2017 Periodic Review Groundwater Monitoring and Sampling Annual Report

815 River Road Site
Site Number B00178
City of North Tonawanda

Prepared for:
City of North Tonawanda

GHD | 285 Delaware Avenue Suite 500 Buffalo New York 14202 USA

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1. Site Background

1.1 Site Location and History

This one-acre parcel of land is located directly across from the City of North Tonawanda (City) Wastewater Treatment Plant (WWTP). The City acquired the 815 River Road parcel in 2000 through tax foreclosure. Prior to the City's acquisition of the property, a company that maintained school buses occupied this property. As part of this business, this company maintained fueling systems that included underground storage tanks (USTs) for gasoline and motor oil. City records indicated that the USTs were in place for over 40 years. A Site location map is presented on Figure 1.

A previous Site investigation completed in January 2001 by Green Environmental Specialists, Inc. (Green) identified seven buried USTs. Analytical testing detected the presence of benzene in two USTs. Site reporting also indicated that the soil and groundwater surrounding the USTs may have been impacted through UST leakage. Shortly after the completion of Green's Site investigation, remedial construction was initiated by a private entity interested in remediating and developing the property for commercial/industrial use. Remedial activities resulted in the removal of four USTs.

In September 2002, an additional Site investigation was completed by Parsons Corporation to delineate the extent of contamination and provide tank closure of the four removed USTs from past remedial activities. The Site investigation identified an additional eight USTs.

1.2 Site Remediation Activities

Under a Site Interim Remedial Measure (IRM), UST removal and closure was provided. Demolition of an on-site building was necessary for proper UST closure and to allow access to impacted soils beneath the building. Impacted soils were excavated and removed from the Site for disposal to Tonawanda Landfill. During the removal of impacted soils and surface water, IRM construction was halted by the City due to a contract dispute. All Site activities were discontinued. Contract disputes could not be settled and construction contracts were terminated. The Site was left with an unfinished open excavation with the potential for additional impacted soils to be excavated. Reporting for the Site investigation and IRM activities was not provided to the City.

Stearns & Wheler, LLC was retained by the City to provide engineering services for an IRM that was conducted in November 2007 that included the excavation and disposal of 1,300 tons of impacted and staged soils. This IRM construction completed the excavation and removal of impacted soils that was halted by the City in 2004. The excavation followed the delineation of impacted soils as defined during the Site investigation. The removal of impacted soils extended to the south to a minor extent onto the adjacent property. IRM excavation limits were brought to within approximately 5 feet of the River Road Right-of-Way (ROW). Depth of excavation limits was to the top of clay. Excavated impacted soils were pre-approved for disposal at Modern Landfill and directly loaded into trucks from the excavation. No soils were staged on site. Confirmatory soil samples were collected from the previously impacted area. After confirmatory soil sampling, analytical test results were reported below the Restricted Commercial Use Soil Cleanup Objectives, and the excavation was backfilled.

1.3 Site Investigation/Remedial Alternatives Report

Stearns & Wheler, LLC was retained by the City to provide engineering services and perform a Site Investigation/Remedial Alternatives Report (SI/RAR). The SI/RAR report was completed in January 2008 and selected institutional controls for both impacted soils and groundwater media. The completed 2007 IRM achieved the SI/RAR reported Restricted Commercial Soil Cleanup Objectives. An environmental easement was administered for the imposition of a deed restriction that requires compliance with an approved Soil Management Plan (SMP) and limits the future use of groundwater from the Site. The SMP dictates deed restrictions that prohibit the installation of potable wells at the Site.

1.4 Institutional and Engineering Controls

Institutional controls were recommended as the most feasible and selected alternative as reported in the SI/RAR dated January 2008 and included the environmental easement for future redevelopment and ownership of the Site. The SMP addresses the excavation procedures for the remaining soils for future redevelopment, and includes soil management, characterization, and disposal of excavated soils in accordance with the applicable New York State Department of Environmental Conservation (NYSDEC) regulations. The SMP is presented in Section 4.

In addition, the environmental easement imposed a deed restriction that requires compliance with the approved SMP and limits the future use of groundwater from the Site. Installation of potable wells at the Site is prohibited, as is any future use of groundwater at the Site. Annually, future owners are required to certify to the NYSDEC that the implemented remedy has been maintained in accordance with the Site Management Plan.

2. Groundwater Monitoring Activities

The Monitoring Plan includes the necessary actions required to maintain the Site during post construction. This Monitoring Plan includes a description of a long term environmental monitoring program, very specific information on all of the equipment and materials used in any monitoring systems, contingencies for emergencies, and reporting requirements.

2.1 Site Hydrogeology

The presence of the Niagara River located to the west of the Site suggests that the river will act as the regional discharge zone. Locally, however, groundwater is possibly intercepted by the 36-inch diameter sanitary sewer line located along River Road. The top of the silty clay unit that is consistent throughout the Site has been logged and reported to range in depth between 4 to 5 feet. Standard sewer construction consists of a sewer pipe laid on gravel bedding material with the rest of the sewer trench filled with a gravel backfill. Since the sanitary sewer located along River Road is approximately 15 feet deep, the bottom of the sewer trench is deeper than the top of the silty clay unit. Any groundwater emitting from the Site should follow the top of clay and infiltrate into the gravel backfilled sewer trench. Once in the trench, groundwater can enter the sewer through infiltration and be transmitted to the City's WWTP for treatment.

2.2 Monitoring Requirements

Annual monitoring is performed on groundwater samples for a minimum period of 30 years or at a reduced frequency and period as approved by NYSDEC. Groundwater monitoring was initially conducted after the remediation was completed and thereafter on an annual basis upon NYSDEC request. Methods used are consistent with NYSDEC requirements. The extent and frequency of the sampling and analysis is evaluated by the NYSDEC periodically to determine if sampling points or analytes could be dropped from the monitoring program.

2.3 Groundwater Monitoring

The 2017 monitoring program at the 815 River Road Site consisted of one annual sampling event. Groundwater was sampled from monitoring wells MW-1 and MW-2 on October 25, 2017. The location of groundwater monitoring wells MW-1 and MW-2 are approximately 10 feet from the River Road curb line at the 815 River Road property. This sampling event represents the 5th event of the groundwater monitoring program. A Site plan is presented on Figure 2.

Groundwater sampling of monitoring wells MW-1 and MW-2 was collected using low-flow purging and sampling techniques. Prior to sampling, the monitoring wells were purged using a disposable bailer. Groundwater parameters of pH, conductance, dissolved oxygen (DO), temperature, and oxidation-reduction potential (ORP) were recorded. After the field parameters were recorded, groundwater samples were collected with a disposable bailer and transferred into sample containers provided by the testing laboratory. Groundwater elevation data was recorded. Purge water generated from each monitoring well was discharged to the ground. Groundwater Field Sampling Records are presented in Appendix A.

Several quality control samples, including a trip blank and a field duplicate were collected during the sampling event. Samples were delivered under chain of custody to ESC Lab Sciences for analysis of Volatile Organic Compounds (VOCs) by USEPA SW-846 Method 8260 TCL. The specific sampling protocol to be used, including sample preservation techniques, QA/QC objectives, a description of chain-of-custody documentation, and analytical parameters are included in the SMP.

3. Groundwater Monitoring Results

3.1 2017 Groundwater Monitoring

This section includes the analytical test results of the 2017 annual groundwater sampling event which are presented in Table 1 and Appendix B. Sampling field parameters are presented on Table 2. Included in this section are descriptions of the identification and distribution of constituents present in groundwater, and a comparison of historical data. Constituents are compared to the applicable NYSDEC Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) Groundwater Standards and Guidance Values.

Table 2 2017 Field Groundwater Parameters

Parameter	Monitoring Well Location	
	MW-1	MW-2
Temperature (°C)	16.43	19.42
pH	7.4	7.20
Conductivity (mS/cm)	2.45	2.17
Dissolved Oxygen (mg/L)	5.46	6.15
Turbidity (NTUs)(1)	178	322
ORP (mV)	-106	-92

Data Usability Summary Reporting completed by Vali-Data of WNY, LLC is presented in Appendix C. The QA/QC measurements examined for the data were within method-specified or laboratory-derived limits. No data were rejected as a result of the data validation.

Groundwater in the southwest corner of the Site has been impacted with concentrations of VOCs. VOC concentrations were detected in groundwater collected from monitoring wells MW-1 and MW-2 that exceed groundwater standards. VOC concentrations detected in groundwater from the sampling conducted in 2007, 2012, 2015, 2016 and the current sampling event on October 25, 2017 were compared to determine a trending anaylsis.

3.2 Monitoring Well MW-1 Test Results

Groundwater test results from monitoring well MW-1 detected the following total VOC concentrations from 2007, 2012, 2015, 2016, and 2017.

2007	6.0 µg/L
2012	148.0 µg/L
2015	28.0 µg/L
2016	57.3 µg/L
2017	112.8 µg/L

Groundwater tested during the 2012, 2015, 2016, and 2017 sampling events detected VOC concentrations that exceeded the groundwater standard for the following parameters: ethylbenzene and isopropylbenzene. A trending graph shows an upward trend since 2015 to 2017 of detected VOCs as presented on Figure 3.

Concentrations of cyclohexane were detected in 2012, 2016, and 2017. Concentrations of methylcyclohexane were detected in 2012 and 2017. No groundwater quality standard is established for cyclohexane and methylcyclohexane.

3.3 Monitoring Well MW-2 Test Results

Groundwater test results from monitoring well MW-2 detected the following total VOC concentrations from 2007, 2012, 2015, 2016, and 2017.

2007	1,230.0 µg/L
2012	3,345.0 µg/L
2015	1,866.1 µg/L
2016	3,474.3 µg/L
2017	2,771.1 µg/L

Groundwater tested during the 2007, 2012, 2015, 2016, and 2017 sampling events detected VOC concentrations that exceeded the groundwater standard. A trending graph shows a downward trend from 2016 to 2017 of detected VOCs with the exception of ethylbenezene as presented on Figure 4.

- Compounds that exceeded the groundwater standard in 2015, 2016, and 2017 included: benzene, ethylbenzene, isopropylbenzene, toluene, total xylenes. Compounds that exceeded the groundwater standard from the 2012 sampling event included: benzene, ethylbenzene, isopropylbenzene, and total xylenes.
- Detected compounds from the 2017 sampling event that decreased in concentrations from the 2016 sampling event included: benzene, isopropylbenzene, toluene and total xylenes.
- Detected compounds from the 2017 sampling event that increased in concentrations from the 2016 sampling event included: ethylbenzene.

Concentrations of cyclcohexane and methylcyclohexane were detected in 2015, 2016, and 2017; however, no groundwater quality standard is established. At the request of NYSDEC, acetone was not included in this analysis as reported in 2015, since this compound is a common laboratory contaminant.

4. Soil Management Plan

The objective of the SMP is to set guidelines for management of soil material during any future activities, which would breach the cover system at the Site. The SMP addresses environmental concerns related to soil management and has been reviewed and approved by the NYSDEC.

4.1 Nature and Extent of Contamination

Based on data obtained from previous investigations and the IRM remediation completed at the Site, a Final Engineering Report for the 815 River Road Site Remediation dated June 2008 was completed by Stearns & Wheler, LLC.

During Site investigation activities, impacted soils were identified. The impacted soil area was excavated, removed, and disposed off-Site during an IRM completed in 2007. Impacted soils were

sampled and categorized to preliminarily delineate the extent of the contamination and for waste characterization for off-Site disposal. The impacted soils were excavated to the top of clay which was defined ranging between 9 to 11 feet.

The impacted soil contained concentrations of both volatile and semi-volatile compounds. All concentrations reported during the 2007 IRM were below the Restricted Commercial Use Soil Cleanup Objectives. VOC parameters with the highest concentrations included xylene and ethylbenzene. Semi-volatile compounds were detected to a lesser degree including naphthalene. The potential exposure pathways include inhalation, absorption, ingestion and contact. Health effects from exposure to these chemical compounds are eye, skin and respiratory irritants.

The constituents of potential concern for soil consist primarily of residual VOCs and Poly Aromatic Hydrocarbons (PAHs). Results of groundwater sampling indicate that constituents in the soil/fill material have impacted groundwater quality with low concentrations of volatile and semi-volatile compounds. Groundwater in the southwest corner of the Site has been impacted with low concentrations of benzene, 1,2-dichloropropane, toluene, xylene, and ethylbenzene. Analytical test results indicated that groundwater standards have exceeded groundwater standards.

Groundwater in this portion of the Site presumably flows toward the 36-inch diameter sanitary sewer line that runs down the east side of River Road. As stated in Section 2.1 Site Hydrogeology, since the sanitary sewer located along River Road is approximately 15 feet deep, the bottom of the sewer trench is deeper than the top of silty clay unit. Any groundwater migrating from the Site should follow the top of clay and infiltrate into the gravel backfilled sewer trench. Once in the trench, groundwater can enter the sewer through infiltration and could be transmitted to the City's WWTP for treatment.

Deed restrictions enacted by the City, prohibits the installation of potable wells on the property.

4.2 Contemplated Use

As part of the redevelopment project, the property has been identified for industrial/commercial usage. Residential redevelopment will not be permitted. Deed restrictions will require compliance with the SMP. The future use of Site groundwater is prohibited.

4.3 Purpose and Description of Surface Cover System

The purpose of the surface cover system is to eliminate the potential for human contact with fill material and eliminate the potential for contaminated runoff from the property. The cover system consisting of existing non-impacted fill soils overlaying the remaining impacted soils located within the River Road ROW. Soil borings completed near the River Road ROW have been logged to report 3-6 feet of non-impacted soil overlaying the residually impacted soils. The existing non-impacted soils provides a cover system for any residually impacted materials within the River Road ROW.

4.4 Management of Soil/Fill and Long-Term Maintenance

The purpose of this section is to provide environmental guidelines for management of subsurface soils/fill and the long-term maintenance of the cover system during any future intrusive work which breaches the cover system. The SMP includes the following conditions:

- Any breach of the cover system within the River Road ROW of a width of 33 feet, including for the purposes of construction or utilities work, must be replaced or repaired using an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination. The repaired area must be covered with clean soil and reseeded or covered with impervious product such as concrete or asphalt to prevent erosion in the future.
- The cover system must be maintained within the River Road ROW since residual impacted soils above NYSDEC Part 375 Unrestricted Use Cleanup Objectives may be present.
- Control surface erosion and run-off from the entire property at all times, including during construction activities. This includes proper maintenance of the fill cover established on the property.
- Site soil that is excavated and is intended to be removed from the property must be managed, characterized, and properly disposed of in accordance with NYSDEC regulations and directives.
- Soil excavated at the Site may be reused as backfill material on-Site provided it contains no visual or olfactory evidence of contamination, and is placed beneath a cover system component of 2-3 feet of clean fill from an acceptable source area.
- Any off-Site fill material brought to the Site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination.
- Prior to any construction activities, workers shall be notified of the Site conditions with clear instructions regarding how the work is to proceed. Invasive work performed at the property will be performed in accordance with all applicable local, state, and federal regulations to protect worker health and safety.
- An annual report will contain certification that the institutional controls put in place, pursuant to Operation, Monitoring, and Maintenance Plan (OM&M), are still in place, have not been altered and are still effective; that the remedy and protective cover have been maintained; and that the conditions at the Site are fully protective of public health and the environment. Inspection will be documented and a letter will be submitted to the NYSDEC. The Site designated representative has included the signed IC - EC Certification as presented in Appendix D.

4.5 Excavated and Stockpiled Soil/Fill Disposal

Every effort will be made to keep excavated soils on Site. The proper management of the remaining impacted subsurface soils located within the River Road ROW and other possibly impacted Site soils must be provided. Soil/fill that is excavated as part of redevelopment that cannot be used as fill below the cover system will be characterized prior to transportation off-Site for disposal at a permitted facility. For excavated soil/fill with visual evidence of contamination i.e., staining or

elevated photoionization detector (PID) measurements, one composite sample and a duplicate sample will be collected for each 100 cubic yards of stockpiled soil/fill. For excavated soil/fill that does not exhibit visual evidence of contamination but must be sent for off-Site disposal, one composite sample and a duplicate sample will be collected for each 2,000 cubic yards of stockpiled soil, and a minimum of one sample will be collected for volumes less than 2,000 cubic yards.

The composite sample will be collected from five locations within each stockpile. A duplicate composite sample will also be collected. PID measurements will be recorded for each of the five individual locations. One grab sample will be collected from the individual location with the highest PID measurement. If none of the five individual sample locations exhibit PID readings, one location will be selected at random. The composite sample will be analyzed by a NYSDOH ELAP-certified laboratory for pH (EPA Method 9045C), and Target Compound List (TCL), semi-volatile organic compounds (SVOCs). The grab sample will be analyzed for TCL VOCs.

Additional characterization sampling for off-Site disposal may be required by the disposal facility. To potentially reduce off-Site disposal requirements/costs, the owner or Site developer may also choose to characterize each stockpile individually. If the analytical results indicate that concentrations exceed the standards for Resource Conservation and Recovery Act (RCRA) characteristics, the material will be considered a hazardous waste and must be properly disposed off-Site at a permitted disposal facility within 90 days of excavation. If analytical results indicate that the soil is not a hazardous waste, the material will be properly disposed off-Site at a non-hazardous waste facility. Stockpiled soil cannot be transported on- or off-Site until analytical results are received.

4.6 Subgrade Materials

Subgrade material used to backfill excavations or placed to increase Site grades or elevation shall meet the following criteria.

- Subgrade material stockpiled on the surface for re-use must be placed on a liner material or other suitable surface to avoid the commingling of this material with clean topsoil or other surface materials. Stockpiled subgrade material should also be managed to prevent erosion and runoff of precipitation waters which may contact this material.
- Excavated on-Site soil/fill which appears to be visually impacted shall be sampled and analyzed. If backfill materials are suspect, then analytical testing will be required. If soils or soil mixtures are used as backfill materials, they will be sampled for VOCs, SVOCs, pesticides and Polychlorinated Biphenols (PCBs), and metals, and compared to limits listed under Restricted Commercial on Table 3: Imported Backfill Limits.
- Any off-Site fill material brought to the Site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination. A letter will be required from the backfill supplier certifying material is clean from any hazardous and/or solid waste materials.
- Off-Site soils intended for use as Site backfill cannot otherwise be defined as a solid waste in accordance with 6 NYCRR Part 360-1.2(a).

- If the contractor designates a source as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use.
- Virgin soils should be subject to collection of one representative composite sample per source. The sample should be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, and TAL metals. The soil will be acceptable for use as backfill provided that all parameters meet the Imported Backfill Limits.
- Non-virgin soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are borrowed from a given off-Site non-virgin soil source area and both samples of the first 1,000 cubic yards meet Table 3 Limits, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the imported backfill limits.

4.7 Site Usage

The Site is presently used by Metzger Removal, Inc. as a C&D crushing/recycling operation. Concrete, brick and other materials are hauled to the Site from demolition sites in the surrounding area, and stockpiled for the crushing operation. After crushing, conveyors collect the crushed material and stage in stockpiles. No excavation took place at the Site during the period between 2012 and 2017.

5. Conclusions

Analytical testing from the 2017 sampling event detected the following VOCs in groundwater sampled from monitoring wells MW-1 and MW-2: benzene (MW-2), ethylbenzene (MW-1 and MW-2), isopropylbenzene (MW-1 and MW-2), toluene (MW-2), and total xylenes (MW-2) at concentrations that were equal to or exceed the groundwater standard.

Trend analysis of total VOCs comparing Site historical analytical test results as reported in 2007, 2012, 2015, 2016 and 2017 indicates that total VOC concentrations shows an upward trend since 2015 to 2017 in groundwater from monitoring well MW-1 and a downward trend from 2016 to 2017 in groundwater from monitoring well MW-2 with the exception of ethylbenezene.

The concentrations of ethylbenzene at monitoring well MW-1 have fluctuated over the reported five sampling events. In 2007, the concentration of ethylbenzene was detected at an estimated 2 µg/L concentration, which is below the groundwater standard. Test results from the most recent 2017 sampling event detected the concentration of ethylbenzene at 20.5 µg/L, which represents an increase from the previous year.

Concentrations of isopropylbenzene at monitoring well MW-1 have similarly fluctuated over the reported five sampling events. Isopropylbenzene was not detected at monitoring well MW-1 in 2007. Test results from the 2012 sampling event detected concentrations of isopropylbenzene at 33 µg/L, which is below the groundwater standard. Test results from the most recent 2017 sampling event

detected the concentration of isopropylbenzene at 42.7 µg/L, which represents an increase from the previous year.

Concentrations of benzene at monitoring well MW-2 have fluctuated over the reported five sampling events of 2007, 2012, 2015, 2016 and 2017. The following concentrations of benzene and corresponding percent increases and decreases were detected in groundwater:

2007	140 µg/L	NA
2012	560 µg/L	300% increase
2015	151 µg/L	73% decrease
2016	280 µg/L	85% increase
2017	207 µg/L	26% decrease

Concentrations of ethylbenzene at monitoring well MW-2 have fluctuated over the reported five sampling events of 2007, 2012, 2015, 2016 and 2017. The following concentrations of ethylbenzene and corresponding annual percent increases and decreases were detected in groundwater:

2007	460 µg/L	NA
2012	1,500 µg/L	226% increase
2015	878 µg/L	41% decrease
2016	2,030 µg/L	131% increase
2017	2,050 µg/L	1% increase

Concentrations of isopropylbenzene at monitoring well MW-2 have fluctuated over the reported five sampling events of 2007, 2012, 2015, 2016 and 2017. The following concentrations of isopropylbenzene and corresponding annual percent increases and decreases were detected in groundwater:

2007	ND	NA
2012	220 µg/L	-
2015	115 µg/L	48% decrease
2016	277 µg/L	141% increase
2017	247 µg/L	11% decrease

Concentrations of toluene at monitoring well MW-2 have fluctuated over the reported five sampling events of 2007, 2012, 2015, 2016 and 2017. The following concentrations of toluene and corresponding annual percent increases and decreases were detected in groundwater:

2007	70 µg/L	NA
2012	ND	100% decrease

2015	19.1 µg/L	-
2016	39.4 µg/L	106% increase
2017	13.4 µg/L	66% decrease

Concentrations of total xylenes at monitoring well MW-2 have fluctuated over the reported five sampling events of 2007, 2012, 2015, 2016 and 2017. The following concentrations of total xylenes and corresponding annual percent increases and decreases were detected in groundwater:

2007	520 µg/L	NA
2012	840 µg/L	62% increase
2015	424 µg/L	50% decrease
2016	620 µg/L	46% increase
2017	99 µg/L	84% decrease

Figures

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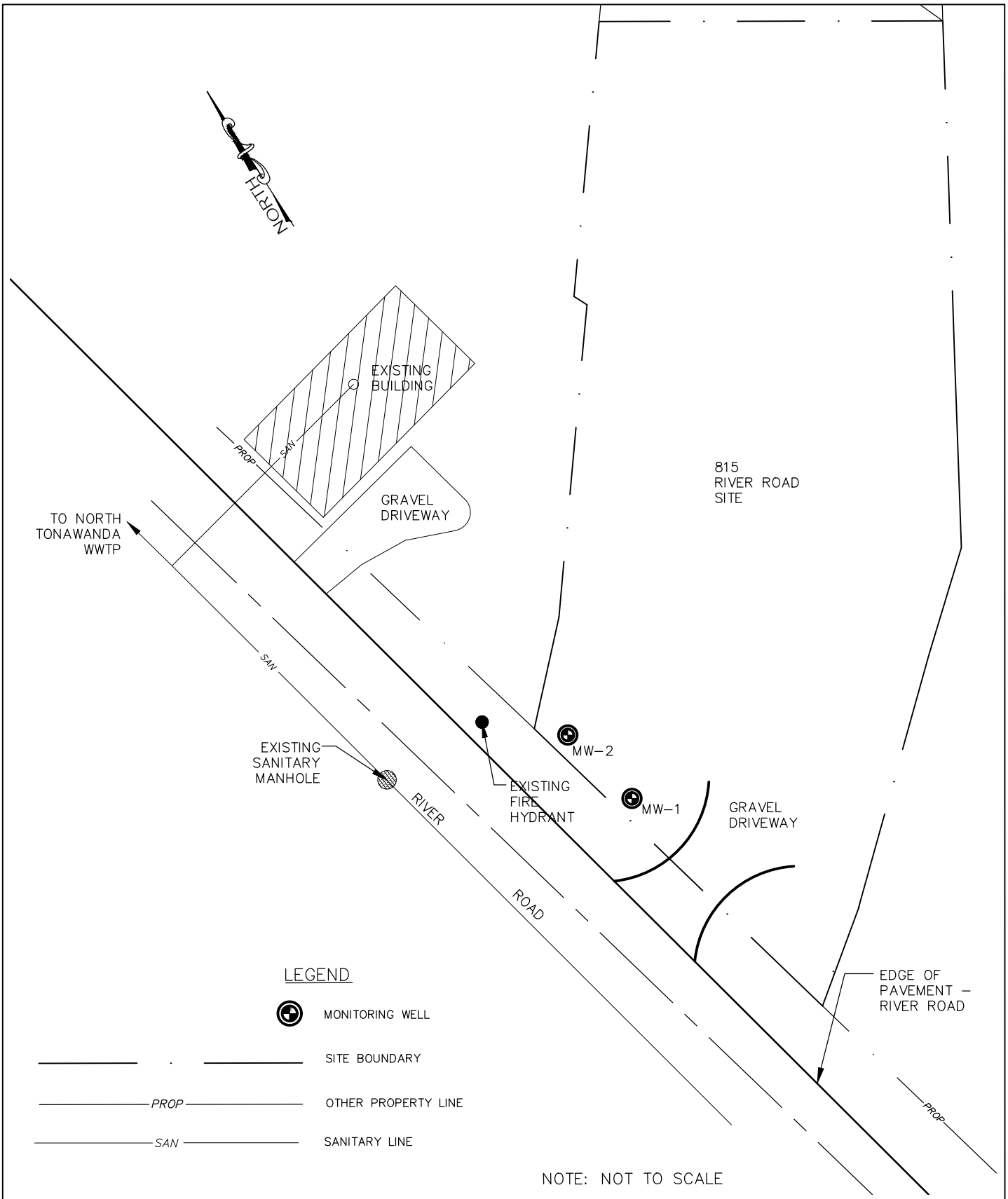
DATE: 2016

815 RIVER ROAD SITE

NORTH TONAWANDA, NEW YORK

FIGURE 1
SITE LOCATION



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DATE:01/2017 JOB No.:11110868

815 RIVER ROAD SITE
NORTH TONAWANDA, NEW YORK

FIGURE 2
SITE PLAN

FIGURE 3
Groundwater VOC Concentrations in MW-1 vs. Time

815 River Road Site - North Tonawanda, NY
2017 Periodic Review Report

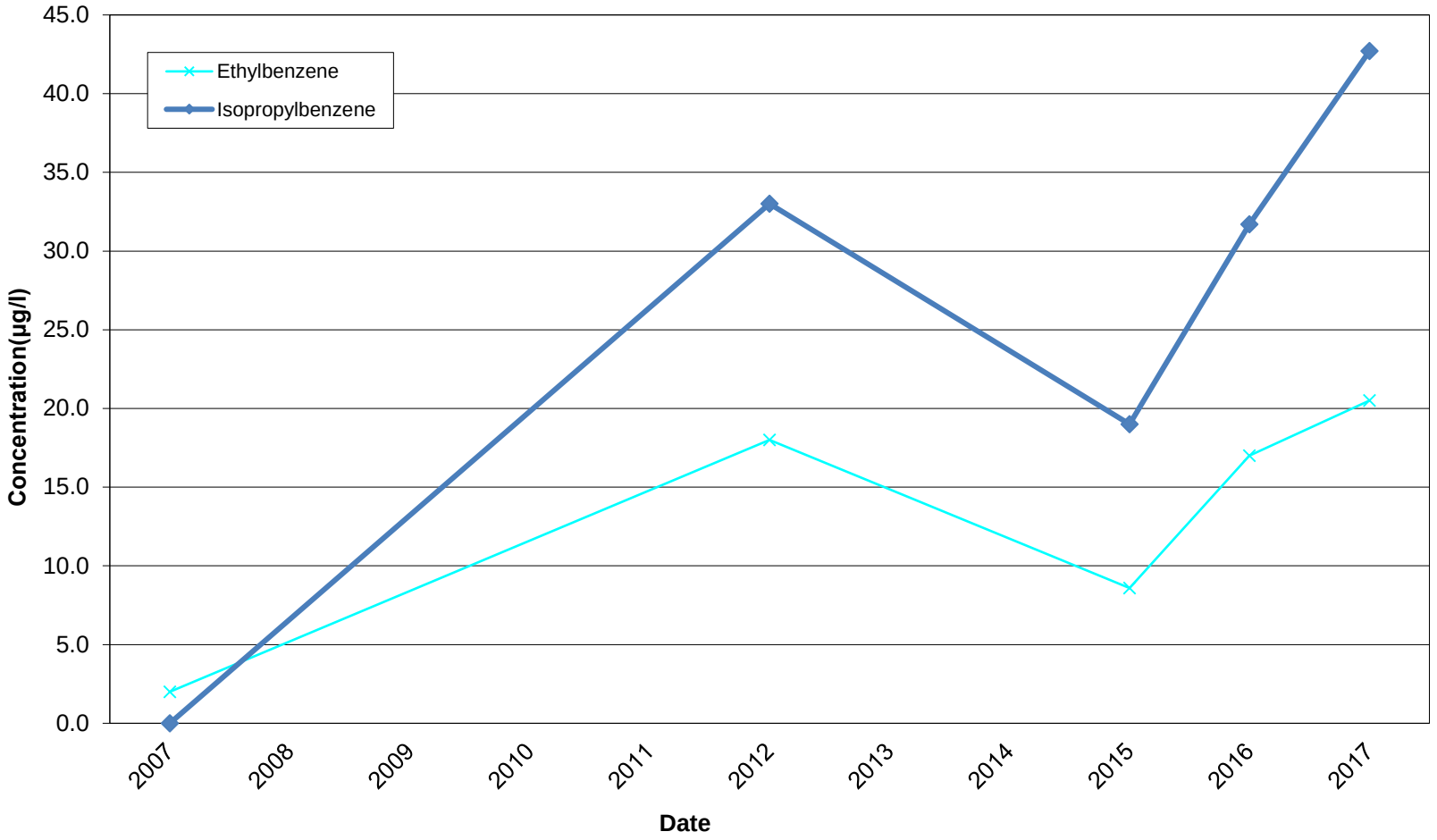

FIGURE 4
Groundwater VOC Concentrations in MW-2 vs. Time

815 River Road Site - North Tonawanda, NY
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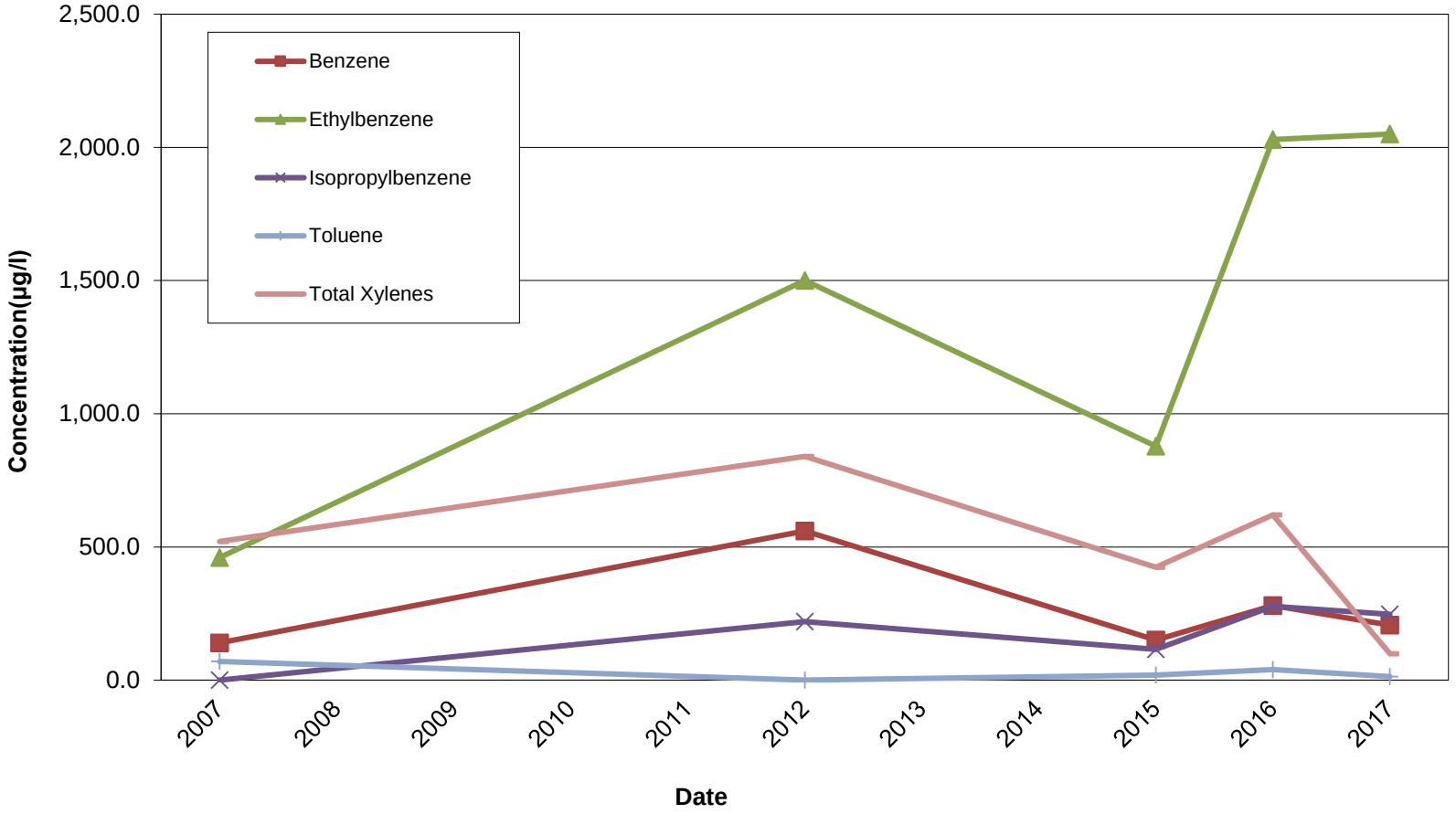


Tables

Table 1A
Monitoring Well MW-1
Volatile Organic Analytical Test Results
815 River Road Site

Volatile Compounds	NYSDEC TOGS 1.1.1 Water Quality Standards[1]	Units	07/16/07	07/25/12	10/20/15	10/21/16	10/25/17
1,1,1-Trichloroethane	5	µg/L	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	µg/L	ND	ND	ND	ND	ND
1,1,2-Trichlo-1,2,2-trifluoroethane	5	µg/L	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	µg/L	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	µg/L	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	5	µg/L	-	ND	**0.41J**	ND	ND
1,2,4-Trichlorobenzene	5	µg/L	-	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane DBCP	0.04	µg/L	-	ND	ND	ND	ND
1,2-Dibromoethane (EDB)	NE	µg/L	-	ND	ND	ND	ND
1,2-Dichlorobenzene	3	µg/L	-	ND	ND	ND	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND	ND	ND	ND
1,2-Dichloropropane	5	µg/L	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	3	µg/L	-	ND	ND	ND	ND
1,4-Dichlorobenzene	3	µg/L	-	ND	ND	ND	ND
2-Hexanone	50	µg/L	ND	ND	ND	ND	ND
Acetone	50	µg/L	ND	ND	**88.8**	ND	ND
Benzene	1	µg/L	ND	ND	ND	ND	ND
Bromoform	50	µg/L	ND	ND	ND	ND	ND
Bromomethane	5	µg/L	ND	ND	ND	ND	ND
Bromodichloromethane	50	µg/L	ND	ND	ND	ND	ND
Bromochloromethane	5	µg/L	-	ND	ND	ND	ND
Carbon disulfide	60	µg/L	ND	ND	ND	ND	ND
Carbon tetrachloride	5	µg/L	ND	ND	ND	ND	ND
Chlorobenzene	5	µg/L	ND	ND	ND	ND	ND
Chloroethane	5	µg/L	ND	ND	ND	ND	ND
Chloroform	7	µg/L	ND	ND	ND	ND	ND
Chloromethane	NE	µg/L	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	µg/L	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.40	µg/L	ND	ND	ND	ND	ND
Cyclohexane	NE	µg/L	ND	**82**	ND	**8.64**	**29.10**
Dibromochloromethane	50	µg/L	ND	ND	-	-	-
Chlorodibromomethane	NE	µg/L	-	ND	ND	ND	ND
Dichlorodifluoromethane	5	µg/L	-	ND	ND	ND	ND
Ethylbenzene	5	µg/L	**2J**	**18**	**8.6**	**17.0**	**20.5**
Isopropylbenzene	5	µg/L	ND	**33**	**19.0**	**31.7**	**42.7**
Methyl acetate	NE	µg/L	-	ND	ND	ND	ND
Methyl Ethyl Ketone (MEK)	50	µg/L	-	ND	ND	ND	ND
Methylcyclohexane	NE	µg/L	ND	**15**	ND	ND	**20.5**
Methylene chloride	5	µg/L	ND	ND	ND	ND	ND
4-Methyl 2-Pentanone	NE	µg/L	-	-	ND	ND	ND
Methyl-t-Butyl Ether (MTBE)	10	µg/L	-	ND	-	-	-
Methyl tert-butyl esther	NE	µg/L	-	ND	ND	ND	ND
m,p-Xylene	5	µg/L	**4J**	-	-	-	-
o-Xylene	5	µg/L	ND	-	-	-	-
Styrene	5	µg/L	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND
Toluene	5	µg/L	ND	ND	ND	ND	ND
Total Xylenes	5	µg/L	**4J**	ND	ND	ND	ND
trans-1, 2-Dichloroethene	5	µg/L	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	µg/L	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	ND	ND	ND	ND	ND
Trichlorofluoromethane	5	µg/L	-	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND
Total VOCs		µg/L	6.0	148.0	28.0	57.3	112.8
Total VOCs		mg/L	0.006	0.148	0.028	0.057	0.113

1. New York State Department of Environmental Conservation (NYSDEC) Technical and Operational Guidance Series (TOGS) 1.1.1:
Ambient Water Quality Standards and Guidance Values (µg/L)

Bolded concentrations indicated the analyte was detected. Bolded and shaded concentrations indicate equal to or exceedance of TOGS 1.1.1 criteria.
NE = NYSDEC TOGS 1.1.1 water quality standard not established.
ND = The analyte was analyzed for but not detected. The associated value is the analyte quantitation limit.
J = The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
- = The analyte was not sampled for.
Synonyms: Chlorodibromomethane = Dichlorobromoethane
Synonyms: 4-Methyl 2-Pentanone = Methyl Isobutyl Ketone
Synonyms: Methyl Ethyl Ketone (MEK) = 2-Butanone
Acetone not included in Total VOCs at direction of DEC.

Table 1B
Monitoring Well MW-2
Volatile Organic Analytical Test Results
815 River Road Site

Volatile Compounds	NYSDEC TOGS 1.1.1 Water Quality Standards[1]	Units	07/16/07	07/25/12	10/20/15	10/21/16	10/25/17
1,1,1-Trichloroethane	5	µg/L	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	µg/L	ND	ND	ND	ND	ND
1,1,2-Trichlo-1,2,2-trifluoroethane	5	µg/L	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	µg/L	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	µg/L	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	µg/L	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	5	µg/L	-	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	µg/L	-	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane DBCP	0.04	µg/L	-	ND	ND	ND	ND
1,2-Dibromoethane (EDB)	NE	µg/L	-	ND	ND	ND	ND
1,2-Dichlorobenzene	3	µg/L	-	ND	ND	ND	ND
1,2-Dichloroethane	0.6	µg/L	ND	ND	ND	ND	ND
1,2-Dichloropropane	5	µg/L	**40J**	ND	ND	ND	ND
1,3-Dichlorobenzene	3	µg/L	-	ND	ND	ND	ND
1,4-Dichlorobenzene	3	µg/L	-	ND	ND	ND	ND
2-Hexanone	50	µg/L	ND	ND	ND	ND	ND
Acetone	50	µg/L	ND	ND	**188J**	ND	ND
Benzene	1	µg/L	**140**	**560**	**151**	**280J6**	**207**
Bromoform	50	µg/L	ND	ND	ND	ND	ND
Bromomethane	5	µg/L	ND	ND	ND	ND	ND
Bromodichloromethane	50	µg/L	ND	ND	ND	ND	ND
Bromochloromethane	5	µg/L	-	ND	ND	ND	ND
Carbon disulfide	60	µg/L	ND	ND	ND	ND	ND
Carbon tetrachloride	5	µg/L	ND	ND	ND	ND	ND
Chlorobenzene	5	µg/L	ND	ND	ND	ND	ND
Chloroethane	5	µg/L	ND	ND	ND	ND	ND
Chloroform	7	µg/L	ND	ND	ND	ND	ND
Chloromethane	NE	µg/L	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	µg/L	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.40	µg/L	ND	ND	ND	ND	ND
Cyclohexane	NE	µg/L	ND	**210**	**71.2**	**169**	**111J6**
Dibromochloromethane	50	µg/L	ND	ND	-	-	-
Chlorodibromomethane	NE	µg/L	-	ND	ND	ND	ND
Dichlorodifluoromethane	5	µg/L	-	ND	ND	ND	ND
Ethylbenzene	5	µg/L	**460**	**1,500**	**878V**	**2030**	**2050**
Isopropylbenzene	5	µg/L	ND	**220**	**115**	**277J6**	**247**
Methyl acetate	NE	µg/L	-	ND	ND	ND	ND
Methyl Ethyl Ketone (MEK)	50	µg/L	-	ND	ND	ND	ND
Methylcyclohexane	NE	µg/L	ND	**15**	**19.8**	**58.9**	**43.3J6**
Methylene chloride	5	µg/L	ND	ND	ND	ND	ND
4-Methyl 2-Pentanone	NE	µg/L	-	-	ND	ND	ND
Methyl-t-Butyl Ether (MTBE)	10	µg/L	-	ND	-	-	-
Methyl tert-butyl esther	NE	µg/L	-	ND	ND	ND	ND
m,p-Xylene	5	µg/L	**480**	-	-	-	-
o-Xylene	5	µg/L	**40J**	-	-	-	-
Styrene	5	µg/L	ND	ND	ND	ND	ND
Tetrachloroethene	5	µg/L	ND	ND	ND	ND	ND
Toluene	5	µg/L	**70J**	ND	**19.1J**	**39.4**	**13.4**
Total Xylenes	5	µg/L	-	**840**	**424**	**620**	**99**
trans-1, 2-Dichloroethene	5	µg/L	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	µg/L	ND	ND	ND	ND	ND
Trichloroethene	5	µg/L	ND	ND	ND	ND	ND
Trichlorofluoromethane	5	µg/L	-	ND	ND	ND	ND
Vinyl Chloride	2	µg/L	ND	ND	ND	ND	ND
Total VOCs		µg/L	1,230.0	3,345.0	1,866.1	3,474.3	2,771.1
Total VOCs		mg/L	1.230	3.345	1.866	3.474	2.771

1. New York State Department of Environmental Conservation (NYSDEC) Technical and Operational Guidance Series (TOGS) 1.1.1:
Ambient Water Quality Standards and Guidance Values (µg/L)
Bolded concentrations indicated the analyte was detected. Bolded and shaded concentrations indicate equal to or exceedance of TOGS 1.1.1 criteria.
NE = NYSDEC TOGS 1.1.1 water quality standard not established.
ND = The analyte was analyzed for but not detected. The associated value is the analyte quantitation limit.
J = The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
J6 = The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V = The sample concentration is too high to evaluate accurate spike recoveries.
- = The analyte was not sampled for.
Synonyms: Chlorodibromomethane = Dichlorobromoethane
Synonyms: 4-Methyl 2-Pentanone = Methyl Isobutyl Ketone
Synonyms: Methyl Ethyl Ketone (MEK) = 2-Butanone

Table 2 - 815 River Road Site

2017 Field Groundwater Parameters

Parameter	Monitoring Well Location	
	MW-1	MW-2
Temperature (°C)	16.43	16.43
pH	7.4	7.40
Conductivity (mS/cm)	2.45	2.45
Dissolved Oxygen (mg/L)	5.46	5.46
Turbidity (NTUs)[(1)]	178	178
ORP (mV)	-106	-105

Table 3
Imported Backfill Limits

	Unrestricted	Residential	Restricted - Residential	**Restricted - Commercial or Industrial**	Ecological Limit For Sites Which Have Ecological Resources
METALS					
Arsenic	13	16	16	**16**	13
Barium	350	350	400	**400**	433
Beryllium	7.2	14	47	**47**	10
Cadmium	2.5	2.5	4.3	**7.5**	4
Chromium, Hexavalent[1]	1	19	19	**19**	1
Chromium, Trivalent[1]	30	36	180	**1500**	41
Copper	50	270	270	**270**	50
Cyanide	27	27	27	**27**	NS[2]
Lead	63	400	400	**450**	63
Manganese	1600	2000	2000	**2000**	1600
Mercury (total)	0.18	0.73	0.73	**0.73**	0.18
Nickel	30	130	130	**130**	30
Selenium	3.9	4	4	**4**	3.9
Silver	2	8.3	8.3	**8.3**	2
Zinc	109	2200	2480	**2480**	109
PCBs/PESTICIDES					
2,4,5-TP Acid (Silvex)	3.8	3.8	3.8	**3.8**	NS[2]
4,4'-DDE	0.0033	1.8	8.9	**17**	0.0033
4,4'-DDT	0.0033	1.7	7.9	**47**	0.0033
4,4'-DDD	0.0033	2.6	13	**14**	0.0033
Aldrin	0.005	0.019	0.097	**0.19**	0.14
Alpha-BHC	0.02	0.02	0.02	**0.02**	0.04
Beta-BHC	0.036	0.072	0.09	**0.09**	0.6
Chlordane (alpha)	0.094	0.91	2.9	**2.9**	1.3
Delta-BHC	0.04	0.25	0.25	**0.25**	0.04
Dibenzofuran	7	14	59	**210**	NS[2]
Dieldrin	0.005	0.039	0.1	**0.1**	0.006
Endosulfan I	2.4	4.8	24	**102**	NS[2]
Endosulfan II	2.4	4.8	24	**102**	NS[2]
Endosulfan sulfate	2.4	4.8	24	**200**	NS[2]
Endrin	0.014	0.06	0.06	**0.06**	0.014
Heptachlor	0.042	0.38	0.38	**0.38**	0.14
Lindane	0.1	0.1	0.1	**0.1**	6
Polychlorinated biphenyls	0.1	1	1	**1**	1
SEMIVOLATILE ORGANIC COMPOUNDS					
Acenaphthene	20	98	98	**98**	20
Acenaphthylene	100	100	100	**107**	NS[2]
Anthracene	100	100	100	**500**	NS[2]
Benzo(a)anthracene	1	1	1	**1**	NS[2]
Benzo(a)pyrene	1	1	1	**1**	2.6
Benzo(b)fluoranthene	1	1	1	**1.7**	NS[2]
Benzo(g,h,i)perylene	100	100	100	**500**	NS[2]
Benzo(k)fluoranthene	0.8	1	1.7	**1.7**	NS[2]
Chrysene	1	1	1	**1**	NS[2]
Dibenz(a,h)anthracene	0.33	0.33	0.33	**0.56**	NS[2]
Fluoranthene	100	100	100	**500**	NS[2]
Fluorene	30	100	100	**386**	30
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.5	**5.6**	NS[2]
m-Cresol(s)	0.33	0.33	0.33	**0.33**	NS[2]
Naphthalene	12	12	12	**12**	NS[2]
SEMIVOLATILE ORGANIC COMPOUNDS					
o-Cresol(s)	0.33	0.33	0.33	**0.33**	NS[2]

Table 3
Imported Backfill Limits

	Unrestricted	Residential	Restricted - Residential	**Restricted - Commercial or Industrial**	Ecological Limit For Sites Which Have Ecological Resources
p-Cresol(s)	0.33	0.33	0.33	**0.33**	NS[2]
Pentachlorophenol	0.8	0.8	0.8	**0.8**	0.8
Phenanthrene	100	100	100	**500**	NS[2]
Phenol	0.33	0.33	0.33	**0.33**	30
Pyrene	100	100	100	**500**	NS[2]
VOLATILE ORGANIC COMPOUNDS					
1,1,1-Trichloroethane	0.68	0.68	0.68	**0.68**	NS[2]
1,1-Dichloroethane	0.27	0.27	0.27	**0.27**	NS[2]
1,1-Dichloroethene	0.33	0.33	0.33	**0.33**	NS[2]
1,2-Dichlorobenzene	1.1	1.1	1.1	**1.1**	NS[2]
1,2-Dichloroethane	0.02	0.02	0.02	**0.02**	10
1,2-Dichloroethene(cis)	0.25	0.25	0.25	**0.25**	NS[2]
1,2-Dichloroethene(trans)	0.19	0.19	0.19	**0.19**	NS[2]
1,3-Dichlorobenzene	2.4	2.4	2.4	**2.4**	NS[2]
1,4-Dichlorobenzene	1.8	1.8	1.8	**1.8**	20
1,4-Dioxane	0.1	0.1	0.1	**0.1**	0.1
Acetone	0.05	0.05	0.05	**0.05**	2.2
Benzene	0.06	0.06	0.06	**0.06**	70
Butylbenzene	12	12	12	**12**	NS[2]
Carbon tetrachloride	0.76	0.76	0.76	**0.76**	NS[2]
Chlorobenzene	1.1	1.1	1.1	**1.1**	40
Chloroform	0.37	0.37	0.37	**0.37**	12
Ethylbenzene	1	1	1	**1**	NS[2]
Hexachlorobenzene	0.33	0.33	1.2	**3.2**	NS[2]
Methyl ethyl ketone	0.12	0.12	0.12	**0.12**	100
Methyl tert-butyl ether	0.93	0.93	0.93	**0.93**	NS[2]
Methylene chloride	0.05	0.05	0.05	**0.05**	12
Propylbenzene-n	3.9	3.9	3.9	**3.9**	NS[2]
Sec-Butylbenzene	11	11	11	**11**	NS[2]
Tert-Butylbenzene	5.9	5.9	5.9	**5.9**	NS[2]
Tetrachloroethene	1.3	1.3	1.3	**1.3**	2
Toluene	0.7	0.7	0.7	**0.7**	36
Trichloroethene	0.47	0.47	0.47	**0.47**	2
Trimethylbenzene-1,2,4	3.6	3.6	3.6	**3.6**	NS[2]
Trimethylbenzene-1,3,5	8.4	8.4	8.4	**8.4**	NS[2]
Vinyl chloride	0.02	0.02	0.02	**0.02**	NS[2]
Xylene (mixed)	0.26	1.6	1.6	**1.6**	0.26

Notes:

1) The SCO for Hexavalent or Trivalent Chromium is considered to be met if the analysis for the total species of this contaminant is below the specific SCO for Hexavalent Chromium.

2) NS = Not Specified. Protection of ecological resources for SCOs were not developed for contaminants identified in the above table with "NS". Where such contaminants appear in the above table, the applicant may be required by the Department to calculate a protection of ecological resources SCO.

Appendices

Appendix A
Groundwater Sampling Field Logs

GHD INC.
GROUNDWATER FIELD SAMPLING RECORD

SITE 815 River Road DATE 10/25/17

Sampler: Dave Rowlinson SAMPLE ID MW-1 (Nearest to Driveway)

Depth of well (from top of casing).....	14.33 ft	EL	562.71
Initial static water level (from top of casing)....	5.8 ft	EL	571.3
Top of PVC Casing Elevation	577.04		

Evacuation Method:

Peristaltic		Centrifugal		1 in. casing:		ft. of water x .09 =	gallons
Airlift		Pos. Displ.		2 in. casing:	8.6	ft. of water x .16 =	1.37 gallons
Bailer	X	>>> No. of bails		3 in. casing:		ft. of water x .36 =	gallons

Well Volume Calculation

Volume of water removed 4.12 gals.

> 3 volumes: **yes** no

dry: yes **no**

Field Tests:

Temp:	16.43	C
pH	7.4	
Conductivity	2.45	mS/cm
DO	5.46	mg/L
Turbidity	178	NTUs
Oxidation Reduction Potential (ORP)	-106	mV

Sampling: Time: 3:00 PM

Sampling Method:

Peristaltic Pump	
Disposable Bailer	X
Disposable Tubing	

Observations:

Weather/Temperature: Overcast, 50° F

Physical Appearance and Odor of Sample: Slight chemical odor; clear then grayish color, turbid.

Comments: Well pad is intact and the stickup protective cover is in good condition.

GHD INC.
GROUNDWATER FIELD SAMPLING RECORD

SITE 815 River Road DATE 10/25/17

Sampler: Dave Rowlinson SAMPLE ID MW-2

Depth of well (from top of casing).....	14.33 ft	EL	562.71
Initial static water level (from top of casing)....	7.3 ft	EL	569.7
Top of PVC Casing Elevation	577.04		

Evacuation Method:

Peristaltic		Centrifugal		1 in. casing:		ft. of water x .09 =	gallons
Airlift		Pos. Displ.		2 in. casing:	7.0	ft. of water x .16 =	1.12 gallons
Bailer	X	>>> No. of bails		3 in. casing:		ft. of water x .36 =	gallons

Well Volume Calculation

Volume of water removed 3.37 gals.

> 3 volumes: **yes** no

dry: yes **no**

Field Tests:

Temp:	16.43	C
pH	7.40	
Conductivity	2.45	mS/cm
DO	5.46	mg/L
Turbidity	178	NTUs
Oxidation Reduction Potential (ORP)	-105	mV

Sampling: Time: 3:30 PM

Sampling Method:

Peristaltic Pump	
Disposable Bailer	X
Disposable Tubing	

Observations:

Weather/Temperature: Overcast, 50° F

Physical Appearance and Odor of Sample: Distinct chemical odor; clear then grey color, very turbid

Comments: Well pad is intact and the stickup protective cover is in good condition.

Appendix B
Analytical Test Results

ANALYTICAL REPORT

November 02, 2017

GHD

Sample Delivery Group:	L946511
Samples Received:	10/26/2017
Project Number:	11110868-200-
Description:	815 River Road Site
Site:	N. TONAWANDA, NY
Report To:	Mr. Dave Rowlinson 285 Delaware Ave. Suite 500 Buffalo, NY 14202

Entire Report Reviewed By:

Jason Romer
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

MW-1 L946511-01 GW

Collected by: DR | Collected date/time: 10/25/17 15:00 | Received date/time: 10/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	1	10/29/17 14:41	10/29/17 14:41	KMC

MW-2 L946511-02 GW

Collected by: DR | Collected date/time: 10/25/17 15:00 | Received date/time: 10/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	5	10/29/17 14:58	10/29/17 14:58	KMC
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	50	11/01/17 23:11	11/01/17 23:11	JHH

FD AT MW-1 L946511-03 GW

Collected by: DR | Collected date/time: 10/25/17 15:00 | Received date/time: 10/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	1	10/29/17 15:17	10/29/17 15:17	KMC

TRIP BLANK L946511-04 GW

Collected by: DR | Collected date/time: 10/25/17 15:00 | Received date/time: 10/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	1	10/29/17 13:47	10/29/17 13:47	KMC

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jason Romer
Technical Service Representative

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		10.0	50.0	1	10/29/2017 14:41	WG1036811
Benzene	U		0.331	1.00	1	10/29/2017 14:41	WG1036811
Bromochloromethane	U		0.520	1.00	1	10/29/2017 14:41	WG1036811
Bromodichloromethane	U		0.380	1.00	1	10/29/2017 14:41	WG1036811
Bromoform	U		0.469	1.00	1	10/29/2017 14:41	WG1036811
Bromomethane	U	J3	0.866	5.00	1	10/29/2017 14:41	WG1036811
Carbon disulfide	U		0.275	1.00	1	10/29/2017 14:41	WG1036811
Carbon tetrachloride	U		0.379	1.00	1	10/29/2017 14:41	WG1036811
Chlorobenzene	U		0.348	1.00	1	10/29/2017 14:41	WG1036811
Chlorodibromomethane	U		0.327	1.00	1	10/29/2017 14:41	WG1036811
Chloroethane	U	J3	0.453	5.00	1	10/29/2017 14:41	WG1036811
Chloroform	U		0.324	5.00	1	10/29/2017 14:41	WG1036811
Chloromethane	U		0.276	2.50	1	10/29/2017 14:41	WG1036811
Cyclohexane	29.1		0.390	1.00	1	10/29/2017 14:41	WG1036811
1,2-Dibromo-3-Chloropropane	U		1.33	5.00	1	10/29/2017 14:41	WG1036811
1,2-Dibromoethane	U		0.381	1.00	1	10/29/2017 14:41	WG1036811
1,2-Dichlorobenzene	U		0.349	1.00	1	10/29/2017 14:41	WG1036811
1,3-Dichlorobenzene	U		0.220	1.00	1	10/29/2017 14:41	WG1036811
1,4-Dichlorobenzene	U		0.274	1.00	1	10/29/2017 14:41	WG1036811
Dichlorodifluoromethane	U	J3	0.551	5.00	1	10/29/2017 14:41	WG1036811
1,1-Dichloroethane	U		0.259	1.00	1	10/29/2017 14:41	WG1036811
1,2-Dichloroethane	U		0.361	1.00	1	10/29/2017 14:41	WG1036811
1,1-Dichloroethene	U		0.398	1.00	1	10/29/2017 14:41	WG1036811
cis-1,2-Dichloroethene	U		0.260	1.00	1	10/29/2017 14:41	WG1036811
trans-1,2-Dichloroethene	U		0.396	1.00	1	10/29/2017 14:41	WG1036811
1,2-Dichloropropane	U		0.306	1.00	1	10/29/2017 14:41	WG1036811
cis-1,3-Dichloropropene	U		0.418	1.00	1	10/29/2017 14:41	WG1036811
trans-1,3-Dichloropropene	U		0.419	1.00	1	10/29/2017 14:41	WG1036811
Ethylbenzene	20.5		0.384	1.00	1	10/29/2017 14:41	WG1036811
2-Hexanone	U		3.82	10.0	1	10/29/2017 14:41	WG1036811
Isopropylbenzene	42.7		0.326	1.00	1	10/29/2017 14:41	WG1036811
2-Butanone (MEK)	U		3.93	10.0	1	10/29/2017 14:41	WG1036811
Methyl Acetate	U		4.30	20.0	1	10/29/2017 14:41	WG1036811
Methyl Cyclohexane	20.5		0.380	1.00	1	10/29/2017 14:41	WG1036811
Methylene Chloride	U		1.00	5.00	1	10/29/2017 14:41	WG1036811
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0	1	10/29/2017 14:41	WG1036811
Methyl tert-butyl ether	U		0.367	1.00	1	10/29/2017 14:41	WG1036811
Styrene	U		0.307	1.00	1	10/29/2017 14:41	WG1036811
1,1,2,2-Tetrachloroethane	U		0.130	1.00	1	10/29/2017 14:41	WG1036811
Tetrachloroethene	U		0.372	1.00	1	10/29/2017 14:41	WG1036811
Toluene	U		0.412	1.00	1	10/29/2017 14:41	WG1036811
1,2,3-Trichlorobenzene	U		0.230	1.00	1	10/29/2017 14:41	WG1036811
1,2,4-Trichlorobenzene	U		0.355	1.00	1	10/29/2017 14:41	WG1036811
1,1,1-Trichloroethane	U		0.319	1.00	1	10/29/2017 14:41	WG1036811
1,1,2-Trichloroethane	U		0.383	1.00	1	10/29/2017 14:41	WG1036811
Trichloroethene	U		0.398	1.00	1	10/29/2017 14:41	WG1036811
Trichlorofluoromethane	U		1.20	5.00	1	10/29/2017 14:41	WG1036811
1,1,2-Trichlorotrifluoroethane	U	J3	0.303	1.00	1	10/29/2017 14:41	WG1036811
Vinyl chloride	U	J3	0.259	1.00	1	10/29/2017 14:41	WG1036811
Xylenes, Total	U		1.06	3.00	1	10/29/2017 14:41	WG1036811
(S) Toluene-d8	*108*			*80.0-120*		*10/29/2017 14:41*	WG1036811
(S) Dibromofluoromethane	*92.8*			*76.0-123*		*10/29/2017 14:41*	WG1036811
(S) a,a,a-Trifluorotoluene	*105*			*80.0-120*		*10/29/2017 14:41*	WG1036811
(S) 4-Bromofluorobenzene	*102*			*80.0-120*		*10/29/2017 14:41*	WG1036811

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		50.0	250	5	10/29/2017 14:58	WG1036811
Benzene	207		1.66	5.00	5	10/29/2017 14:58	WG1036811
Bromochloromethane	U		2.60	5.00	5	10/29/2017 14:58	WG1036811
Bromodichloromethane	U		1.90	5.00	5	10/29/2017 14:58	WG1036811
Bromoform	U		2.34	5.00	5	10/29/2017 14:58	WG1036811
Bromomethane	U	J3	4.33	25.0	5	10/29/2017 14:58	WG1036811
Carbon disulfide	U		1.38	5.00	5	10/29/2017 14:58	WG1036811
Carbon tetrachloride	U		1.90	5.00	5	10/29/2017 14:58	WG1036811
Chlorobenzene	U		1.74	5.00	5	10/29/2017 14:58	WG1036811
Chlorodibromomethane	U		1.64	5.00	5	10/29/2017 14:58	WG1036811
Chloroethane	U		2.26	25.0	5	10/29/2017 14:58	WG1036811
Chloroform	U		1.62	25.0	5	10/29/2017 14:58	WG1036811
Chloromethane	U		1.38	12.5	5	10/29/2017 14:58	WG1036811
Cyclohexane	111	J6	1.95	5.00	5	10/29/2017 14:58	WG1036811
1,2-Dibromo-3-Chloropropane	U		6.65	25.0	5	10/29/2017 14:58	WG1036811
1,2-Dibromoethane	U		1.90	5.00	5	10/29/2017 14:58	WG1036811
1,2-Dichlorobenzene	U		1.74	5.00	5	10/29/2017 14:58	WG1036811
1,3-Dichlorobenzene	U		1.10	5.00	5	10/29/2017 14:58	WG1036811
1,4-Dichlorobenzene	U		1.37	5.00	5	10/29/2017 14:58	WG1036811
Dichlorodifluoromethane	U		2.76	25.0	5	10/29/2017 14:58	WG1036811
1,1-Dichloroethane	U		1.30	5.00	5	10/29/2017 14:58	WG1036811
1,2-Dichloroethane	U		1.80	5.00	5	10/29/2017 14:58	WG1036811
1,1-Dichloroethene	U		1.99	5.00	5	10/29/2017 14:58	WG1036811
cis-1,2-Dichloroethene	U		1.30	5.00	5	10/29/2017 14:58	WG1036811
trans-1,2-Dichloroethene	U		1.98	5.00	5	10/29/2017 14:58	WG1036811
1,2-Dichloropropane	U		1.53	5.00	5	10/29/2017 14:58	WG1036811
cis-1,3-Dichloropropene	U		2.09	5.00	5	10/29/2017 14:58	WG1036811
trans-1,3-Dichloropropene	U		2.10	5.00	5	10/29/2017 14:58	WG1036811
Ethylbenzene	2050		19.2	50.0	50	11/01/2017 23:11	WG1036811
2-Hexanone	U		19.1	50.0	5	10/29/2017 14:58	WG1036811
Isopropylbenzene	247		1.63	5.00	5	10/29/2017 14:58	WG1036811
2-Butanone (MEK)	U		19.6	50.0	5	10/29/2017 14:58	WG1036811
Methyl Acetate	U	J6	21.5	100	5	10/29/2017 14:58	WG1036811
Methyl Cyclohexane	43.3	J6	1.90	5.00	5	10/29/2017 14:58	WG1036811
Methylene Chloride	U		5.00	25.0	5	10/29/2017 14:58	WG1036811
4-Methyl-2-pentanone (MIBK)	U		10.7	50.0	5	10/29/2017 14:58	WG1036811
Methyl tert-butyl ether	U		1.84	5.00	5	10/29/2017 14:58	WG1036811
Styrene	U		1.54	5.00	5	10/29/2017 14:58	WG1036811
1,1,2,2-Tetrachloroethane	U		0.650	5.00	5	10/29/2017 14:58	WG1036811
Tetrachloroethene	U		1.86	5.00	5	10/29/2017 14:58	WG1036811
Toluene	13.4		2.06	5.00	5	10/29/2017 14:58	WG1036811
1,2,3-Trichlorobenzene	U		1.15	5.00	5	10/29/2017 14:58	WG1036811
1,2,4-Trichlorobenzene	U		1.78	5.00	5	10/29/2017 14:58	WG1036811
1,1,1-Trichloroethane	U		1.60	5.00	5	10/29/2017 14:58	WG1036811
1,1,2-Trichloroethane	U		1.92	5.00	5	10/29/2017 14:58	WG1036811
Trichloroethene	U		1.99	5.00	5	10/29/2017 14:58	WG1036811
Trichlorofluoromethane	U		6.00	25.0	5	10/29/2017 14:58	WG1036811
1,1,2-Trichlorotrifluoroethane	U		1.52	5.00	5	10/29/2017 14:58	WG1036811
Vinyl chloride	U		1.30	5.00	5	10/29/2017 14:58	WG1036811
Xylenes, Total	99.4		5.30	15.0	5	10/29/2017 14:58	WG1036811
(S) Toluene-d8	*108*			*80.0-120*		*11/01/2017 23:11*	WG1036811
(S) Toluene-d8	*102*			*80.0-120*		*10/29/2017 14:58*	WG1036811
(S) Dibromofluoromethane	*87.7*			*76.0-123*		*11/01/2017 23:11*	WG1036811
(S) Dibromofluoromethane	*93.1*			*76.0-123*		*10/29/2017 14:58*	WG1036811
(S) a,a,a-Trifluorotoluene	*105*			*80.0-120*		*10/29/2017 14:58*	WG1036811
(S) a,a,a-Trifluorotoluene	*113*			*80.0-120*		*11/01/2017 23:11*	WG1036811

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 4-Bromofluorobenzene	*95.0*			*80.0-120*		*11/01/2017 23:11*	WG1036811
(S) 4-Bromofluorobenzene	*104*			*80.0-120*		*10/29/2017 14:58*	WG1036811

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		10.0	50.0	1	10/29/2017 15:17	WG1036811
Benzene	U		0.331	1.00	1	10/29/2017 15:17	WG1036811
Bromochloromethane	U		0.520	1.00	1	10/29/2017 15:17	WG1036811
Bromodichloromethane	U		0.380	1.00	1	10/29/2017 15:17	WG1036811
Bromoform	U		0.469	1.00	1	10/29/2017 15:17	WG1036811
Bromomethane	U	J3	0.866	5.00	1	10/29/2017 15:17	WG1036811
Carbon disulfide	U		0.275	1.00	1	10/29/2017 15:17	WG1036811
Carbon tetrachloride	U		0.379	1.00	1	10/29/2017 15:17	WG1036811
Chlorobenzene	U		0.348	1.00	1	10/29/2017 15:17	WG1036811
Chlorodibromomethane	U		0.327	1.00	1	10/29/2017 15:17	WG1036811
Chloroethane	U	J3	0.453	5.00	1	10/29/2017 15:17	WG1036811
Chloroform	U		0.324	5.00	1	10/29/2017 15:17	WG1036811
Chloromethane	U		0.276	2.50	1	10/29/2017 15:17	WG1036811
Cyclohexane	27.8		0.390	1.00	1	10/29/2017 15:17	WG1036811
1,2-Dibromo-3-Chloropropane	U		1.33	5.00	1	10/29/2017 15:17	WG1036811
1,2-Dibromoethane	U		0.381	1.00	1	10/29/2017 15:17	WG1036811
1,2-Dichlorobenzene	U		0.349	1.00	1	10/29/2017 15:17	WG1036811
1,3-Dichlorobenzene	U		0.220	1.00	1	10/29/2017 15:17	WG1036811
1,4-Dichlorobenzene	U		0.274	1.00	1	10/29/2017 15:17	WG1036811
Dichlorodifluoromethane	U	J3	0.551	5.00	1	10/29/2017 15:17	WG1036811
1,1-Dichloroethane	U		0.259	1.00	1	10/29/2017 15:17	WG1036811
1,2-Dichloroethane	U		0.361	1.00	1	10/29/2017 15:17	WG1036811
1,1-Dichloroethene	U		0.398	1.00	1	10/29/2017 15:17	WG1036811
cis-1,2-Dichloroethene	U		0.260	1.00	1	10/29/2017 15:17	WG1036811
trans-1,2-Dichloroethene	U		0.396	1.00	1	10/29/2017 15:17	WG1036811
1,2-Dichloropropane	U		0.306	1.00	1	10/29/2017 15:17	WG1036811
cis-1,3-Dichloropropene	U		0.418	1.00	1	10/29/2017 15:17	WG1036811
trans-1,3-Dichloropropene	U		0.419	1.00	1	10/29/2017 15:17	WG1036811
Ethylbenzene	16.2		0.384	1.00	1	10/29/2017 15:17	WG1036811
2-Hexanone	U		3.82	10.0	1	10/29/2017 15:17	WG1036811
Isopropylbenzene	41.1		0.326	1.00	1	10/29/2017 15:17	WG1036811
2-Butanone (MEK)	U		3.93	10.0	1	10/29/2017 15:17	WG1036811
Methyl Acetate	U		4.30	20.0	1	10/29/2017 15:17	WG1036811
Methyl Cyclohexane	19.4		0.380	1.00	1	10/29/2017 15:17	WG1036811
Methylene Chloride	U		1.00	5.00	1	10/29/2017 15:17	WG1036811
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0	1	10/29/2017 15:17	WG1036811
Methyl tert-butyl ether	U		0.367	1.00	1	10/29/2017 15:17	WG1036811
Styrene	U		0.307	1.00	1	10/29/2017 15:17	WG1036811
1,1,2,2-Tetrachloroethane	U		0.130	1.00	1	10/29/2017 15:17	WG1036811
Tetrachloroethene	U		0.372	1.00	1	10/29/2017 15:17	WG1036811
Toluene	U		0.412	1.00	1	10/29/2017 15:17	WG1036811
1,2,3-Trichlorobenzene	U		0.230	1.00	1	10/29/2017 15:17	WG1036811
1,2,4-Trichlorobenzene	U		0.355	1.00	1	10/29/2017 15:17	WG1036811
1,1,1-Trichloroethane	U		0.319	1.00	1	10/29/2017 15:17	WG1036811
1,1,2-Trichloroethane	U		0.383	1.00	1	10/29/2017 15:17	WG1036811
Trichloroethene	U		0.398	1.00	1	10/29/2017 15:17	WG1036811
Trichlorofluoromethane	U		1.20	5.00	1	10/29/2017 15:17	WG1036811
1,1,2-Trichlorotrifluoroethane	U	J3	0.303	1.00	1	10/29/2017 15:17	WG1036811
Vinyl chloride	U	J3	0.259	1.00	1	10/29/2017 15:17	WG1036811
Xylenes, Total	U		1.06	3.00	1	10/29/2017 15:17	WG1036811
(S) Toluene-d8	*83.2*			*80.0-120*		*10/29/2017 15:17*	WG1036811
(S) Dibromofluoromethane	*91.7*			*76.0-123*		*10/29/2017 15:17*	WG1036811
(S) a,a,a-Trifluorotoluene	*105*			*80.0-120*		*10/29/2017 15:17*	WG1036811
(S) 4-Bromofluorobenzene	*104*			*80.0-120*		*10/29/2017 15:17*	WG1036811

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		10.0	50.0	1	10/29/2017 13:47	WG1036811
Benzene	U		0.331	1.00	1	10/29/2017 13:47	WG1036811
Bromochloromethane	U		0.520	1.00	1	10/29/2017 13:47	WG1036811
Bromodichloromethane	U		0.380	1.00	1	10/29/2017 13:47	WG1036811
Bromoform	U		0.469	1.00	1	10/29/2017 13:47	WG1036811
Bromomethane	U	J3	0.866	5.00	1	10/29/2017 13:47	WG1036811
Carbon disulfide	U		0.275	1.00	1	10/29/2017 13:47	WG1036811
Carbon tetrachloride	U		0.379	1.00	1	10/29/2017 13:47	WG1036811
Chlorobenzene	U		0.348	1.00	1	10/29/2017 13:47	WG1036811
Chlorodibromomethane	U		0.327	1.00	1	10/29/2017 13:47	WG1036811
Chloroethane	U	J3	0.453	5.00	1	10/29/2017 13:47	WG1036811
Chloroform	U		0.324	5.00	1	10/29/2017 13:47	WG1036811
Chloromethane	U		0.276	2.50	1	10/29/2017 13:47	WG1036811
Cyclohexane	U		0.390	1.00	1	10/29/2017 13:47	WG1036811
1,2-Dibromo-3-Chloropropane	U		1.33	5.00	1	10/29/2017 13:47	WG1036811
1,2-Dibromoethane	U		0.381	1.00	1	10/29/2017 13:47	WG1036811
1,2-Dichlorobenzene	U		0.349	1.00	1	10/29/2017 13:47	WG1036811
1,3-Dichlorobenzene	U		0.220	1.00	1	10/29/2017 13:47	WG1036811
1,4-Dichlorobenzene	U		0.274	1.00	1	10/29/2017 13:47	WG1036811
Dichlorodifluoromethane	U	J3	0.551	5.00	1	10/29/2017 13:47	WG1036811
1,1-Dichloroethane	U		0.259	1.00	1	10/29/2017 13:47	WG1036811
1,2-Dichloroethane	U		0.361	1.00	1	10/29/2017 13:47	WG1036811
1,1-Dichloroethene	U		0.398	1.00	1	10/29/2017 13:47	WG1036811
cis-1,2-Dichloroethene	U		0.260	1.00	1	10/29/2017 13:47	WG1036811
trans-1,2-Dichloroethene	U		0.396	1.00	1	10/29/2017 13:47	WG1036811
1,2-Dichloropropane	U		0.306	1.00	1	10/29/2017 13:47	WG1036811
cis-1,3-Dichloropropene	U		0.418	1.00	1	10/29/2017 13:47	WG1036811
trans-1,3-Dichloropropene	U		0.419	1.00	1	10/29/2017 13:47	WG1036811
Ethylbenzene	U		0.384	1.00	1	10/29/2017 13:47	WG1036811
2-Hexanone	U		3.82	10.0	1	10/29/2017 13:47	WG1036811
Isopropylbenzene	U		0.326	1.00	1	10/29/2017 13:47	WG1036811
2-Butanone (MEK)	U		3.93	10.0	1	10/29/2017 13:47	WG1036811
Methyl Acetate	U		4.30	20.0	1	10/29/2017 13:47	WG1036811
Methyl Cyclohexane	U		0.380	1.00	1	10/29/2017 13:47	WG1036811
Methylene Chloride	U		1.00	5.00	1	10/29/2017 13:47	WG1036811
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0	1	10/29/2017 13:47	WG1036811
Methyl tert-butyl ether	U		0.367	1.00	1	10/29/2017 13:47	WG1036811
Styrene	U		0.307	1.00	1	10/29/2017 13:47	WG1036811
1,1,2,2-Tetrachloroethane	U		0.130	1.00	1	10/29/2017 13:47	WG1036811
Tetrachloroethene	U		0.372	1.00	1	10/29/2017 13:47	WG1036811
Toluene	U		0.412	1.00	1	10/29/2017 13:47	WG1036811
1,2,3-Trichlorobenzene	U		0.230	1.00	1	10/29/2017 13:47	WG1036811
1,2,4-Trichlorobenzene	U		0.355	1.00	1	10/29/2017 13:47	WG1036811
1,1,1-Trichloroethane	U		0.319	1.00	1	10/29/2017 13:47	WG1036811
1,1,2-Trichloroethane	U		0.383	1.00	1	10/29/2017 13:47	WG1036811
Trichloroethene	U		0.398	1.00	1	10/29/2017 13:47	WG1036811
Trichlorofluoromethane	U		1.20	5.00	1	10/29/2017 13:47	WG1036811
1,1,2-Trichlorotrifluoroethane	U	J3	0.303	1.00	1	10/29/2017 13:47	WG1036811
Vinyl chloride	U	J3	0.259	1.00	1	10/29/2017 13:47	WG1036811
Xylenes, Total	U		1.06	3.00	1	10/29/2017 13:47	WG1036811
(S) Toluene-d8	*107*			*80.0-120*		*10/29/2017 13:47*	WG1036811
(S) Dibromofluoromethane	*92.2*			*76.0-123*		*10/29/2017 13:47*	WG1036811
(S) a,a,a-Trifluorotoluene	*105*			*80.0-120*		*10/29/2017 13:47*	WG1036811
(S) 4-Bromofluorobenzene	*106*			*80.0-120*		*10/29/2017 13:47*	WG1036811

Method Blank (MB)

(MB) R3262284-3 10/29/17 13:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Benzene	U		0.331	1.00
Bromodichloromethane	U		0.380	1.00
Bromochloromethane	U		0.520	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
Carbon disulfide	U		0.275	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
Cyclohexane	U		0.390	1.00
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
Dichlorodifluoromethane	U		0.551	5.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
Ethylbenzene	U		0.384	1.00
2-Hexanone	U		3.82	10.0
Isopropylbenzene	U		0.326	1.00
2-Butanone (MEK)	U		3.93	10.0
Methyl Acetate	U		4.30	20.0
Methyl Cyclohexane	U		0.380	1.00
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Styrene	U		0.307	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00

Method Blank (MB)

(MB) R3262284-3 10/29/17 13:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.355	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00
Trichloroethene	U		0.398	1.00
Trichlorofluoromethane	U		1.20	5.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*107*			*80.0-120*
(S) Dibromofluoromethane	*92.9*			*76.0-123*
(S) a,a,a-Trifluorotoluene	*105*			*80.0-120*
(S) 4-Bromofluorobenzene	*105*			*80.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3262284-1 10/29/17 12:27 • (LCSD) R3262284-2 10/29/17 12:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	116	128	93.0	103	10.0-160			10.0	23
Benzene	25.0	21.6	19.2	86.2	76.8	69.0-123			11.6	20
Bromodichloromethane	25.0	22.4	21.0	89.5	83.8	76.0-120			6.51	20
Bromochloromethane	25.0	22.5	21.5	90.2	86.2	76.0-122			4.54	20
Bromoform	25.0	24.2	24.4	96.8	97.5	67.0-132			0.730	20
Bromomethane	25.0	33.6	25.9	134	104	18.0-160		J3	25.7	20
Carbon disulfide	25.0	26.3	21.8	105	87.2	55.0-127			18.6	20
Carbon tetrachloride	25.0	20.6	17.2	82.3	68.8	63.0-122			17.9	20
Chlorobenzene	25.0	23.3	21.3	93.1	85.1	79.0-121			9.00	20
Chlorodibromomethane	25.0	24.6	23.7	98.4	94.9	75.0-125			3.64	20
Chloroethane	25.0	25.8	20.2	103	80.6	47.0-152		J3	24.7	20
Chloroform	25.0	21.4	19.4	85.5	77.7	72.0-121			9.62	20
Chloromethane	25.0	25.3	22.6	101	90.4	48.0-139			11.1	20
Cyclohexane	25.0	21.7	17.8	86.7	71.3	70.0-130			19.4	20
1,2-Dibromo-3-Chloropropane	25.0	21.9	24.6	87.6	98.3	64.0-127			11.6	20
1,2-Dibromoethane	25.0	23.9	23.8	95.7	95.3	77.0-123			0.430	20
1,2-Dichlorobenzene	25.0	22.7	22.6	90.8	90.5	80.0-120			0.430	20
1,3-Dichlorobenzene	25.0	22.3	21.5	89.3	86.0	72.0-123			3.81	20
1,4-Dichlorobenzene	25.0	22.9	22.4	91.5	89.7	77.0-120			2.04	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3262284-1 10/29/17 12:27 • (LCSD) R3262284-2 10/29/17 12:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dichlorodifluoromethane	25.0	24.2	19.1	96.7	76.4	49.0-155		J3	23.5	20
1,1-Dichloroethane	25.0	21.5	19.2	86.2	76.9	70.0-126			11.3	20
1,2-Dichloroethane	25.0	21.1	20.1	84.5	80.4	67.0-126			4.98	20
1,1-Dichloroethene	25.0	21.9	18.4	87.7	73.5	64.0-129			17.6	20
cis-1,2-Dichloroethene	25.0	21.8	19.8	87.1	79.3	73.0-120			9.38	20
trans-1,2-Dichloroethene	25.0	22.0	18.9	87.9	75.7	71.0-121			15.0	20
1,2-Dichloropropane	25.0	23.9	22.0	95.7	88.0	75.0-125			8.39	20
cis-1,3-Dichloropropene	25.0	24.7	23.1	98.7	92.3	79.0-123			6.71	20
trans-1,3-Dichloropropene	25.0	26.2	24.9	105	99.4	74.0-127			5.21	20
Ethylbenzene	25.0	24.2	21.2	96.7	84.9	77.0-120			13.1	20
2-Hexanone	125	115	125	91.9	100	58.0-147			8.86	20
Isopropylbenzene	25.0	23.0	20.4	91.9	81.6	75.0-120			11.8	20
2-Butanone (MEK)	125	105	119	84.4	95.3	37.0-158			12.2	20
Methyl Acetate	125	104	118	83.5	94.7	70.0-130			12.6	20
Methyl Cyclohexane	25.0	27.3	23.8	109	95.3	70.0-130			13.5	20
Methylene Chloride	25.0	21.0	19.8	84.1	79.0	66.0-121			6.21	20
4-Methyl-2-pentanone (MIBK)	125	110	118	87.8	94.2	59.0-143			7.03	20
Methyl tert-butyl ether	25.0	21.4	21.3	85.5	85.3	64.0-123			0.230	20
Styrene	25.0	23.6	22.2	94.6	88.7	78.0-124			6.34	20
1,1,2,2-Tetrachloroethane	25.0	21.8	23.0	87.2	92.1	71.0-122			5.48	20
Tetrachloroethene	25.0	23.8	20.5	95.3	82.0	70.0-127			14.9	20
Toluene	25.0	23.8	20.6	95.3	82.4	77.0-120			14.5	20
1,1,2-Trichlorotrifluoroethane	25.0	22.8	18.2	91.0	72.9	61.0-136		J3	22.0	20
1,2,3-Trichlorobenzene	25.0	22.7	23.5	90.9	93.8	61.0-133			3.22	20
1,2,4-Trichlorobenzene	25.0	23.4	23.1	93.6	92.2	69.0-129			1.48	20
1,1,1-Trichloroethane	25.0	21.4	18.1	85.5	72.6	68.0-122			16.4	20
1,1,2-Trichloroethane	25.0	23.5	23.1	94.0	92.3	78.0-120			1.88	20
Trichloroethene	25.0	23.2	20.5	92.9	81.8	78.0-120			12.6	20
Trichlorofluoromethane	25.0	22.2	18.6	88.6	74.2	56.0-137			17.7	20
Vinyl chloride	25.0	22.0	17.9	88.1	71.6	64.0-133		J3	20.6	20
Xylenes, Total	75.0	70.9	63.2	94.5	84.3	77.0-120			11.5	20
(S) Toluene-d8				*105*	*105*	*80.0-120*				
(S) Dibromofluoromethane				*91.3*	*90.5*	*76.0-123*				
(S) a,a,a-Trifluorotoluene				*105*	*107*	*80.0-120*				
(S) 4-Bromofluorobenzene				*101*	*103*	*80.0-120*				

L946511-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946511-02 10/29/17 14:58 • (MS) R3262284-4 10/29/17 19:46 • (MSD) R3262284-5 10/29/17 20:04

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	125	U	218	196	34.9	31.3	5	10.0-139			10.8	25
Benzene	25.0	207	261	269	42.9	49.6	5	34.0-147			3.16	20
Bromodichloromethane	25.0	U	84.2	89.5	67.4	71.6	5	52.0-135			6.14	20
Bromochloromethane	25.0	U	71.7	76.1	57.4	60.8	5	53.0-138			5.91	20
Bromoform	25.0	U	97.9	102	78.4	81.3	5	50.0-146			3.63	20
Bromomethane	25.0	U	15.5	24.0	12.4	19.2	5	10.0-160		J3	42.9	23
Carbon disulfide	25.0	U	19.7	19.1	15.7	15.2	5	10.0-147			3.07	20
Carbon tetrachloride	25.0	U	67.4	62.3	53.9	49.8	5	41.0-138			7.81	20
Chlorobenzene	25.0	U	78.4	81.0	62.8	64.8	5	52.0-141			3.17	20
Chlorodibromomethane	25.0	U	92.6	96.7	74.1	77.4	5	54.0-142			4.37	20
Chloroethane	25.0	U	52.5	46.3	42.0	37.1	5	23.0-160			12.4	20
Chloroform	25.0	U	82.1	82.8	65.7	66.2	5	50.0-139			0.790	20
Chloromethane	25.0	U	31.6	30.4	25.3	24.3	5	14.0-151			3.76	20
Cyclohexane	25.0	111	150	145	31.2	27.8	5	70.0-130	J6	J6	2.92	20
1,2-Dibromo-3-Chloropropane	25.0	U	104	107	83.4	85.7	5	49.0-144			2.73	24
1,2-Dibromoethane	25.0	U	83.9	88.9	67.2	71.2	5	54.0-140			5.78	20
1,2-Dichlorobenzene	25.0	U	90.5	94.7	72.4	75.8	5	56.0-139			4.53	20
1,3-Dichlorobenzene	25.0	U	85.6	87.5	68.5	70.0	5	50.0-141			2.12	20
1,4-Dichlorobenzene	25.0	U	85.8	91.3	68.7	73.0	5	53.0-136			6.14	20
Dichlorodifluoromethane	25.0	U	43.4	40.3	34.7	32.3	5	20.0-160			7.19	21
1,1-Dichloroethane	25.0	U	75.0	73.4	60.0	58.7	5	47.0-143			2.15	20
1,2-Dichloroethane	25.0	U	72.9	75.6	58.3	60.5	5	47.0-141			3.70	20
1,1-Dichloroethene	25.0	U	54.0	47.7	43.2	38.2	5	31.0-148			12.4	20
cis-1,2-Dichloroethene	25.0	U	76.4	75.3	61.1	60.3	5	43.0-142			1.39	20
trans-1,2-Dichloroethene	25.0	U	51.8	51.9	41.4	41.5	5	36.0-141			0.190	20
1,2-Dichloropropane	25.0	U	84.0	86.8	67.2	69.5	5	51.0-141			3.31	20
cis-1,3-Dichloropropene	25.0	U	80.6	84.7	64.5	67.7	5	53.0-139			4.96	20
trans-1,3-Dichloropropene	25.0	U	87.8	91.7	70.3	73.4	5	51.0-143			4.36	20
Ethylbenzene	25.0	1640	1660	1710	20.5	56.8	5	42.0-147	E V	E	2.69	20
2-Hexanone	125	U	442	443	70.8	70.8	5	36.0-145			0.0700	23
Isopropylbenzene	25.0	247	319	327	57.4	63.9	5	48.0-141			2.53	20
2-Butanone (MEK)	125	U	388	388	62.1	62.0	5	12.0-149			0.130	24
Methyl Acetate	125	U	437	452	69.9	72.3	5	70.0-130	J6		3.34	20.8
Methyl Cyclohexane	25.0	43.3	101	94.7	46.1	41.1	5	70.0-130	J6	J6	6.34	20.8
Methylene Chloride	25.0	U	60.2	62.9	48.2	50.3	5	42.0-135			4.27	20
4-Methyl-2-pentanone (MIBK)	125	U	488	487	78.1	77.9	5	44.0-160			0.260	22
Methyl tert-butyl ether	25.0	U	80.9	85.4	64.7	68.3	5	42.0-142			5.38	20
Styrene	25.0	U	85.9	89.3	68.7	71.4	5	47.0-147			3.88	20
1,1,2,2-Tetrachloroethane	25.0	U	96.2	98.1	76.9	78.5	5	46.0-149			2.01	20
Tetrachloroethene	25.0	U	71.0	63.7	56.8	51.0	5	38.0-147			10.8	20

L946511-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946511-02 10/29/17 14:58 • (MS) R3262284-4 10/29/17 19:46 • (MSD) R3262284-5 10/29/17 20:04

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Toluene	25.0	13.4	88.2	84.8	59.9	57.2	5	42.0-141			3.88	20
1,1,2-Trichlorotrifluoroethane	25.0	U	70.4	61.0	56.3	48.8	5	40.0-151			14.4	21
1,2,3-Trichlorobenzene	25.0	U	94.1	99.7	75.3	79.8	5	45.0-145			5.76	22
1,2,4-Trichlorobenzene	25.0	U	93.3	99.0	74.6	79.2	5	49.0-147			5.97	21
1,1,1-Trichloroethane	25.0	U	72.2	68.5	57.8	54.8	5	46.0-140			5.39	20
1,1,2-Trichloroethane	25.0	U	92.6	97.0	74.1	77.6	5	54.0-139			4.65	20
Trichloroethene	25.0	U	71.1	70.0	56.9	56.0	5	32.0-156			1.62	20
Trichlorofluoromethane	25.0	U	54.8	51.6	43.8	41.3	5	32.0-152			5.89	20
Vinyl chloride	25.0	U	37.3	34.2	29.8	27.4	5	24.0-153			8.55	20
Xylenes, Total	75.0	99.4	338	333	63.5	62.4	5	41.0-148			1.28	20
(S) Toluene-d8					*105*	*102*		*80.0-120*				
(S) Dibromofluoromethane					*92.4*	*92.2*		*76.0-123*				
(S) a,a,a-Trifluorotoluene					*104*	*107*		*80.0-120*				
(S) 4-Bromofluorobenzene					*103*	*102*		*80.0-120*				

L946631-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946631-05 10/29/17 19:10 • (MS) R3262284-6 10/29/17 20:22 • (MSD) R3262284-7 10/29/17 20:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	125	ND	58.4	54.3	46.7	43.5	1	10.0-139			7.16	25
Benzene	25.0	ND	14.4	13.6	57.7	54.5	1	34.0-147			5.71	20
Bromodichloromethane	25.0	ND	18.4	16.9	73.5	67.5	1	52.0-135			8.61	20
Bromochloromethane	25.0	ND	15.8	14.8	63.3	59.1	1	53.0-138			6.77	20
Bromoform	25.0	ND	21.8	19.7	87.2	78.9	1	50.0-146			9.96	20
Bromomethane	25.0	ND	5.19	4.52	20.8	18.1	1	10.0-160			13.8	23
Carbon disulfide	25.0	ND	4.68	4.64	18.7	18.5	1	10.0-147			0.840	20
Carbon tetrachloride	25.0	ND	14.4	13.9	57.5	55.4	1	41.0-138			3.78	20
Chlorobenzene	25.0	ND	18.1	17.0	72.4	67.9	1	52.0-141			6.44	20
Chlorodibromomethane	25.0	ND	20.7	19.1	82.8	76.5	1	54.0-142			8.00	20
Chloroethane	25.0	ND	13.5	12.1	54.0	48.3	1	23.0-160			11.1	20
Chloroform	25.0	ND	16.8	15.7	67.3	62.7	1	50.0-139			6.97	20
Chloromethane	25.0	ND	5.35	4.96	21.4	19.9	1	14.0-151			7.43	20
Cyclohexane	25.0	ND	9.74	9.35	39.0	37.4	1	70.0-130	J6	J6	4.15	20
1,2-Dibromo-3-Chloropropane	25.0	ND	24.3	21.7	97.1	86.6	1	49.0-144			11.4	24
1,2-Dibromoethane	25.0	ND	19.1	17.4	76.3	69.4	1	54.0-140			9.43	20
1,2-Dichlorobenzene	25.0	ND	20.0	17.9	80.0	71.7	1	56.0-139			11.0	20
1,3-Dichlorobenzene	25.0	ND	18.7	17.4	74.9	69.7	1	50.0-141			7.16	20
1,4-Dichlorobenzene	25.0	ND	19.5	18.1	78.0	72.6	1	53.0-136			7.21	20

L946631-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946631-05 10/29/17 19:10 • (MS) R3262284-6 10/29/17 20:22 • (MSD) R3262284-7 10/29/17 20:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dichlorodifluoromethane	25.0	ND	9.02	8.20	36.1	32.8	1	20.0-160			9.52	21
1,1-Dichloroethane	25.0	ND	16.0	15.0	64.0	59.9	1	47.0-143			6.60	20
1,2-Dichloroethane	25.0	ND	15.8	14.5	63.3	58.1	1	47.0-141			8.44	20
1,1-Dichloroethene	25.0	ND	12.0	11.3	48.0	45.2	1	31.0-148			6.03	20
cis-1,2-Dichloroethene	25.0	31.0	46.8	42.6	63.0	46.3	1	43.0-142			9.37	20
trans-1,2-Dichloroethene	25.0	ND	12.2	11.4	48.8	45.7	1	36.0-141			6.58	20
1,2-Dichloropropane	25.0	ND	18.4	17.3	73.7	69.3	1	51.0-141			6.04	20
cis-1,3-Dichloropropene	25.0	ND	17.9	16.9	71.6	67.8	1	53.0-139			5.45	20
trans-1,3-Dichloropropene	25.0	ND	19.3	17.7	77.1	70.7	1	51.0-143			8.69	20
Ethylbenzene	25.0	ND	18.8	17.3	75.2	69.2	1	42.0-147			8.30	20
2-Hexanone	125	ND	104	96.2	83.6	77.0	1	36.0-145			8.26	23
Isopropylbenzene	25.0	ND	18.7	17.7	74.9	70.6	1	48.0-141			5.87	20
2-Butanone (MEK)	125	ND	85.8	78.1	68.6	62.5	1	12.0-149			9.32	24
Methyl Acetate	125	ND	98.7	82.0	79.0	65.6	1	70.0-130		J6	18.5	20.8
Methyl Cyclohexane	25.0	ND	13.0	12.2	51.9	48.9	1	70.0-130	J6	J6	6.00	20.8
Methylene Chloride	25.0	ND	13.9	13.0	55.5	51.9	1	42.0-135			6.71	20
4-Methyl-2-pentanone (MIBK)	125	ND	113	103	90.7	82.6	1	44.0-160			9.38	22
Methyl tert-butyl ether	25.0	ND	17.7	16.2	70.8	64.9	1	42.0-142			8.74	20
Styrene	25.0	ND	19.1	17.7	76.3	70.9	1	47.0-147			7.28	20
1,1,2,2-Tetrachloroethane	25.0	ND	21.3	19.4	85.1	77.7	1	46.0-149			9.13	20
Tetrachloroethene	25.0	ND	16.0	15.1	64.0	60.3	1	38.0-147			6.06	20
Toluene	25.0	ND	16.4	15.6	65.5	62.2	1	42.0-141			5.15	20
1,1,2-Trichlorotrifluoroethane	25.0	ND	14.6	14.3	58.2	57.3	1	40.0-151			1.54	21
1,2,3-Trichlorobenzene	25.0	ND	20.1	18.2	80.4	73.0	1	45.0-145			9.75	22
1,2,4-Trichlorobenzene	25.0	ND	20.2	18.3	80.8	73.3	1	49.0-147			9.68	21
1,1,1-Trichloroethane	25.0	ND	15.8	15.0	63.1	60.1	1	46.0-140			4.85	20
1,1,2-Trichloroethane	25.0	ND	20.2	18.3	80.8	73.3	1	54.0-139			9.72	20
Trichloroethene	25.0	19.6	34.9	31.8	61.3	48.8	1	32.0-156			9.38	20
Trichlorofluoromethane	25.0	ND	11.3	10.6	45.2	42.6	1	32.0-152			5.85	20
Vinyl chloride	25.0	8.16	16.2	14.7	32.3	26.1	1	24.0-153			10.0	20
Xylenes, Total	75.0	ND	53.1	50.2	70.8	66.9	1	41.0-148			5.61	20
(S) Toluene-d8					*105*	*105*		*80.0-120*				
(S) Dibromofluoromethane					*91.8*	*92.9*		*76.0-123*				
(S) a,a,a-Trifluorotoluene					*104*	*104*		*80.0-120*				
(S) 4-Bromofluorobenzene					*105*	*103*		*80.0-120*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

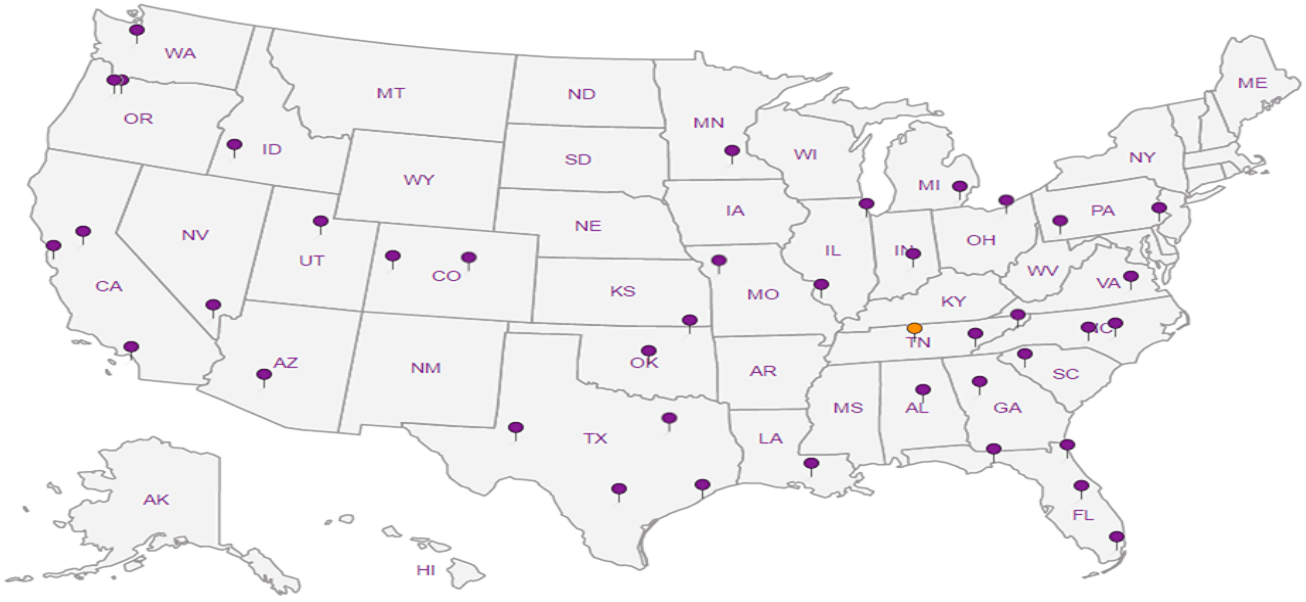
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1.] Drinking Water [2.] Underground Storage Tanks [3.] Aquatic Toxicity [4.] Chemical/Microbiological [5.] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



GHD

285 Delaware Ave.
Suite 500
Buffalo, NY 14202

Report to: **Mr. Dave Rowlinson**

Billing Information:
Mr. Dave Rowlinson
285 Delaware Ave.
Suite 500
Buffalo, NY 14202

Email To: **dave.rowlinson@ghd.com**

Project Description: **815 River Road Site**

City/State Collected: No Tonawanda, NY

Phone: **716-748-6624**
Fax:

Client Project # **11110868-200-**

Lab Project # **STEARNSANY-RIVERRD**

Collected by (print): D Rowlinson

Site/Facility ID # **N. TONAWANDA, NY**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260TCLC 40mlAmb-HCl	V8260TCLC 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
MW-1	G	GW		10/25/17	3:10pm	2	X			-01
MW-2		GW				2	X			-02
FD @ MW-1		GW				2	X			-03
MS @ MW-2		GW				2	X			-02
MSD @ MW-2		GW				2	X			-02
		GW				2	X			
		GW				2	X			
TRIP BLANK		GW				1		X		-03

Chain of Custody Page ___ of ___

ESC LABORATORIES
a subsidiary of Pace Analytical

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L946511

B240

Acctnum: **STEARNSANY**
Template: **T80569**
Prelogin: **P623641**
TSR: 364 - T. Alan Harvill
PB: AS 10-20-17
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS / FedEx __ Courier __ _____

Tracking # 4142 5214 0408

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Dave Rowlinson	10/25/17	4:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.4 °C Bottles Received: 10	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Kate Moffett 346	Date: 10/26/17 Time: 0845	Hold: / Condition: NCF / OK

GHD

285 Delaware Ave.
Suite 500
Buffalo, NY 14202

Report to: **Mr. Dave Rowlinson**

Billing Information:
Mr. Dave Rowlinson
285 Delaware Ave.
Suite 500
Buffalo, NY 14202

Email To: **dave.rowlinson@ghd.com**

Project Description: **815 River Road Site**

City/State Collected: No Tonawanda, NY

Phone: **716-748-6624**
Fax:

Client Project # **11110868-200-**

Lab Project # **STEARNSANY-RIVERRD**

Collected by (print): D Rowlinson

Site/Facility ID # **N. TONAWANDA, NY**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260TCLC 40mlAmb-HCl	V8260TCLC 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
MW-1	G	GW		10/25/17	3:10pm	2	X			-01
MW-2		GW				2	X			-02
FD @ MW-1		GW				2	X			-03
MS @ MW-2		GW				2	X			-02
MSD @ MW-2		GW				2	X			-02
		GW				2	X			
		GW				2	X			
TRIP BLANK		GW				1		X		-03

Chain of Custody Page ___ of ___

ESC LABORATORIES
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12065 Lebanon Rd
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B240

Acctnum: **STEARNSANY**
Template: **T80569**
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TSR: 364 - T. Alan Harvill
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* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS / FedEx __ Courier __ _____

Tracking # 4142 5214 0408

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Dave Rowlinson	10/25/17	4:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.4 °C Bottles Received: 10	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Kate Moffett 346	Date: 10/26/17 Time: 0845	Hold: / Condition: NCF / OK

Appendix C
Data Usability Reporting

Data Usability Summary Report

Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

815 River Rd.
Project # 11110868
ESC Lab Sciences SDG#L946511
December 1, 2017
Reissued; December 19, 2017
Sampling date: 10/25/2017

Prepared by:
Jodi Zimmerman
Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package (reissued; December 19, 2017) for GHD, project located at 815 River Rd., project # 11110868, SDG#L946511, submitted to Vali-Data of WNY, LLC on November 28, 2017. This DUSR has been prepared in general compliance with NYSDEC Analytical Services Protocol and USEPA National Functional Guidelines. The laboratory performed the analysis using USEPA method 8260C (Volatile Organics).

VOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
-Narrative and Data Reporting Forms
-Chain of Custody and Traffic Reports
-Holding Times
-Internal Standard (IS) Area Performance
-Surrogate Spike Recoveries
-Method Blank
-Field Duplicate Sample Precision
-Laboratory Control Samples
-MS/MSD
-Compound Quantitation
-Initial Calibration
-Continuing Calibration
-GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use except where qualified below in Surrogate Spike Recoveries, MS/MSD, Laboratory Control Samples and Continuing Calibration.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met except no MDL study was included. Method Detection limits were recorded on the Form 1's.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met except the temperature of the samples was outside QC limits, low but were

>0°C, so no further action is required.
The pH of MW-2 and MW-2MS/MSD was outside QC limits. These samples were analyzed within 7 days, so no further action is required.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met except the %Rec of Toluene-d_8 was outside ASP QC limits, low in FD AT MW-1. Associated target analytes in this sample should be qualified as estimated.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met except the %RPD of Bromomethane, Chloroethane, Dichlorodifluoromethane, 1,1,2-Trichlorotrifluoroethane and Vinyl chloride was outside QC limits, between R3262284-1 and R3262284-2. These target analytes should be qualified as estimated in the samples and the laboratory control samples.

MS/MSD
All criteria were met except the %Rec of Methyl Cyclohexane and Cyclohexane was outside QC limits, low in MW-2MS/MSD and should be qualified as estimated in MW-2 and MW-2MS/MSD.
The %Rec of Ethylbenzene and Methyl acetate was outside QC limits, low in MW-2MS but within limits in MW-2MSD, so no further action is required.
The %RPD of Bromomethane was outside QC limits between MW-2MS and MW-2MSD and should be qualified as estimated in MW-2 and MW-2MS/MSD.
The %Rec of 1,1-Dichloroethene, Benzene, Chlorobenzene, Toluene and Trichloroethene was outside ASP QC limits, low in MW-2MS/MSD and should be qualified as estimated in MW-2 and MW-2MS/MSD.
Ethylbenzene exceeded the calibration limits in MW-2MS/MSD and is qualified with an 'E'.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met except the RRF of Trichloroethene was outside ASP QC limits in the initial calibration performed on instrument VOCMS28. ASP allows for up to two target analytes to be outside QC limits without further action.
Alternate forms of regression were used on target analytes in which the %RSD >20%, with acceptable results.

CONTINUING CALIBRATION
All criteria were met except the %D of Bromoform was outside QC limits in the calibration verification file #1027_14-1.D. ASP allows for up to two target analytes to be outside QC limits without further action.

The %D of Bromomethane and Chloroethane was outside ASP outer QC limits in the calibration verification file #1029_06. These target analytes should be qualified as estimated in the associated samples, blanks and spikes.

GC/MS PERFORMANCE CHECK

All criteria were met.

Appendix D
IC-EC Certification

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation
625 Broadway, 11th Floor, Albany, NY 12233-7020
P: (518)402-9543 | F: (518)402-9547
www.dec.ny.gov

12/19/2017

Dale Marshall, P.E., City Engineer
City of North Tonawanda
City Hall
216 Payne Ave.
North Tonawanda, NY 14120-5493

Re: Reminder Notice: Site Management Periodic Review Report and IC/EC Certification Submittal
Site Name: 815 River Road Investigation
Site No.: B00178
Site Address: 815 River Road
North Tonawanda, NY 14120

Dear Dale Marshall, P.E.:

This letter serves as a reminder that sites in active Site Management (SM) require the submittal of a periodic progress report. This report, referred to as the Periodic Review Report (PRR), must document the implementation of, and compliance with, site specific SM requirements. Section 6.3(b) of DER-10 *Technical Guidance for Site Investigation and Remediation* (available online at http://www.dec.ny.gov/regulations/67386.html) provides guidance regarding the information that must be included in the PRR. Further, if the site is comprised of multiple parcels, then you as the Certifying Party must arrange to submit one PRR for all parcels that comprise the site. The PRR must be received by the Department no later than **March 03, 2018**. Guidance on the content of a PRR is enclosed.

Site Management is defined in regulation (6 NYCRR 375-1.2(at)) and in Chapter 6 of DER-10. Depending on when the remedial program for your site was completed, SM may be governed by multiple documents (e.g., Operation, Maintenance, and Monitoring Plan; Soil Management Plan) or one comprehensive Site Management Plan.

A Site Management Plan (SMP) may contain one or all of the following elements, as applicable to the site: a plan to maintain institutional controls and/or engineering controls ("IC/EC Plan"); a plan for monitoring the performance and effectiveness of the selected remedy ("Monitoring Plan"); and/or a plan for the operation and maintenance of the selected remedy ("O&M Plan"). Additionally, the technical requirements for SM are stated in the decision document (e.g., Record of Decision) and, in some cases, the legal agreement directing the remediation of the site (e.g., order on consent, voluntary agreement, etc.).

When you submit the PRR (by the due date above), include the enclosed forms documenting that all SM requirements are being met. The Institutional Controls (ICs) portion of the form (Box 6) must be signed by you or your designated representative. If you cannot certify that all SM requirements are being met, you must submit a Corrective Measures Work Plan that identifies the actions to be taken to restore compliance. The work plan must include a schedule to be approved by the Department. The Periodic Review process will not be considered complete until all necessary corrective measures are completed and all required controls are certified. Instructions for completing the certifications are enclosed.

All site-related documents and data, including the PRR, are to be submitted in electronic format to the Department of Environmental Conservation. The Department will not approve the PRR unless all documents and data generated in support of that report have been submitted in accordance with the electronic submissions protocol. In addition, the certification forms are required to be submitted in both paper and electronic formats.

Information on the format of the data submissions can be found at:
http://www.dec.ny.gov/regulations/2586.html

The signed certification forms should be sent to Brian Sadowski, Project Manager, at the following address:

New York State Department of Environmental Conservation
270 Michigan Ave
Buffalo, NY 14203-2915

Phone number: 716-851-7220. E-mail: brian.sadowski@dec.ny.gov

The contact information above is also provided so that you may notify the project manager about upcoming inspections, or for any other questions or concerns that may arise in regard to the site.

Enclosures

PRR General Guidance
Certification Form Instructions
Certification Forms

ec: w/ enclosures
Brian Sadowski, Project Manager
Chad Staniszewski, Hazardous Waste Remediation Engineer, Region 9

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1.1.1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7)**:**

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.

- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **B00178**

Site Name 815 River Road Investigation

Site Address: 815 River Road Zip Code: 14120
City/Town: North Tonawanda
County: Niagara
Site Acreage: 0.9

Reporting Period: February 01, 2017 to February 01, 2018

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

Enclosure 3

Periodic Review Report (PRR) General Guidance

I. Executive Summary: (1/2-page or less)
   A. Provide a brief summary of site, nature and extent of contamination, and remedial history.
   B. Effectiveness of the Remedial Program - Provide overall conclusions regarding;
      1. progress made during the reporting period toward meeting the remedial objectives for the site
      2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.
   C. Compliance
      1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
      2. Propose steps to be taken and a schedule to correct any areas of non-compliance.
   D. Recommendations
      1. recommend whether any changes to the SMP are needed
      2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
      3. recommend whether the requirements for discontinuing site management have been met.

II. Site Overview (one page or less)
   A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.
   B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy that have been made since remedy selection.

III. Evaluate Remedy Performance, Effectiveness, and Protectiveness

Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations and should be presented simply and concisely.

IV. IC/EC Plan Compliance Report (if applicable)
   A. IC/EC Requirements and Compliance
      1. Describe each control, its objective, and how performance of the control is evaluated.
      2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
      3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
      4. Conclusions and recommendations for changes.
   B. IC/EC Certification
      1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).

V. Monitoring Plan Compliance Report (if applicable)
   A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.
   B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.
   C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.
   D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.
   E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.

VI. Operation & Maintenance (O&M) Plan Compliance Report (if applicable)
   A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.
   B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.
   C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated

the ability of each component of the remedy subject to O&M requirements to perform as designed/expected.

D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.

E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify any suggested improvements requiring changes in the O&M Plan.

VII. Overall PRR Conclusions and Recommendations

A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;
   1. whether all requirements of each plan were met during the reporting period
   2. any requirements not met
   3. proposed plans and a schedule for coming into full compliance.

B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.

C. Future PRR Submittals
   1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
   2. If the requirements for site closure have been achieved, contact the Departments Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. Additional Guidance

Additional guidance regarding the preparation and submittal of an acceptable PRR can be obtained from the Departments Project Manager for the site.

SITE NO. B00178

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
181.12-1-19	Metzger Removal, Inc.	Ground Water Use Restriction Site Management Plan Soil Management Plan Monitoring Plan Landuse Restriction IC/EC Plan

An Environmental Easement was filed with the Niagara County Clerk's Office on November 17, 2014. The Controlled Property may be used for commercial and industrial use as long as the following long-term institutional controls are employed: (1) restrict the use of site groundwater as a source of potable or process water without necessary water quality treatment as determined by the NYSDOH or Niagara County Department of Health; (2) all future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the Site Management Plan; and (3) monitoring to assess the performance and effectiveness of the remedy must be conducted as defined in the Site management Plan.

Box 4

Description of Engineering Controls

None Required

Not Applicable/No EC's

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
X	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
X	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. B00178

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Dale W. Marshall (print name) at 216 Payne Ave N. Tonawanda NY (print business address)

am certifying as City Engineer (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Dale W. Marshall
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

1/8/18
Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. .

I, David M. Britton (print name) at 285 Delaware Ave Suite 500 Buffalo, NY 14202 (print business address)

am certifying as a Qualified Environmental Professional for the Owner (Owner or Remedial Party)

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

1/11/2018
Date

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