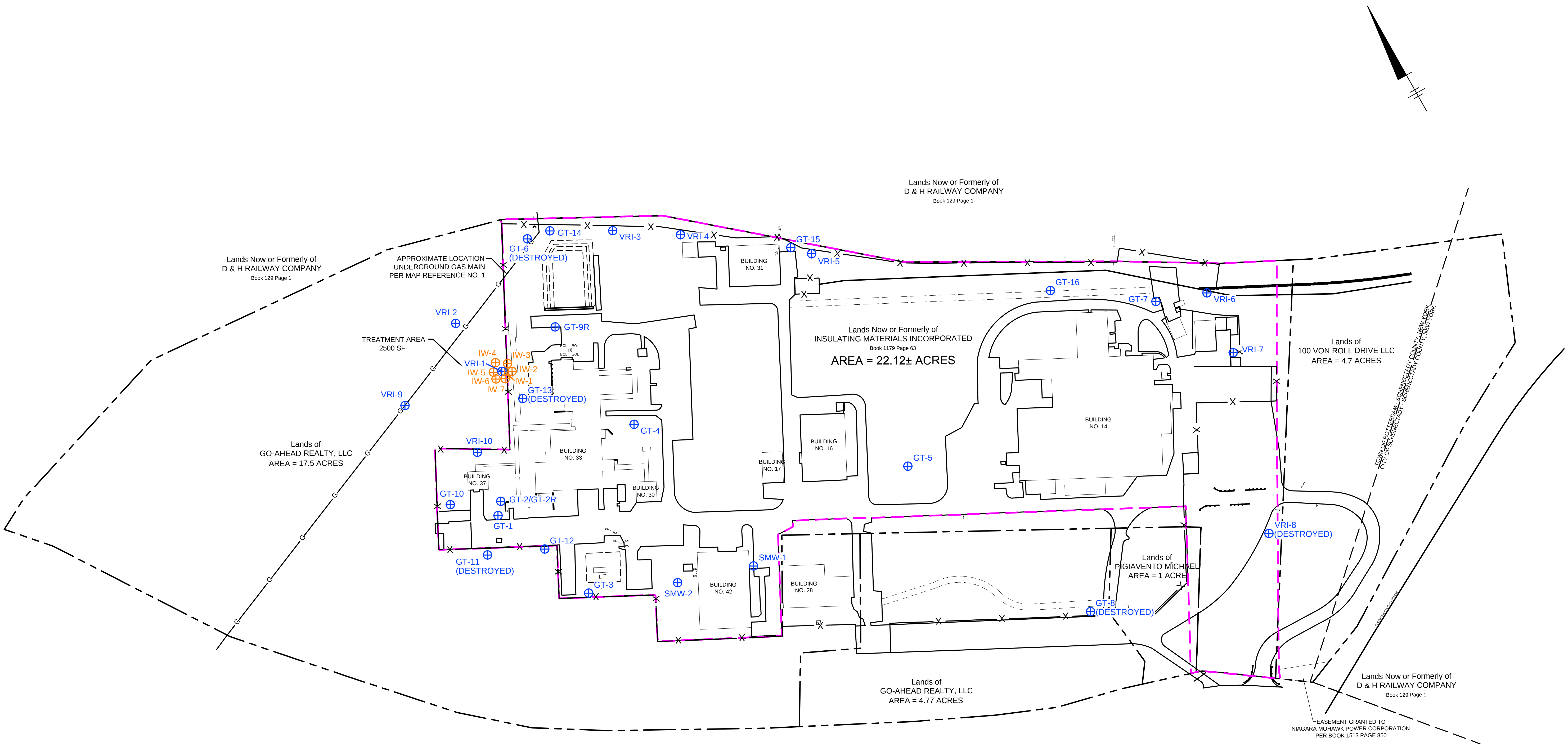


0 200' 400'

GRAPHIC SCALE

LEGEND:

(magenta dashed line)	APPROXIMATE VON ROLL ISOLA USA, INC. PROPERTY BOUNDARY
(long-short dashed line)	PROPERTY BOUNDARY LINE
——X——	CHAIN LINK FENCE
(thin line)	BUILDING
——G——	GAS
⊕ (blue)	GROUNDWATER MONITORING WELL
⊕ (orange)	ISCO INJECTION WELL

NOTE:

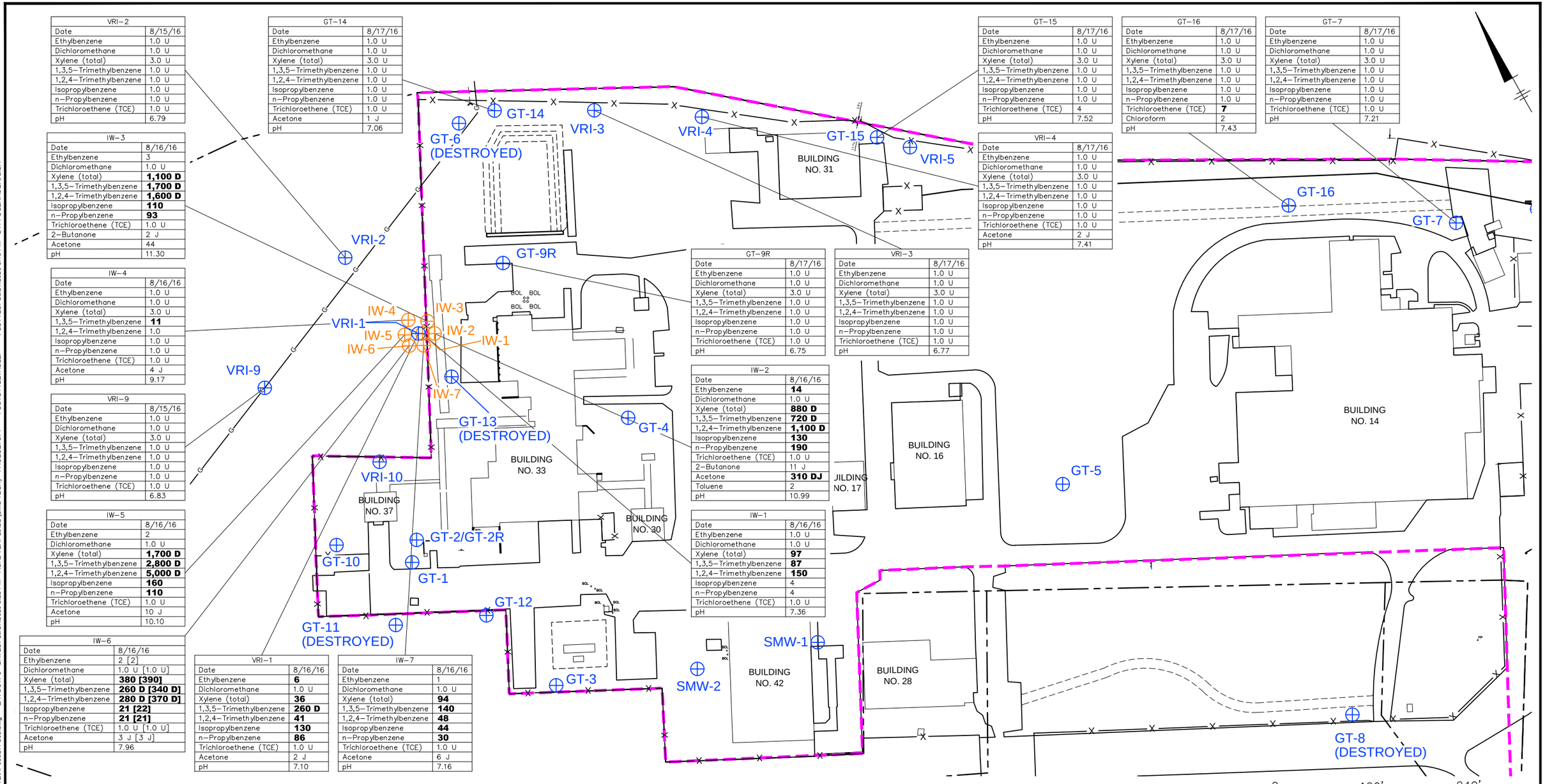
1. ALL PROPERTY BOUNDARIES SHOWN ARE APPROXIMATE.

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

SITE PLAN

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2



LEGEND:

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

NOTES:

1. AUGUST 2016 SAMPLING EVENT WAS COMPLETED 16 MONTHS AFTER SECOND ROUND OF ISCO INJECTIONS.
2. IN THE ANALYTICAL RESULTS, BOLD INDICATES THAT THE DETECTED CONCENTRATION EXCEEDS THE APPLICABLE NYSDEC SCREENING CRITERIA (SEE TABLE AT RIGHT). "U" INDICATES THAT THE COMPOUND WAS NOT DETECTED.
3. ONLY ANALYTICAL RESULTS FROM THE AUGUST 2016 SEMI-ANNUAL SAMPLING EVENT ARE SHOWN ON THIS FIGURE. SEE FIGURE 4 FOR HISTORICAL SAMPLING RESULTS.
4. NEW YORK STATE GROUNDWATER QUALITY STANDARDS AS DEFINED IN THE DIVISION OF WATER TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1.

COMPOUND	UNITS	NYSDEC CRITERIA (SEE NOTE 4)
Ethylbenzene	ug/L	5
Dichloromethane	ug/L	5
Xylene (total)	ug/L	5
1,3,5-Trimethylbenzene	ug/L	5
1,2,4-Trimethylbenzene	ug/L	5
Isopropylbenzene	ug/L	5
n-Propylbenzene	ug/L	5
Trichloroethene (TCE)	ug/L	5
Chloroform	ug/L	7
2-Butanone	ug/L	50
Acetone	ug/L	50
Toluene	ug/L	5

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

AUGUST 2016 GROUNDWATER SAMPLING ANALYTICAL RESULTS - FOR SELECT VOCs

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3

CITY: SYRACUSE, NY DIV/GROUP: EBC-IM/DV DB: L.POSENAUER PM: D.WEEKS TM: S.ELLSWORTH LYR:(OptiON=*;OFF=*REF*
V:\ENV\CADISYRACUSE\ACTIVE\CA\P086277\3000\GE-Riverview\SITE\AP086277C03.dwg LAYOUT: 3 SAVED: 10/17/2016 3:23 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 10/17/2016 3:49 PM BY: POSENAUER, LISA
XREFS: IMAGES:
AP086277X01
AP086277X00

VRI–2						
Date	8/14/14	12/22/14	8/20/15	8/20/15	2/16/16	8/15/16
Ethylbenzene	1U	1U	1U	1U	1U	1U
Dichloromethane	1U	1U	1U	1U	1U	1U
Xylene (total)	3U	3U	3U	3U	3U	3U
1,3,5–Trimethylbenzene	1U	1U	1U	1U	1U	1U
1,2,4–Trimethylbenzene	1U	1U	1U	1U	1U	1U
Isopropylbenzene	1U	1U	1U	1U	1U	1U
n–Propylbenzene	1U	1U	1U	1U	1U	1U
pH	7.56	7.94	7.53	7.53	7.47	6.79

IW–4					
Date	12/18/14	12/18/14	8/20/15	2/17/16	8/16/16
Ethylbenzene	50U	50U	5U	5U	1U
Dichloromethane	50U	50U	5U	5U	1U
Xylene (total)	**1850**	**1840**	**74**	**200**	3U
1,3,5–Trimethylbenzene	**3600**	**3400**	**560**	**720**	**11**
1,2,4–Trimethylbenzene	**6400**	**6300**	**47**	**640**	1.0
Isopropylbenzene	**380**	**380**	5U	**6.5**	1U
n–Propylbenzene	**400**	**400**	5U	5U	1U
Acetone					4J
pH	10.00	10.00	6.67	11.10	9.17

VRI–9				
Date	10/12/11	12/7/11	2/17/16	8/15/16
Ethylbenzene			1U	1U
Dichloromethane			1U	1U
Xylene (total)			3U	3U
1,3,5–Trimethylbenzene			1U	1U
1,2,4–Trimethylbenzene			1U	1U
Isopropylbenzene			1U	1U
n–Propylbenzene			1U	1U
Chloroform	**8.3**	–	1U	1U
pH			7.34	6.83

IW–5				
Date	12/18/14	8/21/15	2/18/16	8/16/16
Ethylbenzene	100U	50U	50U	2
Dichloromethane	100U	50U	50U	1U
Xylene (total)	**3510**	**4260**	**2980**	**1700D**
1,3,5–Trimethylbenzene	**4100**	**3400**	**4400**	**2800D**
1,2,4–Trimethylbenzene	**8600**	**6500**	**8800**	**5000D**
Isopropylbenzene	**420**	**300**	**520**	**160**
n–Propylbenzene	**520**	**300**	**580**	**110**
Acetone				10J
pH	13.25	4.81	12.07	10.10

IW–6				
Date	12/22/14	8/21/15	2/19/16	8/16/16
Ethylbenzene	**10**	10U	10U	2 [2]
Dichloromethane	10U	10U	10U	1U [1U]
Xylene (total)	**1160**	**504**	**295**	**380 [390]**
1,3,5–Trimethylbenzene	**860**	**500**	**380**	**260D [340D]**
1,2,4–Trimethylbenzene	**1600**	**720**	**300**	**280D [370D]**
Isopropylbenzene	**110**	**81**	**94**	**21 [22]**
n–Propylbenzene	**120**	**90**	**120**	**21 [21]**
Acetone				3J [3J]
pH	11.8	4.26	9.95	7.96

VRI–1											
Date	10/18/01	4/2/02	10/5/09	12/22/09	10/12/11	12/7/11	8/14/14	12/22/14	8/21/15	2/18/16	8/16/16
Ethylbenzene	–	–	–	**18**	–	**8.4J**	50U	50U	10U	1U	**6**
Dichloromethane	–	**ND50/380J**	–	–	–	**9.1J**	50U	50U	10U	1U	1U
Xylene (total)	**670**	**880J/510J**	**8700**	**3100**	**3700**	**3800**	**1930**	**68**	30U	3U	**36**
1,3,5–Trimethylbenzene	NS	**510/370**	**5400**	**1500**	**3200**	**2500**	**3100**	**290**	**16**	1U	**260D**
1,2,4–Trimethylbenzene	NS	**1,500/1,100**	**14000**	**3700**	**6200**	**4900**	**5800**	**240**	10U	1U	**41**
Isopropylbenzene	NS	**85J/39J**	**820**	**250**	**110J**	**89**	**160**	50U	10U	1U	**130**
n–Propylbenzene	NS	**110J/940J**	**870**	**230**	–	**53**	**150**	50U	10U	1U	**86**
Acetone											2J
pH							7.03	9.1	6.68	7.63	7.10

VRI–4		
Date	2/19/16	8/17/16
Ethylbenzene	1U	1U
Dichloromethane	1U	1U
Xylene (total)	3U	3U
1,3,5–Trimethylbenzene	1U	1U
1,2,4–Trimethylbenzene	1U	1U
Isopropylbenzene	1U	1U
n–Propylbenzene	1U	1U
Acetone		2J
pH	7.58	7.41

GT–15			
Date	12/6/11	2/19/16	8/17/16
Ethylbenzene		1U	1U
Dichloromethane		1U	1U
Xylene (total)		3U	3U
1,3,5–Trimethylbenzene		1U	1U
1,2,4–Trimethylbenzene		1U	1U
Isopropylbenzene		1U	1U
n–Propylbenzene		1U	1U
Trichloroethene (TCE)	–	2.2	4
pH		7.60	7.52

GT–7				
Date	10/18/01	12/5/11	2/17/16	8/17/16
Ethylbenzene	**82**	–	1U	1U
Dichloromethane			1U	1U
Xylene (total)	**350**	–	3U	3U
1,3,5–Trimethylbenzene			1U	1U
1,2,4–Trimethylbenzene			1U	1U
Isopropylbenzene			1U	1U
n–Propylbenzene			1U	1U
pH			7.40	7.21

VRI–3					
Date	9/30/09	10/12/11	12/5/11	2/22/16	8/17/16
Ethylbenzene				1U	1U
Dichloromethane				1U	1U
Xylene (total)				3U	3U
1,3,5–Trimethylbenzene	**11**	–	–	1U	1U
1,2,4–Trimethylbenzene	**15**	–	–	1U	1U
Isopropylbenzene	**84**	**6**	**6.5**	1U	1U
n–Propylbenzene	**13**	–	–	1U	1U
pH				7.25	6.77

GT–14		
Date	2/22/16	8/17/16
Ethylbenzene	1U	1U
Dichloromethane	1U	1U
Xylene (total)	3U	3U
1,3,5–Trimethylbenzene	1U	1U
1,2,4–Trimethylbenzene	1U	1U
Isopropylbenzene	1U	1U
n–Propylbenzene	1U	1U
Acetone		1J
pH	7.41	7.06

GT–16						
Date	4/4/02	10/1/09	10/11/11	12/5/11	2/22/16*	8/17/16
Ethylbenzene					NS	1U
Dichloromethane					NS	1U
Xylene (total)					NS	3U
1,3,5–Trimethylbenzene					NS	1U
1,2,4–Trimethylbenzene					NS	1U
Isopropylbenzene					NS	1U
n–Propylbenzene					NS	1U
Trichloroethene (TCE)	**13**	**14**	**8.7**	**6**	NS	**7**
Chloroform					NS	2
pH					NS	7.43

IW–3					
Date	12/18/14	8/20/15	2/17/16	2/17/16	8/16/16
Ethylbenzene	20U	20U	20U	20U	3
Dichloromethane	20U	20U	20U	20U	1U
Xylene (total)	**672**	**842**	**1710**	**1810**	**1100D**
1,3,5–Trimethylbenzene	**1700**	**1600**	**3300**	**3400**	**1700D**
1,2,4–Trimethylbenzene	**1600**	**1600**	**3100**	**3300**	**1600D**
Isopropylbenzene	**110**	**55**	**170**	**170**	**110**
n–Propylbenzene	**92**	**54**	**170**	**170**	**93**
2–Butanone					2J
Acetone					44
pH	8.51	9.59	9.20	9.20	11.30

GT–9R							
Date	10/16/01	4/2/02	12/9/11	12/22/14	8/20/15	2/16/16	8/17/16
Ethylbenzene	–	–	–	1U	1U	1U	1U
Dichloromethane	–	**8.4**	–	1U	1U	1U	1U
Xylene (total)	**8.2**	**96**	–	3U	3U	3U	3U
1,3,5–Trimethylbenzene	NS	**230**	–	1U	1U	1U	1U
1,2,4–Trimethylbenzene	NS	**380J**	–	1U	1U	1U	1U
Isopropylbenzene	NS	**69**	–	1U	1U	1U	1U
n–Propylbenzene	NS	**62**	–	1U	1U	1U	1U
pH				7.59	7.36	7.12	6.75

IW–2				
Date	12/18/14	8/20/15	2/16/16	8/16/16
Ethylbenzene	10U	10U	10U	**14**
Dichloromethane	10U	10U	10U	1U
Xylene (total)	**39**	**65**	**76**	**880D**
1,3,5–Trimethylbenzene	**80**	**120**	**100**	**720D**
1,2,4–Trimethylbenzene	**47**	**110**	**100**	**1100D**
Isopropylbenzene	10U	10U	**22**	**130**
n–Propylbenzene	10U	10U	**19**	**190**
2–Butanone				11J
Acetone				**310DJ**
Toluene				2
pH	8.23	9.31	7.42	10.99

IW–1					
Date	8/14/14	12/22/14	8/20/15	2/18/16	8/16/16
Ethylbenzene	50U	50U	5U	1U	1U
Dichloromethane	50U	50U	5U	1U	1U
Xylene (total)	**2560**	**470**	**343**	**43.5**	**97**
1,3,5–Trimethylbenzene	**3100**	**620**	**220**	**24**	**87**
1,2,4–Trimethylbenzene	**5600**	**980**	**500**	**61**	**150**
Isopropylbenzene	**270**	**85**	**42**	4.1	4
n–Propylbenzene	**230**	**93**	**49**	**5.9**	4
pH	7.12	12.93	8.5	8.31	7.36

IW–7				
Date	12/22/14	8/21/15	2/18/16	8/16/16
Ethylbenzene	1U	1U	1U	1
Dichloromethane	1U	1U	1U	1U
Xylene (total)	**78**	**42.1**	**13**	**94**
1,3,5–Trimethylbenzene	**70**	**31**	**26**	**140**
1,2,4–Trimethylbenzene	**130**	**39**	**7**	**48**
Isopropylbenzene	**12**	**6.7**	1U	**44**
n–Propylbenzene	**8.1**	**6.7**	1U	**30**
Acetone				6J
pH	8.33	4.42	7.61	7.16

LEGEND:

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

NOTES:

1. DECEMBER 2014 SAMPLING EVENT WAS COMPLETED 4 MONTHS AFTER FIRST ROUND OF ISCO INJECTIONS.
2. AUGUST 2015 SAMPLING EVENT WAS COMPLETED 4 MONTHS AFTER SECOND ROUND OF ISCO INJECTIONS.
3. FEBRUARY 2016 SAMPLING EVENT WAS COMPLETED 10 MONTHS AFTER SECOND ROUND OF ISCO INJECTIONS.
4. AUGUST 2016 SAMPLING EVENT WAS COMPLETED 16 MONTHS AFTER SECOND ROUND OF ISCO INJECTIONS.
5. HISTORICAL RESULTS ARE TAKEN FROM FIGURE 2.2 BY CONESTOGA-ROVERS & ASSOCIATES. ONLY RESULTS FROM SAMPLING EVENTS WITH DETECTIONS AND/OR THE MOST RECENT HISTORICAL SAMPLING EVENT ARE SHOWN.
6. FROM THE HISTORICAL RESULTS, "-" IS ASSUMED TO INDICATE NO DETECTIONS. BLANKS ARE ASSUMED TO INDICATE THAT THE SAMPLE WAS NOT ANALYZED FOR THOSE COMPOUNDS. "NS" IS ASSUMED TO INDICATE THAT NO SAMPLE WAS COLLECTED. PROVIDED DATES ARE DATE SAMPLED.
7. *GT-16 WAS INACCESSIBLE DUE TO A WELL OBSTRUCTION AND NOT SAMPLED DURING THE FEBRUARY 2016 SAMPLING EVENT.
8. IN THE ANALYTICAL RESULTS, BOLD INDICATES THAT THE DETECTED CONCENTRATION EXCEEDS THE APPLICABLE NYSDEC SCREENING CRITERIA (SEE TABLE AT RIGHT). "U" INDICATES THAT THE COMPOUND WAS NOT DETECTED.
9. NEW YORK STATE GROUNDWATER QUALITY STANDARDS AS DEFINED IN THE DIVISION OF WATER TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1.

COMPOUND	UNITS	NYSDEC CRITERIA (SEE NOTE 9)
Ethylbenzene	ug/L	5
Dichloromethane	ug/L	5
Xylene (total)	ug/L	5
1,3,5–Trimethylbenzene	ug/L	5
1,2,4–Trimethylbenzene	ug/L	5
Isopropylbenzene	ug/L	5
n–Propylbenzene	ug/L	5
Trichloroethene (TCE)	ug/L	5
Chloroform	ug/L	7
2–Butanone	ug/L	50
Acetone	ug/L	50
Toluene	ug/L	5

0 120' 240'

GRAPHIC SCALE

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

HISTORICAL GROUNDWATER SAMPLING ANALYTICAL RESULTS - FOR SELECT VOCs

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4

CITY: SYRACUSE, NY DIVGROUP: EBC-IM/DV DB: L.POSENAUER PM: D.WEEKS TM: S.ELLSWORTH LYR:(OptION="OFF=REF* PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 10/17/2016 4:24 PM BY: POSENAUER, LISA
V:\ENVCAD\SYRACUSE\ACTIVE\AP086277\3000\GE-Riverview\SITE\AP086277C04.dwg LAYOUT: 4 SAVED: 10/17/2016 3:50 PM ACADVER: 19.1S (LMS TECH)
XREFS: IMAGES:
AP086277X01
AP086277X00

APPENDIX A

Groundwater Sampling Event Field Data Sheets and Field Notes

ARCADIS

Water Level Record

Project Name: IMI Riverview
Project Number: AP086277.3000

Date: 8/15/2016
Weather: 78°F. Sun
Personnel: N. Griffith and B. Quaglieri

Well ID	Depth to water (ft)	Depth to bottom (ft)	Remarks
GT-1	~~Dry~~ 64.72	65.60	Replaced lock, PID=0.0 ppm
GT-2	—	—	Destroyed, ~~PID=0.0 ppm~~
GT-2R	64.84	66.13	Casing damaged, Replaced lock, PID=0.0 ppm
GT-3	63.17	67.52	Replaced lock, PID=0.0 ppm
GT-4	62.30	69.11	Replaced lock, PID=0.0 ppm
GT-5	57.52	65.88	PID=0.1 ppm
GT-7	56.62	68.26	3" no JPlug, PID=0.0 ppm
GT-9	64.53	66.50	PID=0.1 ppm
GT-10	66.55	71.79	Replaced lock, PID=0.0 ppm
GT-12	—	—	Unable to locate
GT-13	—	—	Destroyed
GT-14	66.35	72.70	PID=0.0 ppm
GT-15	71.69	76.90	PID=0.1 ppm
GT-16	69.85	76.70	PID=0.0 ppm
IW-1	65.76	69.57	PID=58.6 ppm
IW-2	65.91	71.88	PID=1.3 ppm
IW-3/GMW-01	65.65	70.90	PID=1.7 ppm
IW-4	65.42	70.77	PID=2.1 ppm
IW-5	65.48	71.11	PID=0.8 ppm
IW-6	65.37	70.98	PID=0.9 ppm
IW-7	65.55	71.26	PID=1.9 ppm
SMW-1	64.60	67.23	Needs 1 bolt, rethread cover rim PID=0.0 ppm
SMW-2	67.06	71.54	Replaced lock, PID=0.0 ppm
VRI-1	65.86	69.73	PID=50.5 ppm
VRI-2	69.82	76.12	PID=0.3 ppm
VRI-3	71.60	78.05	PID=0.0 ppm
VRI-4	73.61	78.49	PID=0.0 ppm
VRI-5	95.95	120.50	PID=0.0 ppm
VRI-6	73.88	74.62	PID=0.0 ppm
VRI-7	50.30	52.88	PID=0.0 ppm
VRI-9	66.44	69.46	PID=0.1 ppm
VRI-10	66.40	72.10	Replaced lock, PID=

Notes:

IMI Riverview – Rotterdam, NY (Site) | **2016 Semi-Annual GW Sampling** (Event)

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Well ID: GT-7
Client / Job Number: GE / AP086277.3000.3000A
Date: 8/ 17 /16
Weather: 71 °F, Overcast, Windy
Time In: 0747 **Time Out:** 0838

Well Information

Depth to Water:	56.62	(feet)
Total Depth:	68.26	(feet)
Length of Water Column:	11.64	(feet)
Volume of Water in Well:		(gal)
Intake depth for tubing:	~69	(feet)

Well Type:	Flush mount	☐	Stick-Up	☒	
Well Material:	Stainless Steel	☐	PVC	☐	Fiber-glass
Well Locked:	Yes	☒	No	☐	
Measuring Point Marked:	Yes	☒	No	☐	
Well Diameter:	1"		2"	Other: 3"	

Purging Information

Purging Method:	Bladder pump	Other:
Tubing/Bailer Material:	Polyethylene	Other:
Sampling Method:	Bladder pump	Other:
Pump Start Time:	0755	
Pump Stop Time:	0827	
Total Volume Removed:	~1.3 (gal)	

Water-Quality Meter Type: YSI & Turbidimeter
Did well go dry: Yes (No)

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0805	0810	0815	0820					
Volume Purged (gal)	0.5	0.7	1.0	1.2					
Rate (mL/min)	150	150	150	150					
Depth to Water (ft)	61.85	62.43	63.61	63.98					
pH	7.21	7.21	7.21	7.21					
Temp. (°C)	15.6	15.6	15.5	15.4					
Conductivity (mS/cm)	2.64	2.65	2.65	2.65					
Dissolved Oxygen (mg/L)	8.54	8.41	8.40	8.37					
ORP (mV)	200.2	197.6	194.7	193.3					
Turbidity (NTU)	15.3	16.2	15.3	15.5					
Notes:	Initial purge: clear, no color, no odor, no sheen. Final purge: clear, no color, no odor, no sheen.								

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: GT-7-20160817		Sample Time: 0825
MS/MSD: Yes ☐		No ☒
Duplicate: Yes ☐		No ☒
Duplicate ID: —		Dup. Time: —
Chain of Custody Signed By: B. Quaglieri		

Problems / Observations

IMI Riverview – Rotterdam, NY (Site) | **2016 Semi-Annual GW Sampling** (Event)

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Well ID: GT-9
Client / Job Number: GE / AP086277.3000.3000A
Date: 8/17/16
Weather: overcast, 75°
Time In: 0820 **Time Out:** 0910

Well Information

Depth to Water:	64.53	(feet)
Total Depth:	66.50	(feet)
Length of Water Column:	1.97	(feet)
Volume of Water in Well:	0.32	(gal)
Intake depth for tubing:	~65	(feet)

Well Type:	Flush mount	X	Stick-Up	☐
Well Material:	Stainless Steel	☐	PVC	X
Well Locked:	Yes	☐	No	X
Measuring Point Marked:	Yes	☐	No	X
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bladder pump	Other:	
Tubing/Bailer Material:	Polyethylene	Other:	
Sampling Method:	Bladder pump	Other:	
Pump Start Time:	0805		
Pump Stop Time:	0900	Water-Quality Meter Type:	YSI & Turbidimeter
Total Volume Removed:	1.5 (gal)	Did well go dry:	Yes (No)

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0815	0820	0825	0830	0835	0840	0845	0850	0855
Volume Purged (gal)	0.4	0.6	0.7	0.8	0.9	1.1	1.3	1.4	
Rate (mL/min)	150	120	120	120	120	120	120	120	
Depth to Water (ft)	64.85	64.85	64.85	64.85	64.86	64.87	64.89	64.89	
pH	4.76	4.72	4.71	4.72	4.74	4.75	4.75	4.75	
Temp. (°C)	16.3	16.6	16.7	16.7	16.0	15.9	15.8	15.8	
Conductivity (mS/cm)	3.64	3.67	3.68	3.73	3.80	3.80	3.79	3.79	
Dissolved Oxygen (mg/L)	1.28	0.96	0.89	2.04	1.49	1.41	1.39	1.37	
ORP (mV)	15.6	-15.1	-18.9	8.2	45.3	14.5	13.0	12.9	
Turbidity (NTU)	688	99	131	Out of range >	2069	101.2	87.8	95.6	
Notes:	↓ rate								

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: GT-9-20160817	Sample Time:	0855
MS/MSD: Yes ☐	No X	
Duplicate: Yes ☐	No X	
Duplicate ID: n/a	Dup. Time: n/a	
Chain of Custody Signed By: B.Q.		

Problems / Observations

Initial: turbid, light brown, odorless

Final: cloudy, white, odorless

IMI Riverview – Rotterdam, NY — Site

2016 Semi-Annual GW Sampling — Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Client / Job Number: GE / AP086277.3000.3000A
Weather: Cloudy
Well ID: GT-14
Date: 8/ 17 /16
Time In: 0955 **Time Out:** 1100

Well Information

Depth to Water:	66.35	(feet)
Total Depth:	72.70	(feet)
Length of Water Column:	6.35	(feet)
Volume of Water in Well:	1.03	(gal)
Intake depth for tubing:	~71.	(feet)

Well Type:	Flush mount	X	Stick-Up	☐
Well Material:	Fiberglass	Stainless Steel ☐	PVC	~~X~~
Well Locked:	Yes	☐	No	X
Measuring Point Marked:	Yes	☐	No	X
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bladder pump	Other:
Tubing/Bailer Material:	Polyethylene	Other:
Sampling Method:	Bladder pump	Other:
Pump Start Time:	10:00	
Pump Stop Time:	1055	
Total Volume Removed:	1.0 (gal)	

Water-Quality Meter Type: YSI & Turbidimeter
Did well go dry: Yes (No)

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	10:05	10:10	10:15	10:20	10:25	10:30	10:35	10:45	(10:50)
Volume Purged (gal)	0.1	0.2	0.3	0.5	0.6	0.8	0.9	1.0	
Rate (mL/min)	90	90	90	150	150	150	150	150	
Depth to Water (ft)	66.52	66.52	66.52	66.65	66.65	66.67	66.68	66.69	
pH	7.19	7.11	7.08	7.09	7.09	7.08	7.08	7.06	
Temp. (°C)	16.9	16.8	16.8	14.1	14.0	13.9	13.8	13.2	
Conductivity (mS/cm)	0.666	0.665	0.665	0.665	0.665	0.665	0.664	0.665	
Dissolved Oxygen (mg/L)	8.75	8.81	8.86	9.28	9.39	8.61	8.51	8.48	
ORP (mV)	272.8	273.1	274.0	278.2	279.7	281.7	281.8	281.5	
Turbidity (NTU)	114	99.	83	68	77.4	49.7	49.1	49.5	
Notes:		Ank							

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: GT-14-20160817		Sample Time: (10:50)
MS/MSD: Yes ☐		No X
Duplicate: Yes ☐		No X
Duplicate ID: N/A		Dup. Time: N/A
Chain of Custody Signed By: B.Q.		

Problems / Observations

Initial: cloudy, orange tint, odorless
final: S.A.A.

IMI Riverview – Rotterdam, NY *Site* | **2016 Semi-Annual GW Sampling** *Event*

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Well ID: GT-15
Client / Job Number: GE / AP086277.3000.3000A
Date: 8/17/16
Weather: 72 °F, Overcast, Windy
Time In: 0952 **Time Out:** 1100

Well Information

Depth to Water: 71.69	(feet)
Total Depth: 76.90	(feet)
Length of Water Column: 5.21	(feet)
Volume of Water in Well: 0.83	(gal)
Intake depth for tubing: ~77	(feet)

Well Type:	Flush mount	☒	Stick-Up	☐
Well Material:	Stainless Steel	☐	PVC	☐ Fiber-glass
Well Locked:	Yes	☒	No	☐
Measuring Point Marked:	Yes	☒	No	☐
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bladder pump	Other:
Tubing/Bailer Material:	Polyethylene	Other:
Sampling Method:	Bladder pump	Other:

Pump Start Time: 0958
Pump Stop Time: 1038
Total Volume Removed: ~2.0 (gal)
Water-Quality Meter Type: YSI & Turbidimeter
Did well go dry: Yes (No)

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1000	1015	1020	1025	1030				
Volume Purged (gal)	<0.25	1.1	1.5	1.7	1.9				
Rate (mL/min)	150	150	150	150	150				
Depth to Water (ft)	71.75	71.95	71.94	71.95	71.95				
pH	7.57	7.52	7.52	7.51	7.52				
Temp. (°C)	15.4	14.0	13.9	13.9	13.9				
Conductivity (mS/cm)	1.06	1.07	1.08	1.08	1.08				
Dissolved Oxygen (mg/L)	8.14	8.09	8.14	8.00	8.01				
ORP (mV)	184.4	145.5	141.1	141.9	142.9				
Turbidity (NTU)	79.1	66.2	54.3	39.5	33.7				
Notes:	Initial purge: No odor, no sheen, no color, trace cloudy. Final purge: No odor, no sheen, clear, no color.								

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: GT-15-20160817		Sample Time: 1035
MS/MSD: Yes ☐		No ☒
Duplicate: Yes ☐		No ☒
Duplicate ID: —		Dup. Time: —
Chain of Custody Signed By: B. Quaglieri		

Problems / Observations

IMI Riverview – Rotterdam, NY (Site) | **2016 Semi-Annual GW Sampling** (Event)

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Client / Job Number: GE / AP086277.3000.3000A
Weather: 71°F. Overcast, windy
Well ID: GT-16
Date: 8/17/16
Time In: 0846 **Time Out:** 0946

Well Information

Depth to Water:	69.85 (feet)
Total Depth:	76.70 (feet)
Length of Water Column:	6.85 (feet)
Volume of Water in Well:	1.10 (gal)
Intake depth for tubing:	~77 (feet)

Well Type:	Flush mount ☒	Stick-Up ☐		
Well Material:	Stainless Steel ☐	PVC ☐	Fiber-glass	
Well Locked:	Yes ☒	No ☐		
Measuring Point Marked:	Yes ☒	No ☐		
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bladder pump	Other:
Tubing/Bailer Material:	Polyethylene	Other:
Sampling Method:	Bladder pump	Other:
Pump Start Time:	0859	
Pump Stop Time:	0938	
Total Volume Removed:	~1.7 (gal)	

Water-Quality Meter Type: YSI & Turbidimeter
Did well go dry: Yes (No)

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0905	0910	0915	0920	0925	0930			
Volume Purged (gal)	0.3	0.6	1.0	1.3	1.5	1.7			
Rate (mL/min)	150	150	150	150	150	150			
Depth to Water (ft)	70.15	70.18	70.20	70.21	70.22	70.23			
pH	7.53	7.44	7.43	7.43	7.43	7.43			
Temp. (°C)	15.4	14.8	14.7	14.6	14.6	14.4			
Conductivity (mS/cm)	0.77	0.92	0.97	1.03	1.04	1.03			
Dissolved Oxygen (mg/L)	3.64	3.33	3.27	3.29	3.25	3.27			
ORP (mV)	260.4	145.6	133.6	126.8	123.6	123.7			
Turbidity (NTU)	72.9	57.8	61.7	51.9	42.4	40.8			
Notes:	Initial purge: ~~Clear~~ Trace cloudy, no color, no odor, no sheen. Final purge: No color, no odor, no sheen.								

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: GT-16-20160817	Sample Time: 0935	
MS/MSD: Yes ☐	No ☒	
Duplicate: Yes ☐	No ☒	
Duplicate ID: —	Dup. Time: —	
Chain of Custody Signed By: B. Quaglieri		

Problems / Observations

IMI Riverview – Rotterdam, NY *Site*

2016 Semi-Annual GW Sampling *Event*

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Client / Job Number: GE / AP086277.3000.3000A
Weather: 75° F, Rain

Well ID: IW-1
Date: 8/ 16 /16
Time In: 1245 **Time Out:** 1340

Well Information

Depth to Water:	65.76 (feet)
Total Depth:	69.57 (feet)
Length of Water Column:	4.01 (feet)
Volume of Water in Well:	0.64 (gal)
Intake depth for tubing:	~70 (feet)

Well Type:	Flush mount ☐		Stick-Up ☒	
Well Material:	Stainless Steel ☐		PVC ☒	
Well Locked:	Yes ☒		No ☐	
Measuring Point Marked:	Yes ☒		No ☐	
Well Diameter:	1"	● 2"	Other:	

Purging Information

Purging Method:	Bladder pump	Other:	
Tubing/Bailer Material:	Polyethylene	Other:	
Sampling Method:	Bladder pump	Other:	
Pump Start Time:	1254		
Pump Stop Time:	1329	Water-Quality Meter Type:	YSI & Turbidimeter
Total Volume Removed:	~1.2 (gal)	Did well go dry:	Yes (No)

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1305	1310	1315	1320	1325				
Volume Purged (gal)	<0.25	0.5	0.8	1.0	1.2				
Rate (mL/min)	150	150	150	150	150				
Depth to Water (ft)	66.15	66.17	66.15	66.15	66.15				
pH	7.34	7.33	7.35	7.36	7.36				
Temp. (°C)	14.9	14.6	14.0	14.2	14.2				
Conductivity (mS/cm)	0.82	0.83	0.83	0.83	0.83				
Dissolved Oxygen (mg/L)	5.16	4.88	5.12	5.20	5.23				
ORP (mV)	313.7	300.5	283.1	277.4	273.9				
Turbidity (NTU)	7.80	8.13	5.16	7.08					
Notes:	Initial purge: clear, strong odor, no sheen, no color Final purge: clear, strong odor, no sheen no color								

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: IW-1_20160816	Sample Time: 1330	
MS/MSD:	Yes ☐	No ☒
Duplicate:	Yes ☐	No ☒
Duplicate ID: —	Dup. Time: —	
Chain of Custody Signed By:	RQ	

Problems / Observations

IMI Riverview – Rotterdam, NY — *Site*

2016 Semi-Annual GW Sampling — *Event*

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Well ID: IW-2
Client / Job Number: GE / AP086277.3000.3000A
Date: 8/ 16 /16
Weather: Overcast muggy 75°
Time In: 10:45 **Time Out:** 11:55

Well Information

Depth to Water:	65.91	(feet)
Total Depth:	71.88	(feet)
Length of Water Column:		(feet)
Volume of Water in Well:		(gal)
Intake depth for tubing:	~ 64	(feet)

Well Type:	Flush mount ☐		Stick-Up ☒	
Well Material:	Stainless Steel ☐		PVC ☒	
Well Locked:	Yes ☒		No ☐	
Measuring Point Marked:	Yes ☐		No ☒	
Well Diameter:	1"	2" (circled)	Other:	

Purging Information

Purging Method:	Bladder pump	Other:	
Tubing/Bailer Material:	Polyethylene	Other:	
Sampling Method:	Bladder pump	Other:	
Pump Start Time:	10:54		
Pump Stop Time:	11:45	Water-Quality Meter Type:	YSI & Turbidimeter
Total Volume Removed:	(gal)	Did well go dry:	Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID (circled)	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	11:00	11:05	11:10	11:15	11:20	11:25	11:30	11:35	11:40 (circled)
Volume Purged (gal)	0.1	0.4	0.6	0.7	0.8	1.0	1.1	1.2	
Rate (mL/min)	300	150	150	150	150	150	150	150	
Depth to Water (ft)	66.10	66.20	66.24	66.29	66.32	66.34	66.35	66.38	
pH	10.74	10.94	10.95	10.96	10.97	10.98	10.99	10.99	
Temp. (°C)	14.2	15.4	14.8	14.7	14.9	14.8	14.6	14.5	
Conductivity (mS/cm)	13.00	12.84	12.96	12.97	13.03	13.06	13.12	13.13	
Dissolved Oxygen (mg/L)	0.71	0.44	0.38	0.29	0.24	0.22	0.22	0.23	
ORP (mV)	181.5	172.1	169.7	164.2	161.1	158.2	155.9	155.0	
Turbidity (NTU)	13.1	7.45	5.60	4.97	4.56	4.25	4.14	4.09	
Notes:	Init								

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: IW-2-20160816	Sample Time: 11:40	
MS/MSD: Yes ☐	No ☒	
Duplicate: Yes ☐	No ☒	
Duplicate ID: N/A	Dup. Time: N/A	
Chain of Custody Signed By: B.Q.		

Problems / Observations

Initial : clear, red tint, odor

Final : SAA

IMI Riverview – Rotterdam, NY *Site*

2016 Semi-Annual GW Sampling *Event*

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Client / Job Number: GE / AP086277.3000.3000A
Weather: Rain, cloudy 75.

Well ID: IW-3
Date: 8/16/16
Time In: 13:00 **Time Out:** 13:55

Well Information

Depth to Water:	65.65	(feet)
Total Depth:	70.90	(feet)
Length of Water Column:		(feet)
Volume of Water in Well:		(gal)
Intake depth for tubing:		(feet)

Well Type:	Flush mount ☐		Stick-Up ☒	
Well Material:	Stainless Steel ☐		PVC ☒	
Well Locked:	Yes ☒		No ☐	
Measuring Point Marked:	Yes ☐		No ☒	
Well Diameter:	1"	2" (circled)	Other:	

Purging Information

Purging Method:	Bladder pump	Other:	
Tubing/Bailer Material:	Polyethylene	Other:	
Sampling Method:	Bladder pump	Other:	
Pump Start Time:	13:00		
Pump Stop Time:	13:45	Water-Quality Meter Type:	YSI & Turbidimeter
Total Volume Removed:	1.0 (gal)	Did well go dry:	Yes (No)

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	13:05	13:10	13:15	13:20	13:25	13:30	13:35		
Volume Purged (gal)	0.1	0.4	0.5	0.6	0.7	0.9	1.0		
Rate (mL/min)	100	100	100	100	100	100	100		
Depth to Water (ft)	65.80	65.89	65.95	65.98	66.02	66.05	66.07		
pH	11.14	11.18	11.19	11.22	11.23	11.29	11.30		
Temp. (°C)	16.7	16.4	16.1	16.1	16.3	16.1	16.1		
Conductivity (mS/cm)	6.15	5.95	5.90	5.83	5.82	5.81	5.82		
Dissolved Oxygen (mg/L)	5.94	6.57	6.56	6.99	6.95	6.93	7.01		
ORP (mV)	153.0	147.8	146.2	143.3	141.5	139.2	138.7		
Turbidity (NTU)	4.57	4.79	3.92	4.10	3.99	3.94	3.81		
Notes:									

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: IW-3-20160816	Sample Time: 13:40	
MS/MSD: Yes ☐	No ☒	
Duplicate: Yes ☐	No ☒	
Duplicate ID: N/A	Dup. Time: N/A	
Chain of Custody Signed By: B.Q.		

Problems / Observations

Initial: Clear, red tint, odor
final: SAA

IMI Riverview – Rotterdam, NY (Site) | **2016 Semi-Annual GW Sampling** (Event)

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Well ID: IW-4
Client / Job Number: GE / AP086277.3000.3000A
Date: 8/16/16
Weather: 71°F, Overcast
Time In: 0820 **Time Out:** 0932

Well Information

Depth to Water:	65.42	(feet)
Total Depth:	70.77	(feet)
Length of Water Column:	5.35	(feet)
Volume of Water in Well:	0.86	(gal)
Intake depth for tubing:	~71	(feet)

Well Type:	Flush mount ☐		Stick-Up ☒	
Well Material:	Stainless Steel ☐		PVC ☒	
Well Locked:	Yes ☒		No ☐	
Measuring Point Marked:	Yes ☒		No ☐	
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bladder pump	Other:
Tubing/Bailer Material:	Polyethylene	Other:
Sampling Method:	Bladder pump	Other:
Pump Start Time:	0832	
Pump Stop Time:	0925	
Total Volume Removed:	~2.0 (gal)	

Water-Quality Meter Type: YSI & Turbidimeter
Did well go dry: Yes (No)

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0835	0840	0845	0850	0855	0900	0905	0910	0915
Volume Purged (gal)	<0.25	0.3	0.6	0.9	1.1	1.3	1.5	1.7	1.9
Rate (mL/min)	210	~~210~~ 200	200	200	200	200	200	200	200
Depth to Water (ft)	65.95	66.04	66.03	66.04	66.05	66.03	66.01	66.04	66.04
pH	7.76	8.00	8.14	8.37	8.82	9.08	9.13	9.14	9.17
Temp. (°C)	12.6	12.5	12.3	12.3	12.2	12.2	12.2	12.2	12.2
Conductivity (mS/cm)	0.628	0.596	0.591	0.569	0.510	0.477	0.474	0.470	0.470
Dissolved Oxygen (mg/L)	2.07	1.17	1.28	1.10	0.78	0.66	0.60	0.57	0.54
ORP (mV)	214.1	74.8	47.0	40.6	17.3	4.5	-1.0	-3.5	-5.1
Turbidity (NTU)	92.5	39.0	19.4	13.8	9.5	9.3	8.9	8.3	8.6
Notes:	Initial purge: No color, cloudy, no odor, no sheen. Final purge: Clear, no color, no odor, no sheen								

Sampling Information

Analyses	#	Laboratory
VOCs	9	Pace Analytical
Sample ID: IW-4-20160816	Sample Time: 0920	
MS/MSD: Yes ☒	No ☐	
Duplicate: Yes ☐	No ☒	
Duplicate ID: —	Dup. Time: —	
Chain of Custody Signed By: B. Quaglieri		

Problems / Observations

IMI Riverview – Rotterdam, NY (Site) | **2016 Semi-Annual GW Sampling** (Event)

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Client / Job Number: GE / AP086277.3000.3000A
Weather: 74°F, Partly sunny
Well ID: IW-5
Date: 8/16/16
Time In: 0939 **Time Out:** 1028

Well Information

Depth to Water:	65.48 (feet)
Total Depth:	71.11 (feet)
Length of Water Column:	5.63 (feet)
Volume of Water in Well:	0.91 (gal)
Intake depth for tubing:	~72 (feet)

Well Type:	Flush mount ☐		Stick-Up ☒	
Well Material:	Stainless Steel ☐		PVC ☒	
Well Locked:	Yes ☒		No ☐	
Measuring Point Marked:	Yes ☒		No ☐	
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bladder pump	Other:
Tubing/Bailer Material:	Polyethylene	Other:
Sampling Method:	Bladder pump	Other:

Pump Start Time: 0941
Pump Stop Time: 1023
Total Volume Removed: ~1.3 (gal)
Water-Quality Meter Type: YSI & Turbidimeter
Did well go dry: Yes (No)

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0950	0955	1000	1005	1010	1015			
Volume Purged (gal)	<0.25	0.4	0.7	0.9	1.1	1.3			
Rate (mL/min)	200	200	200	200	200	200			
Depth to Water (ft)	66.01	66.03	66.01	66.03	66.06	66.05			
pH	9.70	9.86	10.04	10.04	10.06	10.10			
Temp. (°C)	13.2	12.6	12.5	12.3	12.3	12.2			
Conductivity (mS/cm)	0.78	0.80	0.83	0.83	0.83	0.83			
Dissolved Oxygen (mg/L)	~~0.78~~ 1.25	<1.16	1.13	1.11	1.10	1.13			
ORP (mV)	93.9	60.9	32.3	25.5	23.2	22.2			
Turbidity (NTU)	20.5	17.0	15.4	8.86	9.16	7.77			
Notes:	Initial purge; Trace odor, clear, no color, no sheen. Final purge; clear, trace odor, no sheen, no odor.								

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: IW-5-20160816		Sample Time: 1020
MS/MSD:	Yes ☐	No ☒
Duplicate:	Yes ☐	No ☒
Duplicate ID: —		Dup. Time: —
Chain of Custody Signed By: B. Quaglieri		

Problems / Observations

IMI Riverview – Rotterdam, NY (Site)

2016 Semi-Annual GW Sampling (Event)

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Client / Job Number: GE / AP086277.3000.3000A
Weather: Overcast 75°
Well ID: IW-6
Date: 8/16/16
Time In: 0815 **Time Out:** 0930

Well Information

Depth to Water:	65.37	(feet)
Total Depth:	70.98	(feet)
Length of Water Column:	5.61	(feet)
Volume of Water in Well:	0.91	(gal)
Intake depth for tubing:	~70	(feet)

Well Type:	Flush mount ☐		Stick-Up ☒	
Well Material:	Stainless Steel ☐		PVC ☒	
Well Locked:	Yes ☒		No ☐	
Measuring Point Marked:	Yes ☐		No ☒	
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bladder pump	Other:
Tubing/Bailer Material:	Polyethylene	Other:
Sampling Method:	Bladder pump	Other:
Pump Start Time:	0832	
Pump Stop Time:	0925	Water-Quality Meter Type: YSI & Turbidimeter
Total Volume Removed:	1.6 (gal)	Did well go dry: Yes (No)

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	0840	0845	0850	0855	0900	0905	0910	0915	(0920)
Volume Purged (gal)	0.2 ~~270~~	0.4	0.75	1.0	1.1	1.25	1.4	1.5	
Rate (mL/min)	270	150	150	110	110	110	110	110	
Depth to Water (ft)	65.72	65.85	66.01	66.05	66.07	66.09	66.11	66.12	
pH	8.18	8.16	8.06	8.03	7.99	7.97	7.96	7.96	
Temp. (°C)	13.1	13.0	13.0	13.6	13.5	13.5	13.6	14.0	
Conductivity (mS/cm)	1.36	1.34	1.29	1.28	1.29	1.30	1.32	1.34	
Dissolved Oxygen (mg/L)	1.00	0.99	1.45	1.44	1.66	1.69	1.74	1.78	
ORP (mV)	222.5	224.2	227.3	227.8	229.5	230.0	230.4	230.3	
Turbidity (NTU)	40.3	26.2	21.0	20.2	25.2	22.3	21.9	20.1	
Notes:	Ink		Ink						

Sampling Information

Analyses	#	Laboratory
VOCs ~~8260~~	3	Pace Analytical
Sample ID: IW-6-20160816	Sample Time: 0920	
MS/MSD: Yes ☐	No ☒	
Duplicate: Yes ☒	No ☐	
Duplicate ID: DUP-20160816	Dup. Time: NA	
Chain of Custody Signed By: BQ		

Problems / Observations

Initial: colorless, slightly turbid, odorless
final: SAA

IMI Riverview – Rotterdam, NY (Site) | **2016 Semi-Annual GW Sampling** (Event)

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Well ID: IW-7
Client / Job Number: GE / AP086277.3000.3000A
Date: 8/16/16
Weather: partly sunny 75°
Time In: 0945 **Time Out:** 10:50

Well Information

Depth to Water:	65.46	(feet)
Total Depth:	71.26	(feet)
Length of Water Column:	5.8	(feet)
Volume of Water in Well:	0.95	(gal)
Intake depth for tubing:	~64.	(feet)

Well Type:	Flush mount ☐		Stick-Up	X
Well Material:	Stainless Steel ☐		PVC	X
Well Locked:	Yes X		No	☐
Measuring Point Marked:	Yes ☐		No	X
Well Diameter:	1"	2"	Other:	

Purging Information

Purging Method:	Bladder pump	Other:	
Tubing/Bailer Material:	Polyethylene	Other:	
Sampling Method:	Bladder pump	Other:	
Pump Start Time:	0950		
Pump Stop Time:	1045	Water-Quality Meter Type:	YSI & Turbidimeter
Total Volume Removed:	1.5 (gal)	Did well go dry:	Yes (No)

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1000	1005	10:10	10:15	10:20	1025	1030	10:35	10:40
Volume Purged (gal)	0.1	0.3	0.6	0.8	1.0	1.1	1.2	1.3	
Rate (mL/min)	180	180	180	120	120	120	120	120	
Depth to Water (ft)	65.84	65.90	66.10	66.10	66.10	66.10	66.10	66.10	
pH	7.26	7.20	7.14	7.14	7.14	7.15	7.16	7.16	
Temp. (°C)	15.6	14.7	13.8	14.9	15.1	15.2	15.3	15.3	
Conductivity (mS/cm)	2.34	2.34	2.34	2.29	229	2.25	2.24	2.24	
Dissolved Oxygen (mg/L)	0.88	0.67	0.51	0.48	0.52	0.48	0.71	0.70	
ORP (mV)	278.1	269.9	266.1	262.2	261.2	257.5	255.6	254.8	
Turbidity (NTU)	1224	439	38.2	41.6	38.0	36.4	36.8	35.9	
Notes:			tank						

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: IW-7-20160816	Sample Time:	10:40
MS/MSD: Yes ☐	No X	
Duplicate: Yes ☐	No X	
Duplicate ID: n/a	Dup. Time: n/a	
Chain of Custody Signed By:	B.Q.	

Problems / Observations

Initial - white, turbid, odorless
Final - white, still slightly turbid, odorless

IMI Riverview – Rotterdam, NY — Site

2016 Semi-Annual GW Sampling — Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Well ID: VR1-1
Client / Job Number: GE / AP086277.3000.3000A
Date: 8/16/16
Weather: 75°F, Partly Sunny
Time In: 1035 **Time Out:** 1124

Well Information

Depth to Water:	65.86 (feet)
Total Depth:	69.73 (feet)
Length of Water Column:	3.87 (feet)
Volume of Water in Well:	0.62 (gal)
Intake depth for tubing:	~70 (feet)

Well Type:	Flush mount ☐		Stick-Up	☒
Well Material:	Stainless Steel ☐		PVC	☒
Well Locked:	Yes ☒		No	☐
Measuring Point Marked:	Yes ☒		No	☐
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bladder pump	Other:
Tubing/Bailer Material:	Polyethylene	Other:
Sampling Method:	Bladder pump	Other:
Pump Start Time:	1039	
Pump Stop Time:	1117	
Total Volume Removed:	~1.3 (gal)	

Water-Quality Meter Type: YSI & Turbidimeter

Did well go dry: Yes (No)

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1045	1050	1055	1100	1105	1110			
Volume Purged (gal)	<0.25	0.5	0.7	0.9	1.1	1.3			
Rate (mL/min)	150	150	150	150	150	150			
Depth to Water (ft)	66.28	66.43	66.45	66.46	66.45	66.46			
pH	7.22	7.09	7.08	7.08	7.10	7.10			
Temp. (°C)	13.9	13.4	13.2	13.1	12.9	12.9			
Conductivity (mS/cm)	2.17	2.04	2.04	2.04	2.04	2.04			
Dissolved Oxygen (mg/L)	1.08	0.80	0.90	0.92	0.95	0.80			
ORP (mV)	138.8	14.5	-2.1	-1.7	3.8	7.0			
Turbidity (NTU)	95	97.7	82.1	63.6	50.5				
Notes:	Initial purge: Light braun, cloudy, no sheen, odor. Final purge: Clear, odor, no color, no sheen								

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: VR1-1_20160816	Sample Time: 1115	
MS/MSD:	Yes ☐	No ☒
Duplicate:	Yes ☐	No ☒
Duplicate ID: —	Dup. Time: —	
Chain of Custody Signed By: B. Quaglieri		

Problems / Observations

IMI Riverview – Rotterdam, NY — Site

2016 Semi-Annual GW Sampling — Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Well ID: VR1-2
Client / Job Number: GE / AP086277.3000.3000A
Date: 8/ 15 /16
Weather: 80°F, Partly Cloudy
Time In: 1255 **Time Out:** 1409

Well Information

Depth to Water:	69.82 (feet)
Total Depth:	76.12 (feet)
Length of Water Column:	6.30 (feet)
Volume of Water in Well:	1.01 (gal)
Intake depth for tubing:	~79.0 (feet)

Well Type:	Flush mount ☐		Stick-Up ☒	
Well Material:	Stainless Steel ☐		PVC ☒	
Well Locked:	Yes ☒		No ☐	
Measuring Point Marked:	Yes ☒		No ☐	
Well Diameter:	1"	2" (circled)	Other:	

Purging Information

Purging Method:	Bladder pump	Other:
Tubing/Bailer Material:	Polyethylene	Other:
Sampling Method:	Bladder pump	Other:
Pump Start Time:	1302	
Pump Stop Time:	1346	
Total Volume Removed:	~2.3 (gal)	

Water-Quality Meter Type: YSI & Turbidimeter

Did well go dry: Yes (No)

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1305	1310	1315	1320	1325	1330	1335	1340	
Volume Purged (gal)	<0.25	0.50	0.90	1.2	1.5	1.7	2.0	2.3	
Rate (mL/min)	200	200	200	200	200	200	200	200	
Depth to Water (ft)	69.85	69.88	69.86	69.85	69.86	69.85	69.85	69.85	
pH	7.03	6.96	6.94	6.82	6.78	6.80	6.80	6.79	
Temp. (°C)	11.0	10.6	10.7	10.5	10.5	10.4	10.5	10.5	
Conductivity (mS/cm)	0.6341	0.1635	0.641	0.643	0.642	0.642	0.643	0.643	
Dissolved Oxygen (mg/L)	9.53	9.21	9.05	9.10	8.87	9.10	9.08	9.10	
ORP (mV)	38.5	38.0	40.2	56.6	62.4	59.8	59.1	59.5	
Turbidity (NTU)	906	75.4	32.4	17.2	11.6	9.80	8.09	7.52	
Notes:	Initial purge: Brown, cloudy, no odor, no sheen. Final purge: Clear, no odor, no sheen.								

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: VR1-2-20160815	Sample Time: 1345	
MS/MSD: Yes ☐	No ☒	
Duplicate: Yes ☐	No ☒	
Duplicate ID: —	Dup. Time: —	
Chain of Custody Signed By: B. Quaglieri		

Problems / Observations

12v battery died at 1346, when 3rd vial was in the process of being filled. waited for N. Griffith to complete sampling - used her 12v battery to complete sampling.

IMI Riverview – Rotterdam, NY (Site) | **2016 Semi-Annual GW Sampling** (Event)

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Client / Job Number: GE / AP086277.3000.3000A
Weather: Sunny 80°
Well ID: VR1-3
Date: 8/ 17 /16
Time In: 1230 **Time Out:** 14:10

Well Information

Depth to Water:	71.60	(feet)
Total Depth:	78.05	(feet)
Length of Water Column:	6.45	(feet)
Volume of Water in Well:	1.05	(gal)
Intake depth for tubing:	~77	(feet)

Well Type:	Flush mount ☐		Stick-Up	☒
Well Material:	Stainless Steel ☐		PVC	☒
Well Locked:	Yes ☒		No	☐
Measuring Point Marked:	Yes ☐		No	☒
Well Diameter:	1"	2" (circled)	Other:	

Purging Information

Purging Method:	Bladder pump	Other:	
Tubing/Bailer Material:	Polyethylene	Other:	
Sampling Method:	Bladder pump	Other:	
Pump Start Time:	1250		
Pump Stop Time:	14.00	Water-Quality Meter Type:	YSI & Turbidimeter
Total Volume Removed:	1.2 (gal)	Did well go dry:	Yes / No (circled)

Conversion Factors

gal / ft. of water	1" ID	2" ID (circled)	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3785 ml = 0.1337 cubic feet

Unit Stability

pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	12:55	13:00	13:05	13:10	13:15	13:20	13:25	13:30	13:35
Volume Purged (gal)	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
Rate (mL/min)	120	120	120	60	60	60	60	60	60
Depth to Water (ft)	72.10	72.24	72.30	72.35	72.11	72.11	72.11	72.11	72.12
pH	7.27	6.92	6.83	6.80	6.71	6.73	6.76	6.73	6.75
Temp. (°C)	21.20	18.9	18.1	18.1	21.5	21.8	21.6	20.6	20.9
Conductivity (mS/cm)	0.70	0.69	0.70	0.69	0.70	0.70	0.71	0.70	0.70
Dissolved Oxygen (mg/L)	2.97	2.09	1.96	1.78	1.61	1.40	1.33	1.60	1.60
ORP (mV)	217.3	213.8	213.6	215.6	223.6	225.2	227.9	231.5	235.9
Turbidity (NTU)	68.2	55.1	38.2	33.9	33.1	32.8	25.6	23.8	24.3
Notes:			↓ rate						

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: VR1-3-20160817	Sample Time:	
MS/MSD: Yes ☐	No ☒	
Duplicate: Yes ☐	No ☒	
Duplicate ID: n/a	Dup. Time: n/a	
Chain of Custody Signed By: B.Q		

Problems / Observations

Initial: Slightly turbid, brown tint, odorless
Final: Clear, colorless, odorless

IMI Riverview – Rotterdam, NY
Site

2016 Semi-Annual GW Sampling
Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Client / Job Number: GE / AP086277.3000.3000A
Weather: Sunny 80°
Well ID: VR1-3
Date: 8/17/16
Time In: 1230 **Time Out:** 14:10

Parameter:	1	2	3	4	5	6	7	8	9
Time	13:40	13:45	13:58	13:55	14:00				
Volume Purged (Gal)	1.0	1.0	1.1	1.1					
Rate (mL/min)	60	60	60	60					
Depth to Water (ft.)	72.12	72.12	72.12	72.12					
pH	6.77	6.76	6.77	6.77					
Temp. (C)	19.7	20.0	19.9	19.6					
Conductivity (mS/cm)	0.70	0.70	0.70	0.71					
Dissolved Oxygen (mg/L)	1.74	1.62	1.63	1.62					
ORP (mV)	238.7	241.0	243.9	244.9					
Turbidity (NTU)	17.3	15.2	15.2	15.7					
Notes:									

Parameter:	1	2	3	4	5	6	7	8	9
Time									
Volume Purged (Gal)									
Rate (mL/min)									
Depth to Water (ft.)									
pH									
Temp. (C)									
Conductivity (mS/cm)									
Dissolved Oxygen (mg/L)									
ORP (mV)									
Turbidity (NTU)									
Notes:									

IMI Riverview – Rotterdam, NY
Site

2016 Semi-Annual GW Sampling
Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Client / Job Number: GE / AP086277.3000.3000A
Weather: 78 °F, Sun

Well ID: VR1-4
Date: 8/17/16
Time In: 1247 Time Out: 1424

Well Information

Depth to Water:	73.~~73~~	(feet)
Total Depth:	78.49	(feet)
Length of Water Column:	4.88	(feet)
Volume of Water in Well:	0.78	(gal)
Intake depth for tubing:	~79	(feet)

Well Type:	Flush mount ☐		Stick-Up ☒	
Well Material:	Stainless Steel ☐		PVC ☒	
Well Locked:	Yes ☒		No ☐	
Measuring Point Marked:	Yes ☒		No ☐	
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bladder pump	Other:
Tubing/Bailer Material:	Polyethylene	Other:
Sampling Method:	Bladder pump	Other:
Pump Start Time:	1251	
Pump Stop Time:	1418	
Total Volume Removed:	~4.2 (gal)	
Water-Quality Meter Type:	YSI & Turbidimeter	
Did well go dry:	Yes (No)	

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Time	1340	1345	1350	1355	1400	1405	1410		
Volume Purged (gal)	2.5	2.7	3.0	3.~~5~~4	3.6	3.8	4.1		
Rate (mL/min)	150	150	150	150	150	150	150		
Depth to Water (ft)	74.23	74.25	74.25	74.24	74.25	74.24	74.25		
pH	7.38	7.41	7.41	7.40	7.41	7.40	7.41		
Temp. (°C)	14.5	14.4	14.5	14.9	14.5	14.5	14.6		
Conductivity (mS/cm)	0.82	0.83	0.83	0.83	0.83	0.83	0.83		
Dissolved Oxygen (mg/L)	7.19	6.33	6.37	6.34	5.85	5.91	5.99		
ORP (mV)	138.9	125.3	129.2	127.1	124.3	124.0	124.3		
Turbidity (NTU)	952	776	692	703	126	99			
Notes:	Initial purge: Opaque, light brown, no odor no sheen. Final purge: No color, no odor, cloudy, no sheen.								

Sampling Information

Analyses	#	Laboratory
VOCs	3	Pace Analytical
Sample ID: VR1-4-20160817	Sample Time: 1415	
MS/MSD: Yes ☐	No ☒	
Duplicate: Yes ☐	No ☒	
Duplicate ID: —	Dup. Time: —	
Chain of Custody Signed By: B. Quaglieri		

Problems / Observations

Initial turbidity 2173 AU, will let turbidity drop before connecting to YSI. Pump pulled ~1.5' from bottom.

1305: 1796 AU.
1317: 756 AU
1327: 2524 AU. – can't pull pump higher because it would be out of the water column. Connected to YSI since VOC ~~TS~~ are not affected by turbidity.

IMI Riverview – Rotterdam, NY — Site

2016 Semi-Annual GW Sampling — Event

GROUNDWATER SAMPLING LOG

Sampling Personnel: N. Griffith and B. Quaglieri
Well ID: VRI-9
Client / Job Number: GE / AP086277.3000.3000A
Date: 8/15/16
Weather: Sunny 80°
Time In: 12:56 **Time Out:** 1415

Well Information

Depth to Water:	66.44	(feet)
Total Depth:	69.46	(feet)
Length of Water Column:	3.02	(feet)
Volume of Water in Well:	0.49	(gal)
Intake depth for tubing:	~69	(feet)

Well Type:	Flush mount	☐	Stick-Up	☒
Well Material:	Stainless Steel	☐	PVC	☒
Well Locked:	Yes	☒	No	☐
Measuring Point Marked:	Yes	☐	No	☒
Well Diameter:	1"	(2")	Other:	

Purging Information

Purging Method:	Bladder pump	Other:	
Tubing/Bailer Material:	Polyethylene	Other:	
Sampling Method:	Bladder pump	Other:	
Pump Start Time:	13:00		
Pump Stop Time:	~~14:00~~ 14:03	Water-Quality Meter Type:	YSI & Turbidimeter
Total Volume Removed:	1.0 (gal)	Did well go dry:	Yes (No)

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3785 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO / Turb	Cond. /Temp	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9	
Time	13:10	13:15	13:20	13:25	13:30	13:35	13:40	13:45	13:50	13:55
Volume Purged (gal)	0.1	0.3	0.5	0.6	0.7	0.75	0.80	0.90	0.95	1.00
Rate (mL/min)	800	200	200	200	200	200	200	200	200	200
Depth to Water (ft)	67.81	68.10	68.38	68.41	68.41	68.41	68.41	68.41	68.41	68.41
pH	6.77	6.71	6.73	6.72	6.76	6.78	6.82	6.82	4.83	6.83
Temp. (°C)	13.3	14.6	13.7	16.1	17.3	17.3	16.9	17.0	17.0	16.9
Conductivity (mS/cm)	0.80	0.81	0.80	0.80	0.81	0.81	0.81	0.82	0.82	0.81
Dissolved Oxygen (mg/L)	8.71	7.93	7.22	7.18	7.05	7.05	7.06	7.05	7.06	7.06
ORP (mV)	249.7	253.5	255.9	257.1	261.2	262.7	266.1	268.9	271.2	273.6
Turbidity (NTU)	454	1646	2644	2802	2293	1701	829	444	130	527
Notes:	↓ rate									

Sampling Information

Analyses	#	Laboratory
VOCs 3		Pace Analytical
Sample ID: VRI-9 - 20160815	Sample Time: 14:00	
MS/MSD: Yes ☐	No ☒	
Duplicate: Yes ☐	No ☒	
Duplicate ID: n/a	Dup. Time: n/a	
Chain of Custody Signed By: B.Q.		

Problems / Observations

Initial - turbid. light brown, no odor

Final - ~~Milky~~ cloudier, light brown, ~~colorless~~ but still turbid.

- Sample even though turbidity 1 50 / B.Q.
All other parameters good.

Semi-Annual GW Sampling 8/15/16
Weather: 70-80's, Sun, low humidity

0740 B. Quaglieri (Arcadis) arrived on-site, J. Wyckoff (Arcadis) arrived on-site.
0755 N. Griffith (Arcadis) arrived on-site. Held tailgate health and safety meeting.
0810 J. Wyckoff cleared brush. N. Griffith and B. Quaglieri began measuring water levels and ~~taking~~ monitoring well inspections. Had to ask J. Wyckoff for assistance finding GT-13 and GT-12. GT-13 appears to have been destroyed from building 33 construction (photo taken). GT-12 is located on the other side of the fence and was unable to be located. These wells are not sampled. GT-2R casing is damaged (photo taken). This well is not sampled. Spoke with A. Kelsey (vonRoll) to find a location to stage the drums.

Semi-Annual GW Sampling 8/15/16
Weather: 70's-80's, Sun, low humidity

1135 Arcadis off-site for lunch and to purchase ice for samples.
1235 Arcadis arrived on-site. J. Wyckoff left N. Griffith and B. Quaglieri to sample monitoring wells.
1250 N. Griffith started set up at VR1-9.
1255 B. Quaglieri started set up at VR1-2.
1345 Sampled for VOCs at VR1-2. As noted in purge log, 12v battery died during sampling. BQ waited for NG to finish sampling and used her 12v battery
1400 Sampled for VOC's at VR1-9. Loaded field vehicles.
1510 Arcadis off-site to pick-up drums from Veolia. Number of drums on-site: 1, contents: purge water from VR1-9 + VR1-2.

Semi-Annual Groundwater Sampling 8/11/16
Weather: 70-80's, Overcast, chance of Rain/Thunderstorms.

0710 B. Quaglieri (Arcadis) on-site, N. Griffith (Arcadis) already on-site. Held tailgate health + safety meeting. Checked in at gate, went to VR1-1 cluster. Began calibrating and setting up to purge.
0820 Set up at 1W-4 and 1W-6
0920 Sampled at 1W-4 and 1W-6. Collected DUP-1_20160816 from 1W-6. Collected MS/MSD from 1W-4.
0940 Set up at 1W-5 and 1W-7.
1020 Sampled at 1W-5.
1040 Set up at VR1-1. Sampled at 1W-7.
1050 Set up at 1W-2.
1115 Sampled at VR1-1.
1140 Sampled at 1W-2. (see log - red colored water)
1150 Arcadis off-site for lunch.
1240 Arcadis on-site, resumed sampling - set up @ 1W-1 and 1W-3.

Semi-Annual GW Sampling 8/16/16
weather: 70-80's Overcast, chance of thunderstorms.

1330 Sampled at 1W-1.
1340 Sampled at 1W-3 (see log - red colored water)
1400 Arcadis off-site. Number of drums on-site: 1. Contents in drum: VR1-9, VR1-2, 1W-4, 1W-6, 1W-5, 1W-7, VR1-1, 1W-2, 1W-1, & 1W-3 purge water.

Semi-Annual GW Sampling 8/17/16
Weather: 70-80's, Mostly cloudy, windy. PM Sun.

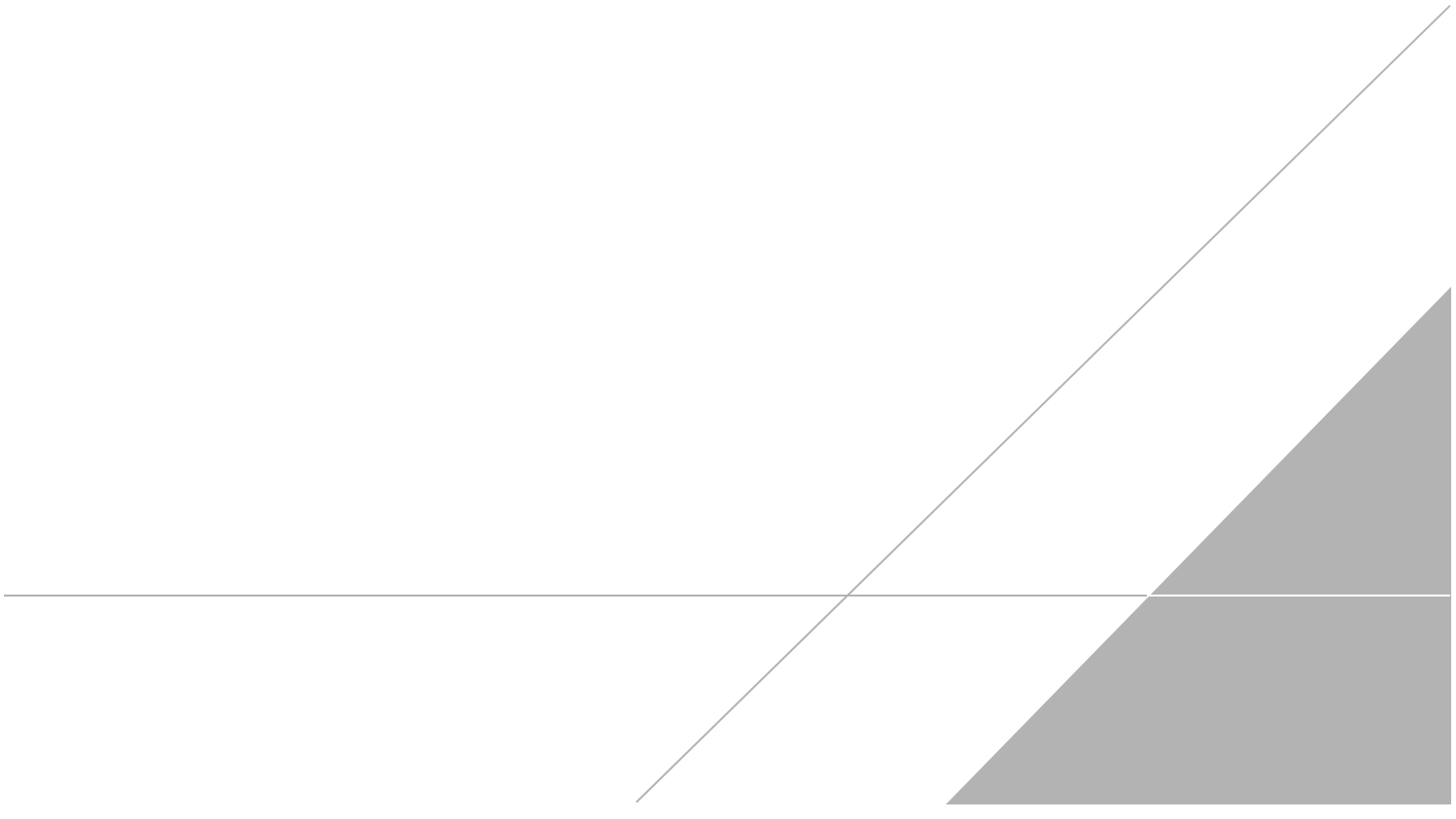
0640 B. Quaglieri (Arcadis) arrived on-site, N. Griffith (Arcadis) already on-site. Held tailgate health and safety meeting. Calibrated equipment and decanned bladder pumps.
0740 Began setting up at GT-7 and GT-9.
0825 Sampled at GT-7.
0835 Collected FB-1_20160817. Used lab provided, unopened DI water and decontaminated o/w probe.
0855 Sampled at GT-9. NG had difficulty at GT-14, tubing was stuck far in the well.
0935 Sampled at GT-16.
1035 Sampled at GT-15.
1050 Sampled at GT-14.
1115 Met w/ D. Weeks (Arcadis) for lunch and to discuss H&S topics. + purchase ice.
1230 Returned on-site and resumed Sampling. Also searched w/ D. Weeks to try and find GT-12.

Semi-Annual GW Sampling 8/17/16
Weather: 70-80's, Mostly cloudy, windy, PM Sun.

1330 D. Weeks off-site.
1400 Sampled at VR1-3.
1415 Sampled at VR1-4. Packed equipment and organized coolers.
Drums:
1 - Purge water (all 17 wells) 2/3 full
1 - PPE/Disposables (1/3 full)
1 - Empty w/ an 'empty' label
1450 Arcadis off-site. NG headed to Syracuse. BQ dropped off Samples and rental equipment.

APPENDIX B

August 2016 Analytical Data Package (provided on CD)



APPENDIX C

Electronic Data Deliverable
(provided on CD)

APPENDIX D

Data Usability Summary Report

Von Roll Isola USA, Inc. - Riverview Site

Data Usability Summary Report (DUSR)

ROTTERDAM, NEW YORK

Volatile Analyses

SDG # ARC-CP004 (1608I83)

Analyses Performed By:
Pace Analytical Services, Inc.
Melville, New York

Report #26353R
Review Level: Tier III
Project: AP086277.3000

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) # ARC-CP004 for samples collected in association with the Von Roll Isola USA, Inc. Site (Riverview Site) in Rotterdam, New York. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	PCB	MET	MISC
VR1-2_20160815	1608I83-001	Water	8/15/2016		X				
VR1-9_20160815	1608I83-002	Water	8/15/2016		X				
IW-4_20160816	1608I83-003	Water	8/16/2016		X				
IW-6_20160816	1608I83-004	Water	8/16/2016		X				
IW-5_20160816	1608I83-005	Water	8/16/2016		X				
IW-7_20160816	1608I83-006	Water	8/16/2016		X				
VRI-1_20160816	1608I83-007	Water	8/16/2016		X				
IW-2_20160816	1608I83-008	Water	8/16/2016		X				
IW-1_20160816	1608I83-009	Water	8/16/2016		X				
IW-3_20160816	1608I83-010	Water	8/16/2016		X				
DUP_20160816	1608I83-011	Water	8/16/2016	IW-6_ 20160816	X				
GT-7_20160817	1608I83-012	Water	8/17/2016		X				
FB-1_20160817	1608I83-013	Water	8/17/2016		X				
GT-9_20160817	1608I83-014	Water	8/17/2016		X				
GT-16_20160817	1608I83-015	Water	8/17/2016		X				
GT-15_20160817	1608I83-016	Water	8/17/2016		X				
GT-14_20160817	1608I83-017	Water	8/17/2016		X				
VR1-3_20160817	1608I83-018	Water	8/17/2016		X				
VR1-4_20160817	1608I83-019	Water	8/17/2016		X				
TRIP BLANK	1608I83-020	Water	8/17/2016		X				

Note:
1. The matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on sample location IW-4_20160816.

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260C. Data were reviewed in accordance with USEPA Region II SOPs and USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  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.

  JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

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

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260C	Water	14 days from collection to analysis (7 days if unpreserved)	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	14 days from collection to analysis	Cool to <6 °C.

s.u. Standard units

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable and all analyses were performed within a 12-hour tune clock.

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (15%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (20%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Sample Locations	Initial/Continuing	Compound	Criteria
All sample locations within this SDG	ICV %RSD	Acetone	32.6%
		cis-1,3-Dichloropropene	15.6%
		4-Methyl-2-pentanone	17.5%
		trans-1,3-Dichloropropene	20.6%
		2-Hexanone	27.6%
		1,2-Dibromoethane	16.6%
		Bromoform	17.3%
		1,2-Dibromo-3-chloropropane	20.4%
VR1-2_20160815 VR1-9_20160815 IW-4_20160816 IW-6_20160816 IW-5_20160816	CCV %D	Methyl Acetate	29.9%
		Dichlorodifluoromethane	-21.6%
		Chloromethane	-20.8%
		Carbon disulfide	-49.0%
IW-7_20160816 VRI-1_20160816 IW-2_20160816 IW-1_20160816 IW-3_20160816 DUP_20160816 GT-7_20160817 FB-1_20160817 GT-9_20160817 GT-16_20160817 GT-15_20160817 GT-14_20160817 VR1-3_20160817 VR1-4_20160817 TRIP BLANK	CCV %D	Methyl Acetate	23.3%
		Dichlorodifluoromethane	-20.2%
		Chloromethane	-22.8%
		Carbon disulfide	-49.5%
		2-Butanone	-21.6%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J

Initial/Continuing	Criteria	Sample Result	Qualification
	RRF <0.01[1]	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01[1]	Non-detect	No Action
		Detect	
Initial Calibration	%RSD > 15% or a correlation coefficient <0.99	Non-detect	UJ
		Detect	J
	%RSD >90%	Non-detect	R
		Detect	J
Continuing Calibration	%D >20% (increase in sensitivity)	Non-detect	No Action
		Detect	J
	%D >20% (decrease in sensitivity)	Non-detect	UJ
		Detect	J
	%D >90% (increase/decrease in sensitivity)	Non-detect	R
		Detect	J

[1] RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e., ketones, 1,4-dioxane, etc.)

5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+100%) or less than one-half (-50%) of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	MS Recovery	MSD Recovery
IW-4_20160816	1,2-Dibromo-3-chloropropane	<LL but >10%	<LL but >10%

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

8. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS analysis exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	LCS Recovery
VR1-2_20160815 VR1-9_20160815 IW-4_20160816 IW-6_20160816 IW-5_20160816	1,2-Dibromo-3-chloropropane	<LL but >10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

9. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
IW-6_20160816/DUP_20160816	1,2,4-Trimethylbenzene	280	370	27.7%
	1,3,5-Trimethylbenzene	260	340	26.7%
	Acetone	3.0 J	2.6 J	AC
	Ethylbenzene	1.9	1.9	AC
	Isopropylbenzene	21	22	4.7%
	n-Propylbenzene	21	21	0.0%
	Xylene (total)	380	390	2.6%

AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

10. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

Sample results associated with compound that exhibited a concentration greater than the linear range of the instrument calibration are summarized in the following table.

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
IW-6_20160816	1,2,4-Trimethylbenzene	310 E	280 D	280 D
	1,3,5-Trimethylbenzene	300 E	260 D	260 D
IW-5_20160816	1,2,4-Trimethylbenzene	2500 E	5000 D	5000 D
	1,3,5-Trimethylbenzene	1800 E	2800 D	2800 D
	Xylene (total)	1800 E	1700 D	1700 D
VRI-1_20160816	1,3,5-Trimethylbenzene	250 E	260 D	260 D
IW-2_20160816	Acetone	280 E	310 D	310 D
	1,2,4-Trimethylbenzene	950 E	1100 D	1100 D
	1,3,5-Trimethylbenzene	650 E	720 D	720 D

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
	Xylene (total)	880 E	880 D	880 D
IW-3_20160816	1,2,4-Trimethylbenzene	1300 E	1600 D	1600 D
	1,3,5-Trimethylbenzene	1300 E	1700 D	1700 D
	Xylene (total)	1100 E	1100 D	1100 D
DUP_20160816	1,2,4-Trimethylbenzene	330 E	370 D	370 D
	1,3,5-Trimethylbenzene	310 E	340 D	340 D

Note: In the instance where both the original analysis and the diluted analysis sample results exhibited a concentration greater than and/or less than the calibration linear range of the instrument; the sample result exhibiting the greatest concentration will be reported as the final result.

Sample results associated with compounds exhibiting concentrations greater than the linear range are qualified as documented in the table below when reported as the final reported sample result.

Reported Sample Results	Qualification
Diluted sample result within calibration range	D
Diluted sample result less than the calibration range	DJ
Diluted sample result greater than the calibration range	EDJ
Original sample result greater than the calibration range	EJ

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method. Therefore, the analytical data are considered reliable and acceptable for use with the qualifications noted.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks		X		X	
C. Trip blanks		X		X	
Laboratory Control Sample (LCS)		X	X		
Laboratory Control Sample Duplicate(LCSD)					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS)		X	X		
Matrix Spike Duplicate(MSD)		X	X		
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X	X		
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present				X	

VOCs: SW-846 8260C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
E. Reporting limits adjusted to reflect sample dilutions		X		X	

%RSD Relative standard deviation
%R Percent recovery
RPD Relative percent difference
%D Percent difference

SAMPLE COMPLIANCE REPORT

Sample Delivery Group (SDG)	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
ARC-CP004	8/15/2016	SW846	VR1-2_20160815	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D, LCS %recovery
	8/15/2016	SW846	VR1-9_20160815	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D, LCS %recovery
	8/16/2016	SW846	IW-4_20160816	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D, LCS %recovery, MS/MSD %recovery
	8/16/2016	SW846	IW-6_20160816	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D, LCS %recovery
	8/16/2016	SW846	IW-5_20160816	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D, LCS %recovery
	8/16/2016	SW846	IW-7_20160816	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/16/2016	SW846	VRI-1_20160816	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/16/2016	SW846	IW-2_20160816	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/16/2016	SW846	IW-1_20160816	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/16/2016	SW846	IW-3_20160816	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/16/2016	SW846	DUP_20160816	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/17/2016	SW846	GT-7_20160817	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/17/2016	SW846	FB-1_20160817	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/17/2016	SW846	GT-9_20160817	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/17/2016	SW846	GT-16_20160817	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/17/2016	SW846	GT-15_20160817	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/17/2016	SW846	GT-14_20160817	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/17/2016	SW846	VR1-3_20160817	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/17/2016	SW846	VR1-4_20160817	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D
	8/17/2016	SW846	TRIP BLANK	Water	No	--	--	--	--	VOC – ICAL %RSD, CCAL %D

1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.

VALIDATION PERFORMED BY: Joseph C. Houser

SIGNATURE: 

DATE: October 3, 2016

PEER REVIEW: Dennis Capria

DATE: October 5, 2016

CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEETS

Pace Analytical
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NYSDOH ID#10478 www.pacelabs.com

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/15/2016 1:45:00 PM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-001
Client Sample ID: VR1-2_20160815

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,2,4-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~cS~~ UJ	1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
1,3,5-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
2-Butanone	< 5.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	UJ	1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
Acetone	< 5.0	UJ	1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 8:58 PM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 8:58 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
M-, M+ = Matrix Spike recovery below / above control limit
N = Indicates presumptive evidence of compound
P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

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NYSDOH ID#10478 www.pacelabs.com

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/15/2016 1:45:00 PM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-001
Client Sample ID: VR1-2_20160815

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	~~c~~ UJ	1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Isopropylbenzene	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
n-Propylbenzene	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Xylene (total)	< 3.0		1	µg/L			08/22/2016 8:58 PM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	77.8		1	%Rec	Limit	68-153	08/22/2016 8:58 PM	Container-01 of 03
Surr: 4-Bromofluorobenzene	86.7		1	%Rec	Limit	79-124	08/22/2016 8:58 PM	Container-01 of 03
Surr: Toluene-d8	81.4		1	%Rec	Limit	69-124	08/22/2016 8:58 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
M-, M+ = Matrix Spike recovery below / above control limit
N = Indicates presumptive evidence of compound
P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/15/2016 2:00:00 PM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-002
Client Sample ID: VR1-9_20160815

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,2,4-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~cS~~ UJ	1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
1,3,5-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
2-Butanone	< 5.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	↓	1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
Acetone	< 5.0	↓	1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 9:16 PM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 9:16 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
M-, M+ = Matrix Spike recovery below / above control limit
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Nick Nicholas

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/15/2016 2:00:00 PM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-002
Client Sample ID: VR1-9_20160815

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	~~c~~ UJ	1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Isopropylbenzene	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
n-Propylbenzene	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Xylene (total)	< 3.0		1	µg/L			08/22/2016 9:16 PM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	80.5		1	%Rec	Limit	68-153	08/22/2016 9:16 PM	Container-01 of 03
Surr: 4-Bromofluorobenzene	87.2		1	%Rec	Limit	79-124	08/22/2016 9:16 PM	Container-01 of 03
Surr: Toluene-d8	81.7		1	%Rec	Limit	69-124	08/22/2016 9:16 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
M-, M+ = Matrix Spike recovery below / above control limit
N = Indicates presumptive evidence of compound
P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results are only for the samples and analytes requested.

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the tests requested.

Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 9:20:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608183-003
Client Sample ID: IW-4_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,2,4-Trimethylbenzene	1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,2-Dibromo-3-chloropropane	< 1.0	~~M-c~~ UJ	1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
1,3,5-Trimethylbenzene	11		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
2-Butanone	< 5.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
4-Methyl-2-pentanone	< 5.0	UJ	1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
Acetone	3.8	J	1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
Benzene	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
Bromomethane	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
Chloroethane	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
Chloroform	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 9:33 PM	Container-01 of 09
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 9:33 PM	Container-01 of 09

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
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S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 9:20:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-003
Client Sample ID: IW-4_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units		Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Dibromochloromethane	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Dichlorodifluoromethane	< 1.0	~~c~~ UJ	1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Ethylbenzene	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Isopropylbenzene	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
m-Dichlorobenzene	< 1.0	+	1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Methyl Acetate	< 1.0	+	1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Methyl tert-butyl ether	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Methylcyclohexane	< 1.0	+	1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Methylene chloride	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
n-Propylbenzene	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
o-Dichlorobenzene	< 1.0	+	1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
p-Dichlorobenzene	< 1.0	+	1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Styrene	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Tetrachloroethene	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Toluene	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
trans-1,2-Dichloroethene	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Trichloroethene	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Trichlorofluoromethane	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Vinyl chloride	< 1.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Xylene (total)	< 3.0		1	µg/L		08/22/2016 9:33 PM	Container-01 of 09
Surr: 1,2-Dichloroethane-d4	78.7		1	%Rec	Limit 68-153	08/22/2016 9:33 PM	Container-01 of 09
Surr: 4-Bromofluorobenzene	87.7		1	%Rec	Limit 79-124	08/22/2016 9:33 PM	Container-01 of 09
Surr: Toluene-d8	81.3		1	%Rec	Limit 69-124	08/22/2016 9:33 PM	Container-01 of 09

Qualifiers: E = Value above quantitation range, Value estimated.
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r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road . Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 9:20:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-004
Client Sample ID: IW-6_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,2,4-Trimethylbenzene	280	D	4	µg/L	08/23/2016 12:15 AM	Container-02 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~cS~~ UJ	1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
1,3,5-Trimethylbenzene	260	D	4	µg/L	08/23/2016 12:15 AM	Container-02 of 03
2-Butanone	< 5.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	UJ	1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
Acetone	3.0	J	1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 10:45 PM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 10:45 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
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P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 9:20:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-004
Client Sample ID: IW-6_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	~~c~~ UJ	1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Ethylbenzene	1.9		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Isopropylbenzene	21		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
n-Propylbenzene	21		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Xylene (total)	380		1	µg/L			08/22/2016 10:45 PM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	77.9		1	%Rec	Limit	68-153	08/22/2016 10:45 PM	Container-01 of 03
Surr: 4-Bromofluorobenzene	88.6		1	%Rec	Limit	79-124	08/22/2016 10:45 PM	Container-01 of 03
Surr: Toluene-d8	81.6		1	%Rec	Limit	69-124	08/22/2016 10:45 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
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r = Reporting limit below calibration range. Value estimated.
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+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 10:20:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-005
Client Sample ID: IW-5_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,2,4-Trimethylbenzene	5,000	D	50	µg/L	08/23/2016 12:32 AM	Container-02 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~cS~~ UJ	1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
1,3,5-Trimethylbenzene	2,800	D	50	µg/L	08/23/2016 12:32 AM	Container-02 of 03
2-Butanone	< 5.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	UJ	1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
Acetone	9.6	J	1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 11:03 PM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 11:03 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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D.F. = Dilution Factor D = Results for Dilution
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P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 10:20:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-005
Client Sample ID: IW-5_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units		Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	c UJ	1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Ethylbenzene	1.8		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Isopropylbenzene	160		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
n-Propylbenzene	110		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Styrene	< 1.0		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Toluene	< 1.0		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L		08/22/2016 11:03 PM	Container-01 of 03
Xylene (total)	1,700	D	50	µg/L		08/23/2016 12:32 AM	Container-02 of 03
Surr: 1,2-Dichloroethane-d4	79.8		1	%Rec	Limit 68-153	08/22/2016 11:03 PM	Container-01 of 03
Surr: 4-Bromofluorobenzene	87.7		1	%Rec	Limit 79-124	08/22/2016 11:03 PM	Container-01 of 03
Surr: Toluene-d8	80.6		1	%Rec	Limit 69-124	08/22/2016 11:03 PM	Container-01 of 03

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H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
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N = Indicates presumptive evidence of compound
P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 10:40:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608183-006
Client Sample ID: IW-7_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,2,4-Trimethylbenzene	48		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
1,3,5-Trimethylbenzene	140		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	UJ	1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
Acetone	5.8	~~c~~ J	1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 1:11 PM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 1:11 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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D.F. = Dilution Factor D = Results for Dilution
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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 10:40:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-006
Client Sample ID: IW-7_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	~~c~~ UJ	1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Ethylbenzene	1.4		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Isopropylbenzene	44		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
n-Propylbenzene	30		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Xylene (total)	94		1	µg/L			08/22/2016 1:11 PM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	80.1		1	%Rec	Limit	68-153	08/22/2016 1:11 PM	Container-01 of 03
Surr: 4-Bromofluorobenzene	90.2		1	%Rec	Limit	79-124	08/22/2016 1:11 PM	Container-01 of 03
Surr: Toluene-d8	82.6		1	%Rec	Limit	69-124	08/22/2016 1:11 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 11:15:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-007
Client Sample ID: VRI-1_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,2,4-Trimethylbenzene	41		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
1,3,5-Trimethylbenzene	260	D	10	µg/L	08/22/2016 12:36 PM	Container-02 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	UJ	1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
Acetone	1.7	J~~c~~	1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 12:08 PM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 12:08 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
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TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 11:15:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-007
Client Sample ID: VRI-1_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	~~c~~ UJ	1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Ethylbenzene	5.6		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Isopropylbenzene	130		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
n-Propylbenzene	86		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Xylene (total)	36		1	µg/L			08/22/2016 12:08 PM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	81.2		1	%Rec	Limit	68-153	08/22/2016 12:08 PM	Container-01 of 03
Surr: 4-Bromofluorobenzene	88.8		1	%Rec	Limit	79-124	08/22/2016 12:08 PM	Container-01 of 03
Surr: Toluene-d8	83.3		1	%Rec	Limit	69-124	08/22/2016 12:08 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
M-, M+ = Matrix Spike recovery below / above control limit
N = Indicates presumptive evidence of compound
P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Date Reported : 8/30/2016

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 11:40:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-008
Client Sample ID: IW-2_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,2,4-Trimethylbenzene	1,100	D	20	µg/L	08/22/2016 1:57 PM	Container-02 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~	1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,2-Dibromoethane	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
1,3,5-Trimethylbenzene	720	D	20	µg/L	08/22/2016 1:57 PM	Container-02 of 03
2-Butanone	11	~~c~~ J	1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	UJ	1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
Acetone	310	D~~c~~ J	20	µg/L	08/22/2016 1:57 PM	Container-02 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 1:37 PM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 1:37 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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Nick Nicholas

Project Manager : Nick Nicholas

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Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 11:40:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-008
Client Sample ID: IW-2_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier		D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Dibromochloromethane	< 1.0			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	~~c~~ UJ		1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Ethylbenzene	14			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Isopropylbenzene	130			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
m-Dichlorobenzene	< 1.0		+	1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Methyl Acetate	< 1.0		+	1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Methyl tert-butyl ether	< 1.0			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Methylcyclohexane	< 1.0		+	1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Methylene chloride	< 1.0			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
n-Propylbenzene	190			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
o-Dichlorobenzene	< 1.0		+	1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
p-Dichlorobenzene	< 1.0		+	1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Styrene	< 1.0			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Tetrachloroethene	< 1.0			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Toluene	2.1			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ		1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Trichloroethene	< 1.0			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Trichlorofluoromethane	< 1.0			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Vinyl chloride	< 1.0			1	µg/L			08/22/2016 1:37 PM	Container-01 of 03
Xylene (total)	880	D		20	µg/L			08/22/2016 1:57 PM	Container-02 of 03
Surr: 1,2-Dichloroethane-d4	80.3			1	%Rec	Limit	68-153	08/22/2016 1:37 PM	Container-01 of 03
Surr: 4-Bromofluorobenzene	88.7			1	%Rec	Limit	79-124	08/22/2016 1:37 PM	Container-01 of 03
Surr: Toluene-d8	81.3			1	%Rec	Limit	69-124	08/22/2016 1:37 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 1:30:00 PM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-009
Client Sample ID: IW-1_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,2,4-Trimethylbenzene	150		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
1,3,5-Trimethylbenzene	87		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	↓	1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
Acetone	< 5.0	↓	1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 11:42 AM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 11:42 AM	Container-01 of 03

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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
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NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 1:30:00 PM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-009
Client Sample ID: IW-1_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	~~c~~ UJ	1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Isopropylbenzene	4.4		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
n-Propylbenzene	3.8		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Xylene (total)	97		1	µg/L			08/22/2016 11:42 AM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	81.1		1	%Rec	Limit	68-153	08/22/2016 11:42 AM	Container-01 of 03
Surr: 4-Bromofluorobenzene	86.5		1	%Rec	Limit	79-124	08/22/2016 11:42 AM	Container-01 of 03
Surr: Toluene-d8	82.5		1	%Rec	Limit	69-124	08/22/2016 11:42 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

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Date Reported : 8/30/2016

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 1:40:00 PM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-010
Client Sample ID: IW-3_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,2,4-Trimethylbenzene	1,600	D	20	µg/L	08/22/2016 2:58 PM	Container-02 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
1,3,5-Trimethylbenzene	1,700	D	20	µg/L	08/22/2016 2:58 PM	Container-02 of 03
2-Butanone	2.5	~~Jc~~	1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	UJ	1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
Acetone	44	~~c~~ J	1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 2:33 PM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 2:33 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
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M-, M+ = Matrix Spike recovery below / above control limit
N = Indicates presumptive evidence of compound
P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results are only for the samples and analytes requested.

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016 1:40:00 PM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608183-010
Client Sample ID: IW-3_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	~~c~~ UJ	1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Ethylbenzene	2.6		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Isopropylbenzene	110		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
n-Propylbenzene	93		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 2:33 PM	Container-01 of 03
Xylene (total)	1,100	D	20	µg/L			08/22/2016 2:58 PM	Container-02 of 03
Surr: 1,2-Dichloroethane-d4	78.9		1	%Rec	Limit	68-153	08/22/2016 2:33 PM	Container-01 of 03
Surr: 4-Bromofluorobenzene	89.2		1	%Rec	Limit	79-124	08/22/2016 2:33 PM	Container-01 of 03
Surr: Toluene-d8	80.9		1	%Rec	Limit	69-124	08/22/2016 2:33 PM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
M-, M+ = Matrix Spike recovery below / above control limit
N = Indicates presumptive evidence of compound
P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-011
Client Sample ID: DUP_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,2,4-Trimethylbenzene	370	D	10	µg/L	08/22/2016 11:25 AM	Container-02 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
1,3,5-Trimethylbenzene	340	D	10	µg/L	08/22/2016 11:25 AM	Container-02 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	UJ	1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
Acetone	2.6	~~Jc~~	1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 11:01 AM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 11:01 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/16/2016
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-011
Client Sample ID: DUP_20160816

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	~~c~~ UJ	1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Ethylbenzene	1.9		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Isopropylbenzene	22		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
n-Propylbenzene	21		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Xylene (total)	390		1	µg/L			08/22/2016 11:01 AM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	79.8		1	%Rec	Limit	68-153	08/22/2016 11:01 AM	Container-01 of 03
Surr: 4-Bromofluorobenzene	88.1		1	%Rec	Limit	79-124	08/22/2016 11:01 AM	Container-01 of 03
Surr: Toluene-d8	82.4		1	%Rec	Limit	69-124	08/22/2016 11:01 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
M-, M+ = Matrix Spike recovery below / above control limit
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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 8:25:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-012
Client Sample ID: GT-7_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,2,4-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
1,3,5-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	↓	1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
Acetone	< 5.0	↓	1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 10:44 AM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 10:44 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
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P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Date Reported : 8/30/2016

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 8:25:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-012
Client Sample ID: GT-7_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	~~c~~ UJ	1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Isopropylbenzene	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
n-Propylbenzene	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Xylene (total)	< 3.0		1	µg/L			08/22/2016 10:44 AM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	80.6		1	%Rec	Limit	68-153	08/22/2016 10:44 AM	Container-01 of 03
Surr: 4-Bromofluorobenzene	85.1		1	%Rec	Limit	79-124	08/22/2016 10:44 AM	Container-01 of 03
Surr: Toluene-d8	82.5		1	%Rec	Limit	69-124	08/22/2016 10:44 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
M-, M+ = Matrix Spike recovery below / above control limit
N = Indicates presumptive evidence of compound
P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 8:35:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-013
Client Sample ID: FB-1_20160817

Sample Information:
Type : Field Blank

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,2,4-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
1,3,5-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	↓	1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
Acetone	< 5.0	↓	1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 8:21 AM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 8:21 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

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Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 8:35:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-013
Client Sample ID: FB-1_20160817

Sample Information:
Type : Field Blank

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	c UJ	1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Isopropylbenzene	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
n-Propylbenzene	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Xylene (total)	< 3.0		1	µg/L			08/22/2016 8:21 AM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	79.6		1	%Rec	Limit	68-153	08/22/2016 8:21 AM	Container-01 of 03
Surr: 4-Bromofluorobenzene	86.4		1	%Rec	Limit	79-124	08/22/2016 8:21 AM	Container-01 of 03
Surr: Toluene-d8	83.1		1	%Rec	Limit	69-124	08/22/2016 8:21 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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Nick Nicholas

Project Manager : Nick Nicholas

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Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 8:55:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-014
Client Sample ID: GT-9_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,2,4-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
1,3,5-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	↓	1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
Acetone	< 5.0	↓	1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 10:26 AM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 10:26 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 8:55:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-014
Client Sample ID: GT-9_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	c UJ	1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Isopropylbenzene	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
n-Propylbenzene	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Xylene (total)	< 3.0		1	µg/L			08/22/2016 10:26 AM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	80.3		1	%Rec	Limit	68-153	08/22/2016 10:26 AM	Container-01 of 03
Surr: 4-Bromofluorobenzene	86.3		1	%Rec	Limit	79-124	08/22/2016 10:26 AM	Container-01 of 03
Surr: Toluene-d8	81.3		1	%Rec	Limit	69-124	08/22/2016 10:26 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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Nick Nicholas

Project Manager : Nick Nicholas

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Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 9:35:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-015
Client Sample ID: GT-16_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,2,4-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
1,3,5-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	↓	1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
Acetone	< 5.0	↓	1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
Chloroform	1.9		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 10:08 AM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 10:08 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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Nick Nicholas

Project Manager : Nick Nicholas

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Date Reported : 8/30/2016

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855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 9:35:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-015
Client Sample ID: GT-16_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	c UJ	1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Isopropylbenzene	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
n-Propylbenzene	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Trichloroethene	7.4		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Xylene (total)	< 3.0		1	µg/L			08/22/2016 10:08 AM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	80.9		1	%Rec	Limit	68-153	08/22/2016 10:08 AM	Container-01 of 03
Surr: 4-Bromofluorobenzene	86.4		1	%Rec	Limit	79-124	08/22/2016 10:08 AM	Container-01 of 03
Surr: Toluene-d8	82.1		1	%Rec	Limit	69-124	08/22/2016 10:08 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
M-, M+ = Matrix Spike recovery below / above control limit
N = Indicates presumptive evidence of compound
P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Date Reported : 8/30/2016

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

Results are only for the samples and analytes requested.

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 10:35:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-016
Client Sample ID: GT-15_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,2,4-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
1,3,5-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	↓	1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
Acetone	< 5.0	↓	1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 9:50 AM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 9:50 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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D.F. = Dilution Factor D = Results for Dilution
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r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 10:35:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-016
Client Sample ID: GT-15_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	c- v)	1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Isopropylbenzene	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
n-Propylbenzene	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	v)	1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Trichloroethene	3.9		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Xylene (total)	< 3.0		1	µg/L			08/22/2016 9:50 AM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	79.8		1	%Rec	Limit	68-153	08/22/2016 9:50 AM	Container-01 of 03
Surr: 4-Bromofluorobenzene	86.7		1	%Rec	Limit	79-124	08/22/2016 9:50 AM	Container-01 of 03
Surr: Toluene-d8	83.6		1	%Rec	Limit	69-124	08/22/2016 9:50 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 10:50:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-017
Client Sample ID: GT-14_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,2,4-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
1,3,5-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	J	1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
Acetone	1.4	J~~c~~	1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 9:32 AM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 9:32 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 10:50:00 AM
Received : 8/19/2016 9:40:00 AM
Collected By: CLIENT

Lab No. : 1608I83-017
Client Sample ID: GT-14_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	c UJ	1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Isopropylbenzene	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
n-Propylbenzene	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Xylene (total)	< 3.0		1	µg/L			08/22/2016 9:32 AM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	77.6		1	%Rec	Limit	68-153	08/22/2016 9:32 AM	Container-01 of 03
Surr: 4-Bromofluorobenzene	85.8		1	%Rec	Limit	79-124	08/22/2016 9:32 AM	Container-01 of 03
Surr: Toluene-d8	82.4		1	%Rec	Limit	69-124	08/22/2016 9:32 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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S = Recovery outside of control limits for this analyte
+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

Date Reported : 8/30/2016

Nick Nicholas

Project Manager : Nick Nicholas

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Pace Analytical
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TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 2:00:00 PM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-018
Client Sample ID: VR1-3_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,2,4-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
1,3,5-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	↓	1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
Acetone	< 5.0	↓	1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 9:14 AM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 9:14 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
B = Found in Blank
D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
H = Received/analyzed outside of analytical holding time
J = Estimated value - below calibration range
M-, M+ = Matrix Spike recovery below / above control limit
N = Indicates presumptive evidence of compound
P = Duplicate RPD outside of control limit
r = Reporting limit below calibration range. Value estimated.
S = Recovery outside of control limits for this analyte
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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected :8/17/2016 2:00:00 PM
Received :8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-018
Client Sample ID: VR1-3_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	c UJ	1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Isopropylbenzene	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
n-Propylbenzene	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Xylene (total)	< 3.0		1	µg/L			08/22/2016 9:14 AM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	81.5		1	%Rec	Limit	68-153	08/22/2016 9:14 AM	Container-01 of 03
Surr: 4-Bromofluorobenzene	85.5		1	%Rec	Limit	79-124	08/22/2016 9:14 AM	Container-01 of 03
Surr: Toluene-d8	82.6		1	%Rec	Limit	69-124	08/22/2016 9:14 AM	Container-01 of 03

Qualifiers: E = Value above quantitation range, Value estimated.
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D.F. = Dilution Factor D = Results for Dilution
c = Calibration acceptability criteria exceeded for this analyte.Value estimated
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M-, M+ = Matrix Spike recovery below / above control limit
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r = Reporting limit below calibration range. Value estimated.
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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 2:15:00 PM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608183-019
Client Sample ID: VR1-4_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,2,4-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
1,3,5-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
4-Methyl-2-pentanone	< 5.0	UJ	1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
Acetone	2.1	Jc	1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
Benzene	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
Bromomethane	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
Chloroethane	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
Chloroform	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 8:56 AM	Container-01 of 03
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 8:56 AM	Container-01 of 03

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Nick Nicholas

Project Manager : Nick Nicholas

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Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

LABORATORY RESULTS

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected : 8/17/2016 2:15:00 PM
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-019
Client Sample ID: VR1-4_20160817

Sample Information:
Type : Groundwater

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Dichlorodifluoromethane	< 1.0	~~c~~ UJ	1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Isopropylbenzene	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Methylene chloride	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
n-Propylbenzene	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Styrene	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Toluene	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Trichloroethene	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Xylene (total)	< 3.0		1	µg/L			08/22/2016 8:56 AM	Container-01 of 03
Surr: 1,2-Dichloroethane-d4	79.8		1	%Rec	Limit	68-153	08/22/2016 8:56 AM	Container-01 of 03
Surr: 4-Bromofluorobenzene	86.8		1	%Rec	Limit	79-124	08/22/2016 8:56 AM	Container-01 of 03
Surr: Toluene-d8	82.9		1	%Rec	Limit	69-124	08/22/2016 8:56 AM	Container-01 of 03

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Nick Nicholas

Project Manager : Nick Nicholas

Test results meet the requirements of NELAC unless otherwise noted.

Date Reported : 8/30/2016

Pace Analytical
575 Broad Hollow Road , Melville, NY 11747
TEL: (631) 694-3040 FAX: (631) 420-8436
NYSDOH ID#10478 www.pacelabs.com

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Arcadis U.S., Inc.
855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected :
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608I83-020
Client Sample ID: TRIP BLANK

Sample Information:
Type : Trip Blank

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units	Analyzed:	Container:
1,1,1-Trichloroethane	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,1,2,2-Tetrachloroethane	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,1,2-Trichloro-1,2,2-trifluoroethan	< 1.0	+	1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,1,2-Trichloroethane	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,1-Dichloroethane	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,1-Dichloroethene	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,2,3-Trichloropropane	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,2,4-Trichlorobenzene	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,2,4-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,2-Dibromo-3-chloropropane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,2-Dibromoethane	< 1.0	UJ	1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,2-Dichloroethane	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,2-Dichloropropane	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
1,3,5-Trimethylbenzene	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
2-Butanone	< 5.0	~~c~~ UJ	1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
2-Hexanone	< 5.0	UJ	1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
4-Methyl-2-pentanone	< 5.0	↓	1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
Acetone	< 5.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
Benzene	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
Bromodichloromethane	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
Bromoform	< 1.0	UJ	1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
Bromomethane	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
Carbon disulfide	< 1.0	UJ	1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
Carbon tetrachloride	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
Chlorobenzene	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
Chloroethane	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
Chloroform	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
Chloromethane	< 1.0	~~c~~ UJ	1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
cis-1,2-Dichloroethene	< 1.0		1	µg/L	08/22/2016 8:38 AM	Container-01 of 06
cis-1,3-Dichloropropene	< 1.0	UJ	1	µg/L	08/22/2016 8:38 AM	Container-01 of 06

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Nick Nicholas

Project Manager : Nick Nicholas

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Date Reported : 8/30/2016

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855 Route 146, Suite 210
Clifton Park, NY 12065
Attn To : Amber Goodrich
Collected :
Received : 8/19/2016 9:40:00 AM
Collected By CLIENT

Lab No. : 1608183-020
Client Sample ID: TRIP BLANK

Sample Information:
Type : Trip Blank

Origin:

Analytical Method: SW8260C : Prep Method: 5030C Analyst: KG

Parameter(s)	Results	Qualifier	D.F.	Units			Analyzed:	Container:
Cyclohexane	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Dibromochloromethane	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Dichlorodifluoromethane	< 1.0	c UJ	1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Ethylbenzene	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Isopropylbenzene	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
m-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Methyl Acetate	< 1.0	+	1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Methyl tert-butyl ether	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Methylcyclohexane	< 1.0	+	1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Methylene chloride	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
n-Propylbenzene	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
o-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
p-Dichlorobenzene	< 1.0	+	1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Styrene	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Tetrachloroethene	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Toluene	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
trans-1,2-Dichloroethene	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
trans-1,3-Dichloropropene	< 1.0	UJ	1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Trichloroethene	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Trichlorofluoromethane	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Vinyl chloride	< 1.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Xylene (total)	< 3.0		1	µg/L			08/22/2016 8:38 AM	Container-01 of 06
Surr: 1,2-Dichloroethane-d4	80.8		1	%Rec	Limit	68-153	08/22/2016 8:38 AM	Container-01 of 06
Surr: 4-Bromofluorobenzene	87.2		1	%Rec	Limit	79-124	08/22/2016 8:38 AM	Container-01 of 06
Surr: Toluene-d8	82.8		1	%Rec	Limit	69-124	08/22/2016 8:38 AM	Container-01 of 06

Qualifiers: E = Value above quantitation range, Value estimated.
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Date Reported : 8/30/2016

Nick Nicholas

Project Manager : Nick Nicholas

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ARCADIS
Infrastructure · Water · Environment · Buildings

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 2

Lab Work Order #

Send Results to:

Contact & Company Name: Arcadis	Telephone: (518) 250-7300
Address: 855 Rt 146 Ste 210	Fax: (518) 250-7301
City: Clifton Park State: NY Zip: 12065	E-mail Address: Suzie.Ellsworth@arcadis.com
Project Name/Location (City, State): IMI Riverview Rotterdam Ny	Project #: AP086277.3000
Sampler's Printed Name: Bree Quaglieri	Sampler's Signature:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	PARAMETER ANALYSIS & METHOD	REMARKS
						B				VOC 8260	
VR1-2_20160815	8/15/16	1345		X	GW	3			1	ATZ1782	1608I83
VR1-9_20160815	8/15/16	1400		X	GW	3				ATZ1783	
IW-4_20160816(MS/MSD)	8/16/16	0920		X	GW	9				ATZ1784	MS/MSD
IW-6_20160816	8/16/16	0920		X	GW	3				ATZ1785	
IW-5_20160816	8/16/16	1020		X	GW	3				ATZ1786	
IW-7_20160816	8/16/16	1040		X	GW	3				ATZ1787	
VR1-1_20160816	8/16/16	1115		X	GW	3				ATZ1788	
IW-2_20160816	8/16/16	1140		X	GW	3				ATZ1789	
IW-1_20160816	8/16/16	1330		X	GW	3				ATZ1790	
IW-3_20160816	8/16/16	1340		X	GW	3				ATZ1791	
DUP-20160816	8/16/16	—		X	GW	3				ATZ1792	Duplicate
GT-7_20160817	8/17/16	0825		X	GW	3				ATZ1793	
FB-1_20160817	8/17/16	0835		X	GW	3				ATZ1794	Field Blank
GT-9_20160817	8/17/16	0855		X	GW	3				ATZ1795	

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: _____

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓)	Printed Name: Bree Quaglieri	Printed Name: A. Raway	Printed Name: Fedex	Printed Name: Matthew Grasso
☐ Cooler packed with ice (✓)	☐ Intact ☐ Not Intact	Signature:	Signature: A. Raway	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm: Arcadis	Firm/Courier: Pace	Firm/Courier:	Firm: PACE
Shipping Tracking #:	Condition/Cooler Temp: 3.6, 2.0(IR)	Date/Time: 8/17/16 1510	Date/Time: 8/17/16 1510	Date/Time:	Date/Time: 8/19/16 @ 0940

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by ARCADIS

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ARCADIS
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ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 2 of 2

Lab Work Order #

Send Results to:

Contact & Company Name: Arcadis	Telephone: (518) 250-7300
Address: 855 Rt 146, Ste 210	Fax: (518) 250-7301
City: Clifton Park State: NY Zip: 12065	E-mail Address: suzie.Ellsworth@arcadis.com
Project Name/Location (City, State): IM Riverview Rotterdam NY	Project #: AP086277.3000
Sampler's Printed Name: Bree Quaglieri	Sampler's Signature:

Preservative	B							
Filtered (✓)								
# of Containers								
Container Information	1							

PARAMETER ANALYSIS & METHOD

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil, SE - Sediment, NL - NAPL/Oil, W - Water, SL - Sludge, SW - Sample Wipe, T - Tissue, A - Air, Other: _____

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	VOC 8260							REMARKS
GT-16-20160817	8/17/16	0935		X	GW	3					AT21796		1608183
GT-15-20160817	8/17/16	1035		X	GW	3					AT21797		
GT-14-20160817	8/17/16	1050		X	GW	3					AT21798		
VR1-3-20160817	8/17/16	1400		X	GW	3					AT21799		
VR1-4-20160817	8/17/16	1415		X	GW	3					AT21800		
TripBlank	—	—	—	—	—	6					AT21801		TripBlank

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓)	Printed Name: Bree Quaglieri	Printed Name: A. Raway	Printed Name: Fedex	Printed Name: Matthew Grasso
☐ Cooler packed with ice (✓)	☐ Intact ☐ Not Intact	Signature:	Signature: A. Raway	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm: Arcadis	Firm/Courier: Fed Ex	Firm/Courier:	Firm: PACE
Shipping Tracking #:	Condition/Cooler Temp: 3.6(IR) 2.0(IR)	Date/Time: 8/17/16 1510	Date/Time: 8/17/16 1510	Date/Time:	Date/Time: 8/19/16 @ 0940

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