

Periodic Review Report – 2019/2022

Environmental Restoration Program
Former Service Station Site #E828143
8264 Ridge Road West
Town of Clarkson
Monroe County, New York

Prepared For:



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Executive Summary

The Former Service Station Site #E828143 (hereinafter referred to as the “Site”), located at 8264 Ridge Road West in the Town of Clarkson, Monroe County, New York is a 0.71-acre parcel (Figure 1). The Town of Clarkson acquired the Site through foreclosure in 2008 and is the current owner. The Site was historically used as an automotive service and gasoline station for at least 50 years and contained four (4) abandoned underground storage tanks (USTs). All structures and USTs were removed in May 2009 as interim remedial measures (IRMs) as part of a Remedial Investigation (RI). This Periodic Review Report (PRR) covers events and activities conducted at the Site from 2019 to 2022.

The effectiveness of the remedial program as outlined in the Site Management Plan (SMP) was monitored through annual groundwater sampling, soil and stone cover system monitoring and a Site-wide inspection until 2019. Based on consistent performance, New York State Department of Environmental Conservation (NYSDEC) modified the reporting period to a triennial program (Attachment D). Post-remedial groundwater sampling results indicate that residual levels of dissolved phase volatile organics persist in groundwater down-gradient of the former USTs.

Laboratory analysis of groundwater samples collected during this reporting period detected concentrations of one (1) volatile organic compound (VOC) (Benzene) in exceedance of 6 NYCRR Part 703.5 Class GA Groundwater Standards at one (1) sample location (MW-04). A complete summary of analytical results can be found in Table 1.

Implemented remedies to manage residual contamination are effective, protective, and are progressing towards the remedial action objectives. The Institutional and Engineering Controls (ICs and ECs) and procedures outlined in the Monitoring Plan and Operation and Maintenance Plan were complied with during this reporting period.



1.0 Periodic Review Report

This PRR was prepared by Lu Engineers, on behalf of the Town of Clarkson, in accordance with the requirements set forth in NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation, dated May 2010 and the guidelines provided by the NYSDEC. The first PRR was required eighteen (18) months after the issuance of the Release and Covenant. The reporting period for this PRR is from November 21, 2019 to November 21, 2022. The following items are included in this PRR:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site;
- Results of the Site inspection and sampling events including applicable inspection forms and other records generated for the Site during the reporting period;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables of groundwater contaminants of concern by media;
- Laboratory analysis results, and the required laboratory data deliverables for each sample collected during the reporting period have been and will continue to be submitted electronically in a NYSDEC-approved EQulS format;
- A Site evaluation, which includes the following:
 - I. The compliance of the remedy with the requirements of the Site-specific Record of Decision (ROD);
 - II. The operation and the effectiveness of each treatment unit, including identification of any needed repairs or modifications;
 - III. Any new conclusions or observations regarding Site contamination based on inspection or lab data generated during the monitoring events;
 - IV. Recommendations regarding any necessary changes to the remedy and/or SMP; and
 - V. The overall performance and effectiveness of the remedy to date.

2.0 Site Overview

The Site is located in the Town of Clarkson, Monroe County, New York and is identified as block 0.54.14 and Lot 21 on the Town of Clarkson Tax Map. The Site is a 0.697-acre parcel bounded by undeveloped land to the north, Ridge Road West (NYS Route 104) to the south, a residence to the east and a drainage ditch and commercial property to the west (Figure 1).

From 1930 to the early 1970s, the Site was used as a retail gas station which included underground storage of petroleum. The masonry body shop/garage was constructed in the 1930s or 1940s and was used for vehicle maintenance operations until the late 1990s. Prior owners of the Site include: Webaco Oil Company (1953-1974), Charles C. Thomas (1974-2002), and Commercial Property Holdings, LLC (2002-2008). The Town of Clarkson acquired the Site during a foreclosure in April 2008.

Several Recognized Environmental Conditions (RECs) were identified during a Phase I Environmental Site Assessment (ESA) completed by Lu Engineers for the Town of Clarkson in February 2007. A Remedial Investigation (RI) was conducted by Lu Engineers between 2009-2010 to characterize the nature and extent of contamination at the Site.



Three (3) 2,000-gallon gasoline USTs, located on the southwest corner of the Site, and one (1) 1,000-gallon UST were identified during the investigation. The tanks were partially filled with a water/gasoline mixture. A 275-gallon aboveground fuel tank was located adjacent to the garage.

Subsurface soil analytical results detected concentrations of polycyclic aromatic hydrocarbons (PAHs) and metals (arsenic, barium, copper, lead, and mercury) exceeding 6 NYCRR Part 375-6.8(b) Commercial Use Soil Cleanup Objectives (SCOs). The source of the PAHs and metals was attributed to historical fill material placed on the Site. Petroleum impacts are inferred to extend off-Site into the Route 104 right-of-way. Areas of soil and sediment in exceedance of Commercial Use SCOs were covered as an IRM during the investigation.

Petroleum-related VOCs (benzene, toluene, ethylbenzene and xylene) associated with the former gas station and USTs were detected during the September 2009 baseline groundwater sampling event on the southwest portion of the Site. Three (3) on-Site wells (MW-01, MW-02, MW-04) contained concentrations exceeding NYS Part 703.5 Class GA AWGS. The highest levels were detected in MW-04, which is located down-gradient from the former USTs. Pesticide concentrations were identified in groundwater at levels exceeding 6 NYCRR Part 703 Class GA drinking water standards in two (2) wells. Based on the findings of the RI, it is inferred that no off-Site groundwater contamination has occurred.

Remedial activities were completed at the Site between 2009 and 2010 in accordance with the NYSDEC-approved Interim Remedial Measures Work Plan, dated January 2009, and the IRM Work Plan Addendum Letter, dated September 2, 2010. The IRM consisted of the following:

- Hazardous material removal/disposal;
- Asbestos abatement;
- Building demolition, slab removal and hydraulic lift removal;
- Pump island removal;
- Removal of three (3) 2,000-gallon and one (1) 1,000-gallon gasoline USTs;
- Excavation and disposal of 368 tons of petroleum-impacted soil;
- Placement of soil cover system to prevent human exposure to contaminated soil/fill; and
- Placement of a stone cover system in the adjoining creek bed to prevent human exposure and off-Site migration of contaminated drainage channel sediments at the Site.

No potential soil vapor intrusion pathways were identified during the investigation; therefore, vapor intrusion sampling was not conducted.

The SMP requires Institutional Controls (ICs) in the form of an environmental easement that entails a) limiting the use and development of the Site to commercial or industrial use; b) compliance with the approved SMP; c) restriction on the use of groundwater as a source of potable water, without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH); and d) the Site owner or remedial party to complete and submit a triennial certification of Institutional and Engineering Controls (ICs/ECs).



Long term management of the remaining contamination, as required by the Record of Decision (ROD) include the following plans for ECs; 1) Monitoring; 2) Operation and Maintenance; and 3) Reporting. The specific ECS implemented at the Site include: a) annual groundwater sampling of monitoring wells MW-01, MW-03 and MW-04 for VOCs, modified to a triennial program in 2019; and b) management and inspection of the existing soil cover system.

3.0 Remedy Performance, Effectiveness, and Protectiveness

Post-remedial groundwater sampling indicates that low-level residual groundwater contamination persists at the Site since completion of the IRM. Six (6) annual and one (1) triennial (starting in 2019) post-remedial sampling events were conducted in accordance with and as outlined in the SMP on:

- September 16, 2009
- May 19, 2015
- October 26, 2016
- September 19, 2017
- November 20, 2018
- September 19, 2019
- August 2, 2022

Table 1 (refer to attachments) illustrates concentrations of VOCs present in groundwater before and following implementation of the remedial program in May 2009. Figure 2 shows analytical exceedances and the groundwater contour for the triennial sampling event documented in this report. Concentrations in groundwater samples were compared to the applicable 6 NYCRR Part 703.5 Class GA Groundwater Standards. Analytical reports are provided in Attachment C.

VOC concentrations at the Site have historically fluctuated. Decreased VOC concentrations were observed in the May 2015 and October 2016 post-remedial groundwater sampling events when compared to results obtained from September 2009 baseline sampling.

Samples from MW-01 and MW-04 exhibited increased benzene concentrations during the September 2017 round of groundwater sampling. VOC concentrations at MW-04, specifically 1,3,5-trimethylbenzene, isopropylbenzene and n-propylbenzene, increased to levels in exceedance of 6 NYCRR Part 703.5 Class GA Groundwater Standards between the 2017 and 2018 sampling rounds.

Exceedances of the 2018 sampling were not detected in MW-04 during September 2019 sampling. However, concentrations of Toluene and Benzene increased to levels in exceedance of 6 NYCRR Part 703.5 Class GA Groundwater Standards. As of the August 2022 sampling round, only benzene remains at a concentration above the standard of 1 ug/l.

Groundwater samples have not been analyzed for metals, SVOCs, pesticides or PCBs since 2015 in accordance with the NYSDEC approved SMP. It is noted that MW-02 appeared to be destroyed during the Site cover activities conducted in 2015. Attempts to locate MW-02 during the May 2015 groundwater sampling event were unsuccessful; therefore, MW-03 has been sampled in subsequent sampling events, per discussion with NYSDEC.



The ICs established for the Site continue to be in compliance with the SMP. Though residual contamination exists in soil and groundwater, these controls reduce the potential for human exposure. The ECs established for the Site are also effective in limiting the potential for human exposure to known Site contaminants.

4.0 Institutional Controls/Engineering Controls Plan Compliance

Since remaining contaminated soil and groundwater exists beneath the Site, ICs/ECs are required to protect public health and the environment. The IC/EC Plan is one (1) component of the SMP and is subject to revision by NYSDEC.

Institutional Controls (ICs)

A series of ICs is required by the Record of Decision (ROD) to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and (3) limit the use and development of the Site to commercial and industrial uses only. Adherence to these Institutional Controls on the Site is required by the Environmental Easement and will be implemented under the Site Management Plan. These requirements are:

- Compliance with the Environmental Easement and the SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP;

ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

The Site has a series of ICs in the form of Site restrictions. Adherence to these ICs is required by the Environmental Easement. These ICs include:

- The property may only be used for commercial or industrial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.
- The property may not be used for a higher level of use, such as unrestricted or residential use, without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of groundwater underlying the property is prohibited without treatment rendering it safe for intended use;
- The potential for vapor intrusion must be evaluated for any buildings developed on the Site and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the property are prohibited;
- The Site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that:



(1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted triennially, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable; and

- Triennial groundwater monitoring will be conducted to assess the performance and effectiveness of the remedy, in accordance with the SMP.

Engineering Controls (ECs)

- Soil Cover System (Cap) – Exposure to remaining contamination in subsurface soil/fill at the Site is prevented by a soil cover system placed over the Site (the “Cap”). This cover system is comprised of clean soil, asphalt pavement and/or stone. Procedures for maintaining the Cap are documented in the Operation and Maintenance Plan in Section 4 of the SMP.

The Excavation Work Plan (EWP) in Appendix A of the SMP outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection, maintenance and monitoring of this cover are provided in the Monitoring Plan included in Section 4 of the SMP.

In general, the Cap was in good condition as indicated on the Site Inspection Form (Attachment A). The Clarkson Highway Department replaced the creek bed lining and added a new stone cover in December 2015, with full replacement completed in January 2016.

The Site inspection for September 2019 showed the creek bed lining to be in fair condition and in compliance with the SMP requirements. The well casing of MW-04 was repaired by the Town of Clarkson to facilitate continued future access. Well elevations were re-established by conventional survey methods upon completion of the repair.

Based on the 2022 Site Inspection, the Site Cap and creek bed lining are in compliance with the SMP requirements. No structures have been constructed on Site since the previous inspection and no change of use has occurred on Site since the last certification.

The required IC/EC certification has been completed as a component of this report and a copy is included as Attachment D.

5.0 Monitoring Plan Compliance Report

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the Site, the soil cover system, and all affected Site media identified in the table below.



Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Groundwater Monitoring	Triennial	Groundwater	EPA Method 8260 VOCs
Cover System Monitoring	Triennial	Soil/Stone Cover System (creek bed)	Visual inspection; determine whether maintenance is required

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

Monitoring activities completed during this reporting period (2022) included the following:

- Triennial groundwater sampling of Site wells MW-01, MW-03, and MW-04
- Triennial of the Site soil/stone cover system

Groundwater Sampling

The following table summarizes the details of the groundwater sampling program to be completed during each triennial sampling event.

Media Sampling and Analysis Summary

Sample Type	Sample Location	Analytical Parameters	Frequency	QA/QC	Total
Groundwater	MW-01, MW-03, MW-04	TCL VOCs plus CP-51 list compounds by EPA Method 8260	Triennial	N/A	3

Site wells were sampled on August 2, 2022 using low flow sampling methods per procedures outlined in the SMP. Groundwater quality measurements including temperature, turbidity, pH, conductivity and oxidation reduction potential (ORP) were collected during the purging process at each well. Purge water from each well was released to the ground surface near the well. At each well, samples were collected for analysis of TCL VOCs plus CP-51 list compounds by EPA Method 8260B. Groundwater sampling logs are included as Attachment B of this report.

Samples were analyzed by Paradigm Environmental Services, Inc., a New York State Department of Health Environmental Laboratory Approval Program (ELAP) - certified laboratory located in Rochester, New York. Sampling methods and QA/QC measures were adhered to as outlined in the approved SMP.

6.0 Results

Results of the groundwater sampling conducted during this period are summarized in Table 1 and in Figure 2. Table 1 presents analytical results of constituents detected in groundwater since the September 2009 baseline groundwater sampling event in comparison to applicable 6 NYCRR Part 703.5 standards. Figure 2 illustrates detected analytical exceedances from each sample collected during this reporting period. Figure 2 also presents groundwater contours based on water level measurements collected at each monitoring well. It is noted groundwater generally flows to the north.

The following sections summarize the analytical results for each year within this reporting period as well as previous periods for reference:



2009

Elevated concentrations of petroleum-related VOCs in September 2009 were detected in MW-01, MW-02 and MW-04, with MW-04 having the highest concentrations. Concentrations of metals, including barium, exceeding NYS Ambient Groundwater Standard or applicable NYSDEC guidance value were identified in all wells. Sample results from MW-01 and MW-03 indicated elevated concentrations of pesticides exceeding NYSDEC Guidance Values. Phenol was detected in MW-04 at a level not exceeding NYSDEC guidance values. PCBs were not detected in any of the wells.

2015

VOC concentrations declined between September 2009 and May 2015 in MW-01, MW-03 and MW-04. Concentration levels of petroleum-related VOCs in MW-04 continue to exceed applicable groundwater standards. MW-02 was not located and therefore not sampled during this event. In 2015 and subsequent sampling rounds, analysis for SVOCs, PCBS, metals and pesticides is no longer required per the SMP.

2016

VOC concentrations declined between May 2015 and October 2016 in MW-01, MW-03, and MW-04. Concentration levels of two (2) petroleum-related VOCs (benzene and sec-butylbenzene) in MW-04 continue to exceed groundwater standards; however, the levels have shown a significant decrease since previous sample results with the exception of a slight increase in sec-butylbenzene.

2017

The concentration level of benzene, a petroleum-related VOC, in MW-04 continued to exceed NYS Groundwater Standards and had increased slightly between October 2016 and September 2017. Benzene concentrations in MW-01, previously non-detectable, was also detected in exceedance of NYS Groundwater Standards. It is noted the 2017 benzene detection in MW-01 was higher than levels previously observed in baseline sampling. No exceedances were detected in MW-03.

2018

Previously observed benzene exceedances detected at MW-01 and MW-04 in September 2017 were not present during November 2018 sampling. MW-01 and MW-03 exhibited no 6 NYCRR Part 703.5 exceedances; samples collected from MW-04 contained concentrations of 1,3,5-trimethylbenzene, isopropylbenzene and n-Propylbenzene above 6 NYCRR Part 703.5 standards.

2019

Exceedances of 1,3,5-trimethylbenzene, isopropylbenzene, and n-propylbenzene in MW-04 observed in previous sampling (2018) were not present in September 2019 results. Concentration levels of two (2) petroleum-related VOCs (benzene and toluene) in MW-04 were detected above 6 NYCRR Part 703.5 standards; however, the levels of benzene have shown a significant decreasing trend consistent across all sampling periods with the exception of 2018. It was noted that MW-04 has been repaired following the recommendations of the 2018 PRR.

2022

Exceedance of toluene in MW-04 observed in previous sampling (2019) was not present in August 2022 results. Concentration levels of one (1) petroleum-related VOCs (benzene) in MW-04 were detected above 6 NYCRR Part 703.5 standards; benzene was detected at a higher concentration compared to September 2019 analytical results.



All laboratory analytical data is included as Attachment C of this report. Analytical results of groundwater sampling conducted during this period are summarized in Table 1 and in Figure 2.

7.0 Operation and Maintenance Plan Compliance Report

ECs in place at the Site are the soil cover system, referred to as the “Cap.” Operation and maintenance is limited to periodic inspection of the Cap, which is documented using the Site Inspection Form. Copies of the Site Inspection Form are included as Attachment A in this report. The Operation and Maintenance Plan located in the SMP describes the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the Site. Descriptions of the Cap inspections and conditions are provided in Section 4.0 of this report.

8.0 Conclusions and Recommendations

IC/EC Compliance

The requirements and regulations set forth in the SMP for ICs were complied with during this reporting period. This includes the following:

Land Use Restriction – The Site is currently vacant and has met the requirements of this restriction in this reporting period.

Groundwater Use Restriction – The Site is currently vacant and does not use Site groundwater in any capacity, therefore meeting the requirements of this restriction in this reporting period.

Site Management Plan (SMP) – The Site is currently in compliance with all components of the Site-specific SMP and all requirements have been met during this reporting period.

The requirements set forth in the SMP for all ECs were met during this reporting period. This includes the following:

Soil Cover System (Cap) – The Site Cap was in compliance with the SMP during this reporting period. The Site Inspection Form and associated photographs illustrating compliance are included as Attachments A and E, respectively, of this report.

Based on the documented fluctuation of VOC concentrations at the site over time, it is recommended that no action be taken to address the exceedance observed in 2022. Results should continue to be reviewed and compared to previous sampling results, triennially.

The previously discussed Site-specific ICs and ECs for the Site continue to meet the remedial objectives while establishing protection of public health and the environment. The continued effectiveness of the ICs/ECs have allowed the remedial objectives at the Site to be met for this reporting period.

It is recommended that the next PRR be submitted approximately three (3) years from submittal of this PRR and anticipated sampling event during the fourth quarter of 2025.

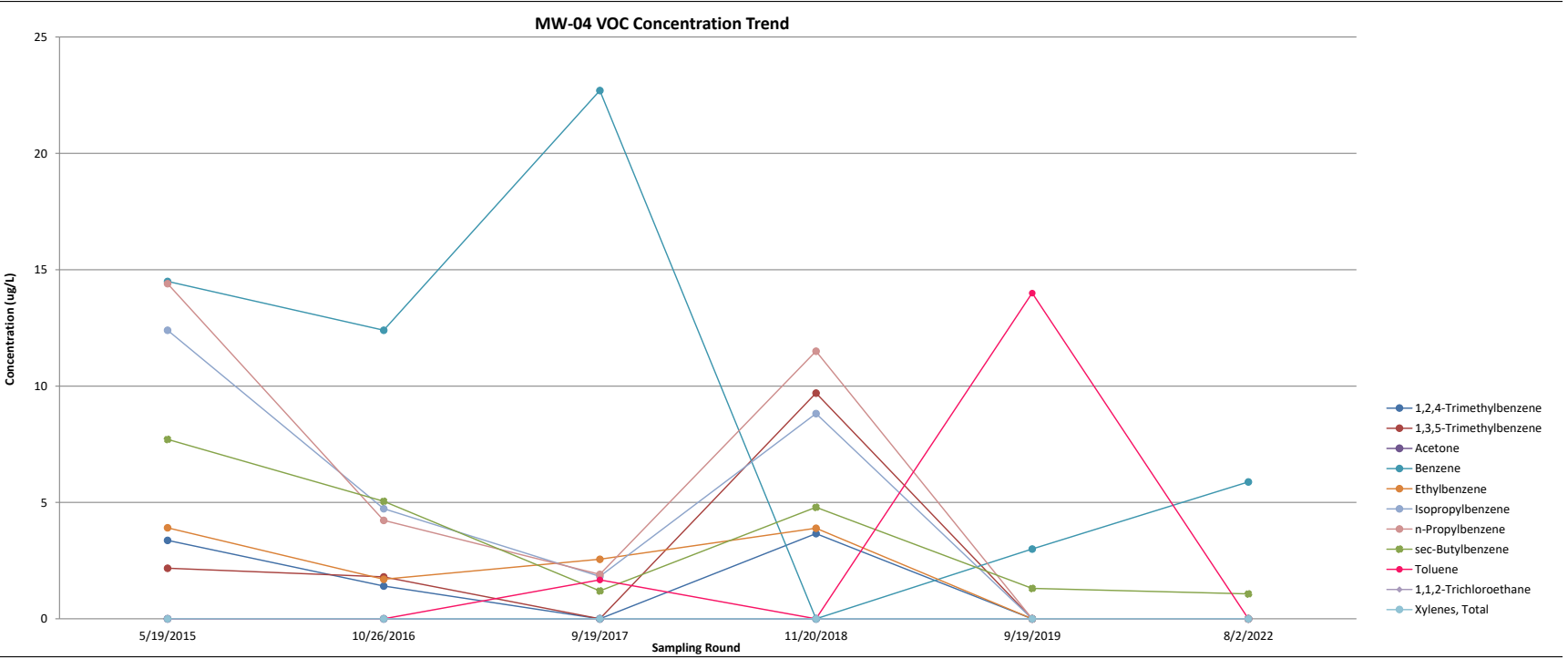


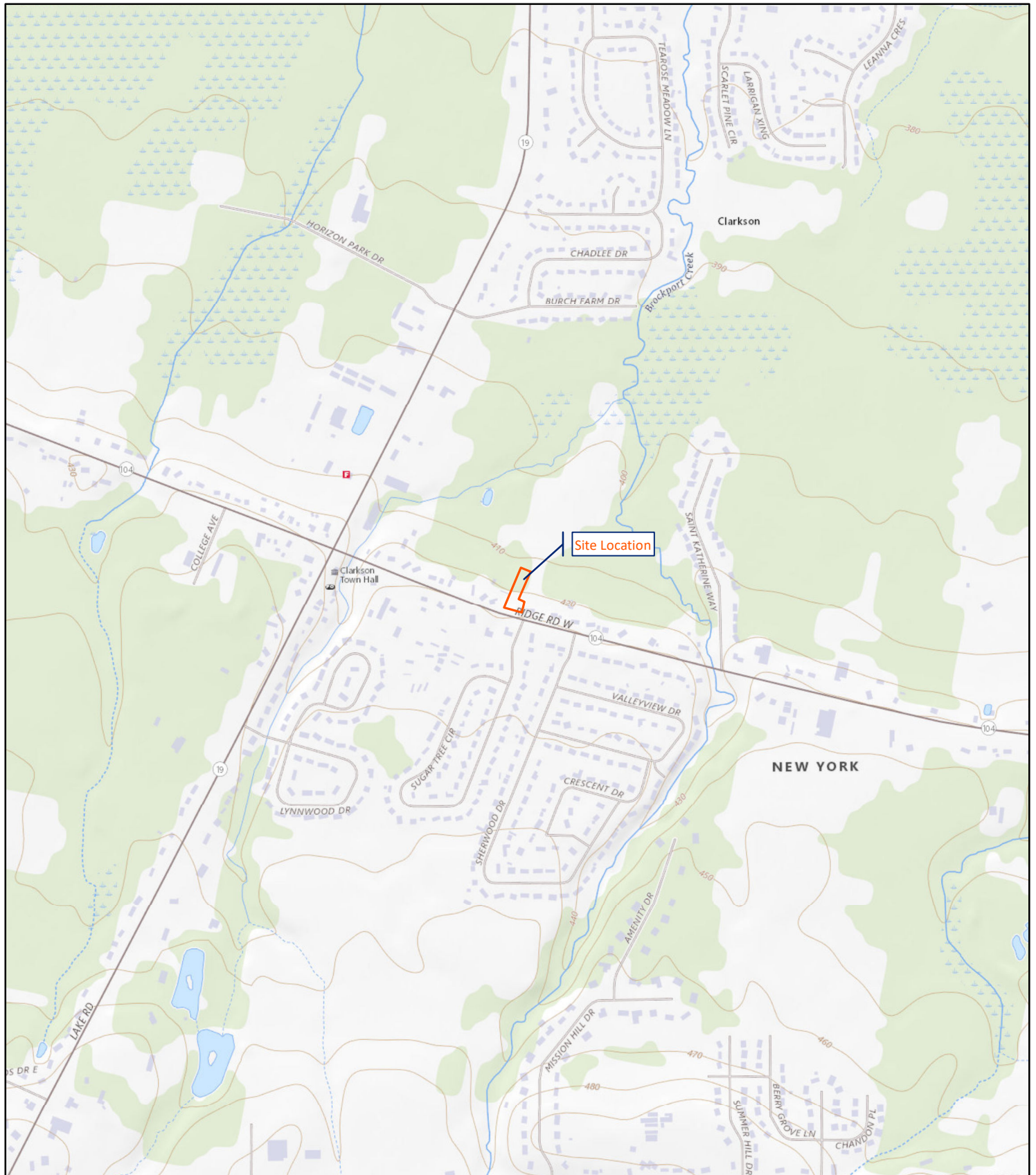
Former Service Station Site (#E828143)
Summary of Validated Analytical Results

Detected Parameters ¹	NYS Groundwater Standard ²	MW-01 9/16/2009	MW-01 5/19/2015	MW-01 10/26/2016	MW-01 9/19/2017	MW-01 11/20/2018	MW-01 9/19/2019	MW-01 8/2/2022	MW-02 9/17/2009	MW-02 5/19/2015	MW-02 10/26/2016	MW-02 9/19/2017	MW-02 11/20/2018	MW-02 9/19/2019	MW-02 8/2/2022	MW-03 9/16/2009	MW-03 5/19/2015	MW-03 10/26/2016	MW-03 9/19/2017	MW-03 11/20/18	MW-03 9/19/2019	MW-03 8/2/2022	MW-04 9/16/2009	MW-04 5/19/2015	MW-04 10/26/2016	MW-04 9/19/2017	MW-04 11/20/18	MW-04 9/19/2019	MW-04 8/2/2022
EPA 8260 - Volatile Organics																													
1,2,4-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND							0.76 J	ND	ND	ND	ND	ND	ND	16.0 J	3.37	1.41 J	ND	3.66	ND	ND
1,3,5-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	2.17	1.80 J	ND	9.7	ND	ND
Acetone	50*	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	78.7 J	ND	ND	ND	ND	ND	ND
Benzene	1	15.3	ND	ND	29	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	353	14.5	12.4	22.7	ND	3	5.88
Bromodichloromethane	50*	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50*	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone (2-butanone)	50*	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	60*	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	2.72							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	N/A	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	N/A	ND	ND	ND	46.1	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	24.3	7.12 J	70	ND	ND
Dibromochloromethane	50*	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	N/A	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	3.2	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	30.2	3.91	1.70 J	2.56	3.89	ND	ND
2-Hexanone	50*	ND	ND	ND	ND	ND	ND	ND	ND							4.23 J,B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	2.97	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	10.0 J	12.4	4.73	1.82 J	8.82	ND	ND
m/p-Xylenes	N/A	ND	ND	ND	1.9 J	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	25.2	3.04	1.91 J	1.32 J	ND	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	N/A	ND	ND	ND	ND	ND	ND	ND	ND							3.78 J,B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	N/A	ND	ND	ND	26.8	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	23.4	3.48	102	ND	4.62
Methyl-Tert-Butyl Ether (MTBE)	10*	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	5	ND	ND	ND	3.15	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	8.00 J	14.4	4.23	1.91 J	11.5	ND	ND
Naphthalene	10 ³	1.04 J,B	ND	ND	ND	ND	ND	ND	ND							2.24 J,B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.79	ND	ND
o-Xylene	N/A	ND	ND	ND	ND	ND	ND	ND	ND							0.53 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	5	ND	ND	ND	2.32	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	7.71	5.05	1.20 J	4.79	1.31	1.07 J
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	2.83	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	1.39	ND	ND	ND	ND
Toluene	5	ND	ND	ND	2.19	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	20.3	ND	ND	1.67 J	ND	14	ND
p-Isopropyltoluene	N/A	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	2.1	1.10 J	ND	3.48	ND	ND
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	26.0	ND	ND	ND	ND	ND	ND
Trichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	N/A	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	2	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, Total	5	ND	ND	ND	ND	ND	ND	ND	ND							ND	ND	ND	ND	ND	ND	ND	25.2	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	ND	ND			ND	ND	ND	ND							ND	ND			ND	ND	ND	ND	ND			ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND			ND	ND	ND	ND							ND	ND			ND	ND	ND	ND	ND			ND	ND	ND

1 all values shown in micrograms per liter (ug/L)
2- NYS Ambient Groundwater Standard (6 NYCRR Part 703.5)
* - NYSDEC Guidance Value (TOGS 1.1.1)
J- value is estimated
B- compound detected in associated method blank

N- compound was "tentatively identified"
M- matrix spike recoveries outside QC limits; matrix bias indicated
ND - compound not detected
well not sampled/analysis not performed at this location
value detected above NYS Ambient Groundwater Standard or applicable NYSDEC Guidance Value





1 inch = 1,000 feet

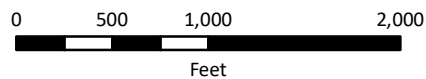


Figure1. Site Location Map
Former Service Station
8264 Ridge Road West
Town of Clarkson Monroe County, NY

DATE: August 2022

PROJECT #: 40503-02

DRAWN/CHECKED: KM/GLA

DATA SOURCE:
ESRI online basemap

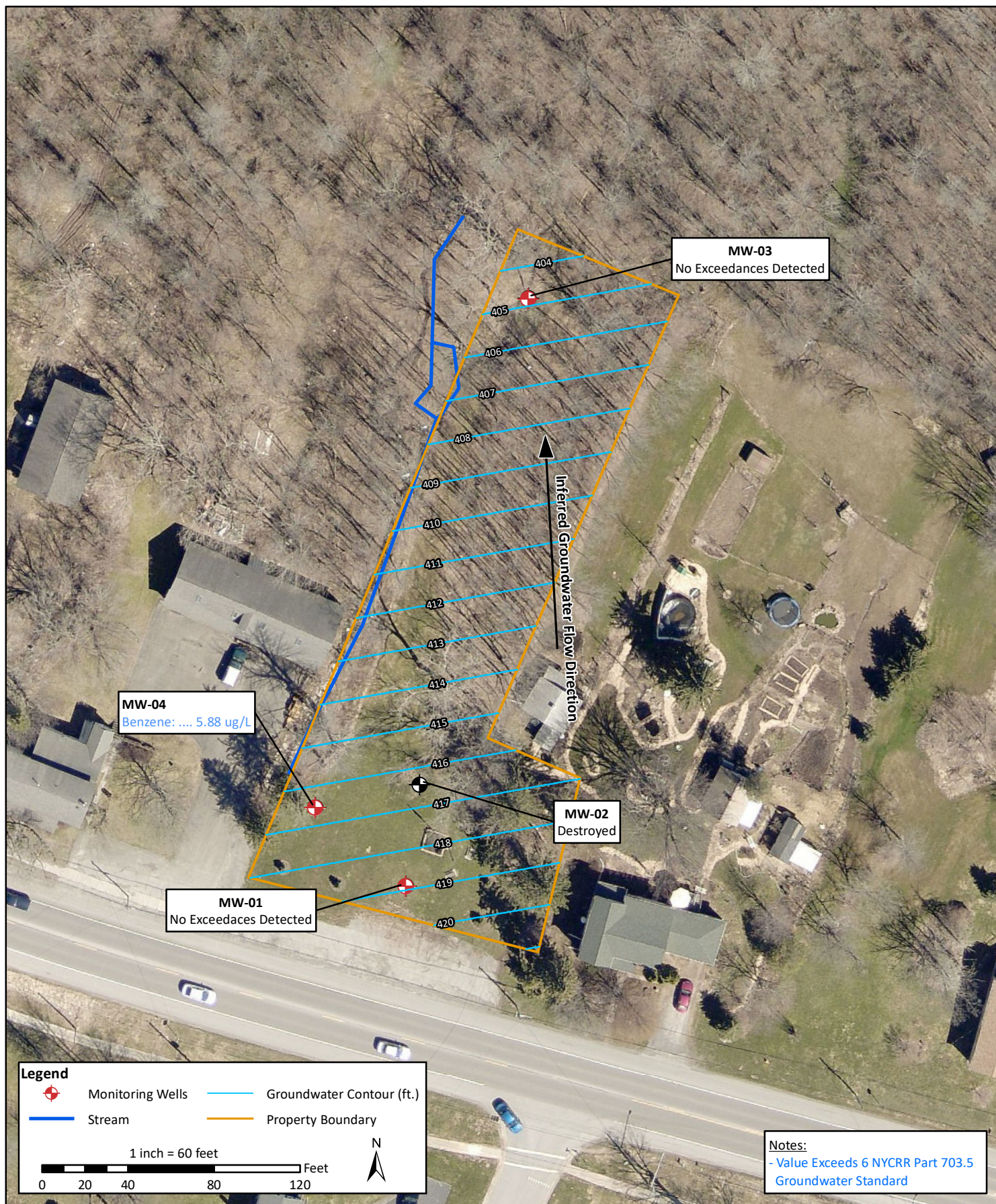


Figure 2. Groundwater Analytical Results August 2022
Former Service Station
8264 Ridge Road West
Town of Clarkson Monroe County, NY

Attachment A- Site Inspection Forms

SITE-WIDE INSPECTION FORM

Former Service Station Site E828143

Town of Clarkson, Monroe County

NAME OF INSPECTOR: Klajdi Macolli

COMPANY OF INSPECTOR: W Engineers

DATE OF INSPECTION: 08/02/2022

CURRENT USE OF SITE: Veteran's Park

HAS A CHANGE OF USE OCCURRED SINCE THE LAST CERTIFICATION?

YES X NO

IF YES, THEN EXPLAIN: _____

GENERAL DESCRIPTION OF COVER: Grass is well maintained, healthy appearance

HAS THE COVER BEEN PENETRATED? X YES NO

IF YES, THEN EXPLAIN: Material removed to uncover MW-01. Material replaced after sampling

HAVE ANY STRUCTURES BEEN CONSTRUCTED ON THE SITE SINCE THE LAST INSPECTION? YES X NO

IF YES, THEN EXPLAIN: _____

HAVE COVER CONDITIONS CHANGED SINCE THE LAST INSPECTION?

YES X NO

IF YES, THEN EXPLAIN: _____

IS ANY MAINTENANCE OF THE COVER REQUIRED?

 X YES NO

IF YES, THEN EXPLAIN: Mowing when needed.

ADDITIONAL OBSERVATIONS, CONCLUSIONS OR RECOMMENDATIONS:

ANY CHANGES TO THE SITE OR REQUIRED MAINTENANCE SHOULD BE
MARKED IN THE CORRESPONDING LOCATION ON THE ATTACHED MAP

Attachment B- Groundwater Sample Logs

Low Flow Groundwater Sampling Field Record



Project Name Clarkson ERP
Location ID MW-01
Activity Time 10:40

Field Sample ID MW-01
Sample Time 11:05

Job # 40503-02
Sampling Event #
Date 08/02/22

SAMPLING NOTES

Initial Depth to Water 11.90 feet
Final Depth to Water 14.76 feet
Screen Length _____ feet
Total Volume Purged 4 gallons
Measurement Point Mark
Well Depth 21.70 feet
Pump Intake Depth _____
PID Well Head N/A

Well Diameter 2"
Well Integrity:
Cap ✓
Casing ✓
Locked X
Collar ✓

[purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter]

Volume of Water in casing – 2" diameter = 0.163 gallons per foot of depth, 4" diameter = 0.653 gallons per foot of depth

Purge Estimate: 4 gallons

PURGE DATA

Time	Depth to Water (ft)	Purge Rate (ml/min)	Temp. (deg. C)	pH (units)	Dissolved O2 (mg/L)	Turbidity (NTU)	Cond. (mS/cm)	ORP (mV)	Comments
10:40	12.60		12.8	7.01	2.96	17.7	4.76	196.0	
10:45	13.23		13.2	7.04	2.57	17.9	4.72	179.7	
10:50	13.54		13.1	7.02	2.78	11.9	4.84	166.3	
10:55	13.61		13.1	7.02	2.66	7.87	4.82	156.2	
11:00	13.82		13.0	7.03	2.36	4.86	4.70	133.6	
11:05	14.76		13.0	7.04	2.31	5.20	4.64	143.7	

Purge Observations: No screen, no odor

Purge Water Containerized: N/A No

EQUIPMENT DOCUMENTATION

Type of Pump: Geopump
Type of Tubing: 1/4" HDPE
Type of Water Quality Meter: Ysi, Lamotte

Calibrated: Yes

ANALYTICAL PARAMETERS

Parameter Volumes Sample Collected ✓
VOCs

LOCATION NOTES

Low Flow Groundwater Sampling Field Record

Project Name Clarkson ERP
Location ID MW-03
Activity Time 9:20 AM

Field Sample ID MW-03
Sample Time 9:50 AM

Job # 40503-02
Sampling Event #
Date 08/02/22

SAMPLING NOTES

Initial Depth to Water 15.41 feet
Final Depth to Water 15.97 feet
Screen Length feet
Total Volume Purged 2.0 gallons
Measurement Point Mark
Well Depth 19.11 feet
Pump Intake Depth
PID Well Head N/A
Well Diameter 2
Well Integrity:
Cap ✓
Casing ✓
Locked X
Collar
[purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter]
Volume of Water in casing – 2" diameter = 0.163 gallons per foot of depth, 4" diameter = 0.653 gallons per foot of depth
Purge Estimate: 2.5 gallons

PURGE DATA

Time	Depth to Water (ft)	Purge Rate (ml/min)	Temp. (deg. C)	pH (units)	Dissolved O2 (mg/L)	Turbidity (NTU)	Cond. (mS/cm)	ORP (mV)	Comments
9:25	15.58		15.2	6.79	1.59	Overrange	2.21	158.6	
9:30	15.79		12.1	6.90	1.11	43.7	2.22	149.7	
9:35	15.81		12.3	6.91	1.10	17.6	2.23	148.9	
9:40	15.89		12.2	6.92	1.09	9.41	2.22	148.6	
9:45	15.97		11.7	6.93	1.06	7.62	2.24	147.9	
9:50	15.97		11.8	6.93	1.03	3.11	2.22	146.7	

Purge Observations: No odor
Purge Water Containerized: No

EQUIPMENT DOCUMENTATION

Type of Pump: Geopump
Type of Tubing: 1/4" HDPE
Type of Water Quality Meter: Lamotte, ysi

Calibrated: Yes

ANALYTICAL PARAMETERS

Parameter	Volumes	Sample Collected
VOCs		<u>✓</u>

LOCATION NOTES

Low Flow Groundwater Sampling Field Record



Project Name Clarkson ERP
Location ID NW-04
Activity Time 11:40 PM

Field Sample ID MW-04
Sample Time 12:05 PM

Job # 40503 ~ 02
Sampling Event # ---
Date 08/02/22

SAMPLING NOTES

Initial Depth to Water 12.75 feet
Final Depth to Water 16.30 feet
Screen Length feet
Total Volume Purged 2.5 gallons
Measurement Point N
Well Depth 18.85 feet
Pump Intake Depth
PID Well Head N/A

Well Diameter 2'
Well Integrity:
Cap
Casing
Locked X
Collar

[purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter]

Volume of Water in casing - 2" diameter = 0.163 gallons per foot of depth, 4" diameter = 0.653 gallons per foot of depth

Purge Estimate: 8 gallons

PURGE DATA

Time	Depth to Water (ft)	Purge Rate (ml/min)	Temp. (deg. C)	pH (units)	Dissolved O2 (mg/L)	Turbidity (NTU)	Cond. (mS/cm)	ORP (mV)	Comments
11:45	13.48		12.9	6.88	0.53	60.4	2.50	-150.3	
11:50	14.05		12.9	6.87	0.42	12.1	2.43	-140.9	
11:55	14.87		12.9	6.85	0.33	6.39	2.46	-138.4	
12:00	15.47		12.0	6.85	0.31	4.26	2.47	-136.9	
12:05	16.30		13.0	6.84	0.36	3.10	2.51	-135.7	

Purge Observations: Sulfur odor

Purge Water Containerized: No

EQUIPMENT DOCUMENTATION

Type of Pump: Geopump
Type of Tubing: 1/4" HDPE
Type of Water Quality Meter: YSI, Lamotte

Calibrated: Yes

ANALYTICAL PARAMETERS

Parameter Volumes Sample Collected
VOCs

LOCATION NOTES

Attachment C- Laboratory Analytical Data



PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For
Lu Engineers, Inc.

For Lab Project ID

223659

Referencing

40503-02

Prepared

Friday, August 5, 2022

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

A handwritten signature in blue ink, appearing to read "K. Blansen", is written over a horizontal line.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Friday, August 5, 2022

Page 1 of 20



Lab Project ID: 223659

Client: **Lu Engineers, Inc.**

Project Reference: 40503-02

Sample Identifier: MW-01-080222

Lab Sample ID: 223659-01

Date Sampled 8/2/2022 11:05

Matrix: Groundwater

Date Received 8/2/2022

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		8/3/2022 13:28
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		8/3/2022 13:28
1,1,2-Trichloroethane	< 2.00	ug/L		8/3/2022 13:28
1,1-Dichloroethane	< 2.00	ug/L		8/3/2022 13:28
1,1-Dichloroethene	< 2.00	ug/L		8/3/2022 13:28
1,2,3-Trichlorobenzene	< 5.00	ug/L		8/3/2022 13:28
1,2,4-Trichlorobenzene	< 5.00	ug/L		8/3/2022 13:28
1,2,4-Trimethylbenzene	< 2.00	ug/L		8/3/2022 13:28
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		8/3/2022 13:28
1,2-Dibromoethane	< 2.00	ug/L		8/3/2022 13:28
1,2-Dichlorobenzene	< 2.00	ug/L		8/3/2022 13:28
1,2-Dichloroethane	< 2.00	ug/L		8/3/2022 13:28
1,2-Dichloropropane	< 2.00	ug/L		8/3/2022 13:28
1,3,5-Trimethylbenzene	< 2.00	ug/L		8/3/2022 13:28
1,3-Dichlorobenzene	< 2.00	ug/L		8/3/2022 13:28
1,4-Dichlorobenzene	< 2.00	ug/L		8/3/2022 13:28
1,4-Dioxane	< 10.0	ug/L		8/3/2022 13:28
2-Butanone	< 10.0	ug/L		8/3/2022 13:28
2-Hexanone	< 5.00	ug/L		8/3/2022 13:28
4-Methyl-2-pentanone	< 5.00	ug/L		8/3/2022 13:28
Acetone	< 10.0	ug/L		8/3/2022 13:28
Benzene	< 1.00	ug/L		8/3/2022 13:28
Bromochloromethane	< 5.00	ug/L		8/3/2022 13:28
Bromodichloromethane	< 2.00	ug/L		8/3/2022 13:28
Bromoform	< 5.00	ug/L		8/3/2022 13:28
Bromomethane	< 2.00	ug/L		8/3/2022 13:28
Carbon disulfide	< 2.00	ug/L		8/3/2022 13:28
Carbon Tetrachloride	< 2.00	ug/L		8/3/2022 13:28

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Lab Project ID: 223659

Client: Lu Engineers, Inc.

Project Reference: 40503-02

Sample Identifier: MW-01-080222

Lab Sample ID: 223659-01

Date Sampled 8/2/2022 11:05

Matrix: Groundwater

Date Received 8/2/2022

Chlorobenzene	< 2.00	ug/L	8/3/2022 13:28
Chloroethane	< 2.00	ug/L	8/3/2022 13:28
Chloroform	< 2.00	ug/L	8/3/2022 13:28
Chloromethane	< 2.00	ug/L	8/3/2022 13:28
cis-1,2-Dichloroethene	< 2.00	ug/L	8/3/2022 13:28
cis-1,3-Dichloropropene	< 2.00	ug/L	8/3/2022 13:28
Cyclohexane	< 10.0	ug/L	8/3/2022 13:28
Dibromochloromethane	< 2.00	ug/L	8/3/2022 13:28
Dichlorodifluoromethane	< 2.00	ug/L	8/3/2022 13:28
Ethylbenzene	< 2.00	ug/L	8/3/2022 13:28
Freon 113	< 2.00	ug/L	8/3/2022 13:28
Isopropylbenzene	< 2.00	ug/L	8/3/2022 13:28
m,p-Xylene	< 2.00	ug/L	8/3/2022 13:28
Methyl acetate	< 2.00	ug/L	8/3/2022 13:28
Methyl tert-butyl Ether	< 2.00	ug/L	8/3/2022 13:28
Methylcyclohexane	< 2.00	ug/L	8/3/2022 13:28
Methylene chloride	< 5.00	ug/L	8/3/2022 13:28
Naphthalene	< 5.00	ug/L	8/3/2022 13:28
n-Butylbenzene	< 2.00	ug/L	8/3/2022 13:28
n-Propylbenzene	< 2.00	ug/L	8/3/2022 13:28
o-Xylene	< 2.00	ug/L	8/3/2022 13:28
p-Isopropyltoluene	< 2.00	ug/L	8/3/2022 13:28
sec-Butylbenzene	< 2.00	ug/L	8/3/2022 13:28
Styrene	< 5.00	ug/L	8/3/2022 13:28
tert-Butylbenzene	< 2.00	ug/L	8/3/2022 13:28
Tetrachloroethene	< 2.00	ug/L	8/3/2022 13:28
Toluene	< 2.00	ug/L	8/3/2022 13:28
trans-1,2-Dichloroethene	< 2.00	ug/L	8/3/2022 13:28
trans-1,3-Dichloropropene	< 2.00	ug/L	8/3/2022 13:28
Trichloroethene	< 2.00	ug/L	8/3/2022 13:28

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Report Prepared Friday, August 5, 2022

Page 3 of 20



Lab Project ID: 223659

Client: Lu Engineers, Inc.

Project Reference: 40503-02

Sample Identifier: MW-01-080222

Lab Sample ID: 223659-01

Date Sampled 8/2/2022 11:05

Matrix: Groundwater

Date Received 8/2/2022

Trichlorofluoromethane < 2.00 ug/L 8/3/2022 13:28

Vinyl chloride < 2.00 ug/L 8/3/2022 13:28

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	115	81.1 - 136		8/3/2022 13:28
4-Bromofluorobenzene	96.4	75.8 - 132		8/3/2022 13:28
Pentafluorobenzene	100	82 - 132		8/3/2022 13:28
Toluene-D8	104	64.6 - 137		8/3/2022 13:28

Method Reference(s): EPA 8260C

EPA 5030C

Data File: z11015.D

Lab Project ID: 223659
Client: **Lu Engineers, Inc.**
Project Reference: 40503-02

Sample Identifier: MW-03-080222

Lab Sample ID: 223659-02

Date Sampled 8/2/2022 9:50

Matrix: Groundwater

Date Received 8/2/2022

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		8/3/2022 13:48
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		8/3/2022 13:48
1,1,2-Trichloroethane	< 2.00	ug/L		8/3/2022 13:48
1,1-Dichloroethane	< 2.00	ug/L		8/3/2022 13:48
1,1-Dichloroethene	< 2.00	ug/L		8/3/2022 13:48
1,2,3-Trichlorobenzene	< 5.00	ug/L		8/3/2022 13:48
1,2,4-Trichlorobenzene	< 5.00	ug/L		8/3/2022 13:48
1,2,4-Trimethylbenzene	< 2.00	ug/L		8/3/2022 13:48
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		8/3/2022 13:48
1,2-Dibromoethane	< 2.00	ug/L		8/3/2022 13:48
1,2-Dichlorobenzene	< 2.00	ug/L		8/3/2022 13:48
1,2-Dichloroethane	< 2.00	ug/L		8/3/2022 13:48
1,2-Dichloropropane	< 2.00	ug/L		8/3/2022 13:48
1,3,5-Trimethylbenzene	< 2.00	ug/L		8/3/2022 13:48
1,3-Dichlorobenzene	< 2.00	ug/L		8/3/2022 13:48
1,4-Dichlorobenzene	< 2.00	ug/L		8/3/2022 13:48
1,4-Dioxane	< 10.0	ug/L		8/3/2022 13:48
2-Butanone	< 10.0	ug/L		8/3/2022 13:48
2-Hexanone	< 5.00	ug/L		8/3/2022 13:48
4-Methyl-2-pentanone	< 5.00	ug/L		8/3/2022 13:48
Acetone	< 10.0	ug/L		8/3/2022 13:48
Benzene	< 1.00	ug/L		8/3/2022 13:48
Bromochloromethane	< 5.00	ug/L		8/3/2022 13:48
Bromodichloromethane	< 2.00	ug/L		8/3/2022 13:48
Bromoform	< 5.00	ug/L		8/3/2022 13:48
Bromomethane	< 2.00	ug/L		8/3/2022 13:48
Carbon disulfide	< 2.00	ug/L		8/3/2022 13:48
Carbon Tetrachloride	< 2.00	ug/L		8/3/2022 13:48

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Lab Project ID: 223659

Client: Lu Engineers, Inc.

Project Reference: 40503-02

Sample Identifier: MW-03-080222

Lab Sample ID: 223659-02

Date Sampled 8/2/2022 9:50

Matrix: Groundwater

Date Received 8/2/2022

Chlorobenzene	< 2.00	ug/L	8/3/2022 13:48
Chloroethane	< 2.00	ug/L	8/3/2022 13:48
Chloroform	< 2.00	ug/L	8/3/2022 13:48
Chloromethane	< 2.00	ug/L	8/3/2022 13:48
cis-1,2-Dichloroethene	< 2.00	ug/L	8/3/2022 13:48
cis-1,3-Dichloropropene	< 2.00	ug/L	8/3/2022 13:48
Cyclohexane	< 10.0	ug/L	8/3/2022 13:48
Dibromochloromethane	< 2.00	ug/L	8/3/2022 13:48
Dichlorodifluoromethane	< 2.00	ug/L	8/3/2022 13:48
Ethylbenzene	< 2.00	ug/L	8/3/2022 13:48
Freon 113	< 2.00	ug/L	8/3/2022 13:48
Isopropylbenzene	< 2.00	ug/L	8/3/2022 13:48
m,p-Xylene	< 2.00	ug/L	8/3/2022 13:48
Methyl acetate	< 2.00	ug/L	8/3/2022 13:48
Methyl tert-butyl Ether	< 2.00	ug/L	8/3/2022 13:48
Methylcyclohexane	< 2.00	ug/L	8/3/2022 13:48
Methylene chloride	< 5.00	ug/L	8/3/2022 13:48
Naphthalene	< 5.00	ug/L	8/3/2022 13:48
n-Butylbenzene	< 2.00	ug/L	8/3/2022 13:48
n-Propylbenzene	< 2.00	ug/L	8/3/2022 13:48
o-Xylene	< 2.00	ug/L	8/3/2022 13:48
p-Isopropyltoluene	< 2.00	ug/L	8/3/2022 13:48
sec-Butylbenzene	< 2.00	ug/L	8/3/2022 13:48
Styrene	< 5.00	ug/L	8/3/2022 13:48
tert-Butylbenzene	< 2.00	ug/L	8/3/2022 13:48
Tetrachloroethene	< 2.00	ug/L	8/3/2022 13:48
Toluene	< 2.00	ug/L	8/3/2022 13:48
trans-1,2-Dichloroethene	< 2.00	ug/L	8/3/2022 13:48
trans-1,3-Dichloropropene	< 2.00	ug/L	8/3/2022 13:48
Trichloroethene	< 2.00	ug/L	8/3/2022 13:48

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Report Prepared Friday, August 5, 2022

Page 6 of 20



Lab Project ID: 223659

Client: **Lu Engineers, Inc.**

Project Reference: 40503-02

Sample Identifier: MW-03-080222

Lab Sample ID: 223659-02

Date Sampled 8/2/2022 9:50

Matrix: Groundwater

Date Received 8/2/2022

Trichlorofluoromethane < 2.00 ug/L 8/3/2022 13:48

Vinyl chloride < 2.00 ug/L 8/3/2022 13:48

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	106	81.1 - 136		8/3/2022 13:48
4-Bromofluorobenzene	86.7	75.8 - 132		8/3/2022 13:48
Pentafluorobenzene	102	82 - 132		8/3/2022 13:48
Toluene-D8	96.6	64.6 - 137		8/3/2022 13:48

Method Reference(s): EPA 8260C

EPA 5030C

Data File: z11016.D



Lab Project ID: 223659

Client: **Lu Engineers, Inc.**

Project Reference: 40503-02

Sample Identifier: MW-04-080222

Lab Sample ID: 223659-03

Date Sampled 8/2/2022 12:05

Matrix: Groundwater

Date Received 8/2/2022

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		8/3/2022 14:07
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		8/3/2022 14:07
1,1,2-Trichloroethane	< 2.00	ug/L		8/3/2022 14:07
1,1-Dichloroethane	< 2.00	ug/L		8/3/2022 14:07
1,1-Dichloroethene	< 2.00	ug/L		8/3/2022 14:07
1,2,3-Trichlorobenzene	< 5.00	ug/L		8/3/2022 14:07
1,2,4-Trichlorobenzene	< 5.00	ug/L		8/3/2022 14:07
1,2,4-Trimethylbenzene	< 2.00	ug/L		8/3/2022 14:07
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		8/3/2022 14:07
1,2-Dibromoethane	< 2.00	ug/L		8/3/2022 14:07
1,2-Dichlorobenzene	< 2.00	ug/L		8/3/2022 14:07
1,2-Dichloroethane	< 2.00	ug/L		8/3/2022 14:07
1,2-Dichloropropane	< 2.00	ug/L		8/3/2022 14:07
1,3,5-Trimethylbenzene	< 2.00	ug/L		8/3/2022 14:07
1,3-Dichlorobenzene	< 2.00	ug/L		8/3/2022 14:07
1,4-Dichlorobenzene	< 2.00	ug/L		8/3/2022 14:07
1,4-Dioxane	< 10.0	ug/L		8/3/2022 14:07
2-Butanone	< 10.0	ug/L		8/3/2022 14:07
2-Hexanone	< 5.00	ug/L		8/3/2022 14:07
4-Methyl-2-pentanone	< 5.00	ug/L		8/3/2022 14:07
Acetone	< 10.0	ug/L		8/3/2022 14:07
Benzene	5.88	ug/L		8/3/2022 14:07
Bromochloromethane	< 5.00	ug/L		8/3/2022 14:07
Bromodichloromethane	< 2.00	ug/L		8/3/2022 14:07
Bromoform	< 5.00	ug/L		8/3/2022 14:07
Bromomethane	< 2.00	ug/L		8/3/2022 14:07
Carbon disulfide	< 2.00	ug/L		8/3/2022 14:07
Carbon Tetrachloride	< 2.00	ug/L		8/3/2022 14:07

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Client: **Lu Engineers, Inc.**

Project Reference: 40503-02

Sample Identifier: MW-04-080222

Lab Sample ID: 223659-03

Date Sampled 8/2/2022 12:05

Matrix: Groundwater

Date Received 8/2/2022

Chlorobenzene	< 2.00	ug/L	8/3/2022 14:07
Chloroethane	< 2.00	ug/L	8/3/2022 14:07
Chloroform	< 2.00	ug/L	8/3/2022 14:07
Chloromethane	< 2.00	ug/L	8/3/2022 14:07
cis-1,2-Dichloroethene	< 2.00	ug/L	8/3/2022 14:07
cis-1,3-Dichloropropene	< 2.00	ug/L	8/3/2022 14:07
Cyclohexane	< 10.0	ug/L	8/3/2022 14:07
Dibromochloromethane	< 2.00	ug/L	8/3/2022 14:07
Dichlorodifluoromethane	< 2.00	ug/L	8/3/2022 14:07
Ethylbenzene	< 2.00	ug/L	8/3/2022 14:07
Freon 113	< 2.00	ug/L	8/3/2022 14:07
Isopropylbenzene	< 2.00	ug/L	8/3/2022 14:07
m,p-Xylene	< 2.00	ug/L	8/3/2022 14:07
Methyl acetate	< 2.00	ug/L	8/3/2022 14:07
Methyl tert-butyl Ether	< 2.00	ug/L	8/3/2022 14:07
Methylcyclohexane	4.62	ug/L	8/3/2022 14:07
Methylene chloride	< 5.00	ug/L	8/3/2022 14:07
Naphthalene	< 5.00	ug/L	8/3/2022 14:07
n-Butylbenzene	< 2.00	ug/L	8/3/2022 14:07
n-Propylbenzene	< 2.00	ug/L	8/3/2022 14:07
o-Xylene	< 2.00	ug/L	8/3/2022 14:07
p-Isopropyltoluene	< 2.00	ug/L	8/3/2022 14:07
sec-Butylbenzene	1.07	ug/L	J 8/3/2022 14:07
Styrene	< 5.00	ug/L	8/3/2022 14:07
tert-Butylbenzene	< 2.00	ug/L	8/3/2022 14:07
Tetrachloroethene	< 2.00	ug/L	8/3/2022 14:07
Toluene	< 2.00	ug/L	8/3/2022 14:07
trans-1,2-Dichloroethene	< 2.00	ug/L	8/3/2022 14:07
trans-1,3-Dichloropropene	< 2.00	ug/L	8/3/2022 14:07
Trichloroethene	< 2.00	ug/L	8/3/2022 14:07

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Lab Project ID: 223659

Client: Lu Engineers, Inc.

Project Reference: 40503-02

Sample Identifier: MW-04-080222

Lab Sample ID: 223659-03

Date Sampled 8/2/2022 12:05

Matrix: Groundwater

Date Received 8/2/2022

Trichlorofluoromethane

< 2.00 ug/L

8/3/2022 14:07

Vinyl chloride

< 2.00 ug/L

8/3/2022 14:07

Surrogate

Percent Recovery

Limits

Outliers

Date Analyzed

1,2-Dichloroethane-d4

103

81.1 - 136

8/3/2022 14:07

4-Bromofluorobenzene

94.4

75.8 - 132

8/3/2022 14:07

Pentafluorobenzene

100

82 - 132

8/3/2022 14:07

Toluene-D8

99.5

64.6 - 137

8/3/2022 14:07

Method Reference(s): EPA 8260C

EPA 5030C

Data File: z11017.D



Method Blank Report

Client: Lu Engineers, Inc.
Project Reference: 40503-02
Lab Project ID: 223659
SDG #: 3659-01
Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
1,1,1-Trichloroethane	<2.00	ug/L		8/3/2022 14:45
1,1,2,2-Tetrachloroethane	<2.00	ug/L		8/3/2022 14:45
1,1,2-Trichloroethane	<2.00	ug/L		8/3/2022 14:45
1,1-Dichloroethane	<2.00	ug/L		8/3/2022 14:45
1,1-Dichloroethene	<2.00	ug/L		8/3/2022 14:45
1,2,3-Trichlorobenzene	<5.00	ug/L		8/3/2022 14:45
1,2,4-Trichlorobenzene	<5.00	ug/L		8/3/2022 14:45
1,2,4-Trimethylbenzene	<2.00	ug/L		8/3/2022 14:45
1,2-Dibromo-3-Chloropropane	<10.0	ug/L		8/3/2022 14:45
1,2-Dibromoethane	<2.00	ug/L		8/3/2022 14:45
1,2-Dichlorobenzene	<2.00	ug/L		8/3/2022 14:45
1,2-Dichloroethane	<2.00	ug/L		8/3/2022 14:45
1,2-Dichloropropane	<2.00	ug/L		8/3/2022 14:45
1,3,5-Trimethylbenzene	<2.00	ug/L		8/3/2022 14:45
1,3-Dichlorobenzene	<2.00	ug/L		8/3/2022 14:45
1,4-Dichlorobenzene	<2.00	ug/L		8/3/2022 14:45
1,4-Dioxane	<10.0	ug/L		8/3/2022 14:45
2-Butanone	<10.0	ug/L		8/3/2022 14:45
2-Hexanone	<5.00	ug/L		8/3/2022 14:45
4-Methyl-2-pentanone	<5.00	ug/L		8/3/2022 14:45
Acetone	<10.0	ug/L		8/3/2022 14:45
Benzene	<1.00	ug/L		8/3/2022 14:45
Bromochloromethane	<5.00	ug/L		8/3/2022 14:45
Bromodichloromethane	<2.00	ug/L		8/3/2022 14:45
Bromoform	<5.00	ug/L		8/3/2022 14:45
Bromomethane	<2.00	ug/L		8/3/2022 14:45
Carbon disulfide	<2.00	ug/L		8/3/2022 14:45

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Method Blank Report

Client: Lu Engineers, Inc.
Project Reference: 40503-02
Lab Project ID: 223659
SDG #: 3659-01
Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Carbon Tetrachloride	<2.00	ug/L		8/3/2022 14:45
Chlorobenzene	<2.00	ug/L		8/3/2022 14:45
Chloroethane	<2.00	ug/L		8/3/2022 14:45
Chloroform	<2.00	ug/L		8/3/2022 14:45
Chloromethane	<2.00	ug/L		8/3/2022 14:45
cis-1,2-Dichloroethene	<2.00	ug/L		8/3/2022 14:45
cis-1,3-Dichloropropene	<2.00	ug/L		8/3/2022 14:45
Cyclohexane	<10.0	ug/L		8/3/2022 14:45
Dibromochloromethane	<2.00	ug/L		8/3/2022 14:45
Dichlorodifluoromethane	<2.00	ug/L		8/3/2022 14:45
Ethylbenzene	<2.00	ug/L		8/3/2022 14:45
Freon 113	<2.00	ug/L		8/3/2022 14:45
Isopropylbenzene	<2.00	ug/L		8/3/2022 14:45
m,p-Xylene	<2.00	ug/L		8/3/2022 14:45
Methyl acetate	<2.00	ug/L		8/3/2022 14:45
Methyl tert-butyl Ether	<2.00	ug/L		8/3/2022 14:45
Methylcyclohexane	<2.00	ug/L		8/3/2022 14:45
Methylene chloride	<5.00	ug/L		8/3/2022 14:45
Naphthalene	<5.00	ug/L		8/3/2022 14:45
n-Butylbenzene	<2.00	ug/L		8/3/2022 14:45
n-Propylbenzene	<2.00	ug/L		8/3/2022 14:45
o-Xylene	<2.00	ug/L		8/3/2022 14:45
p-Isopropyltoluene	<2.00	ug/L		8/3/2022 14:45
sec-Butylbenzene	<2.00	ug/L		8/3/2022 14:45
Styrene	<5.00	ug/L		8/3/2022 14:45
tert-Butylbenzene	<2.00	ug/L		8/3/2022 14:45
Tetrachloroethene	<2.00	ug/L		8/3/2022 14:45
Toluene	<2.00	ug/L		8/3/2022 14:45

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Thursday, August 4, 2022



Method Blank Report

Client: Lu Engineers, Inc.
Project Reference: 40503-02
Lab Project ID: 223659
SDG #: 3659-01
Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>	
trans-1,2-Dichloroethene	<2.00	ug/L		8/3/2022	14:45
trans-1,3-Dichloropropene	<2.00	ug/L		8/3/2022	14:45
Trichloroethene	<2.00	ug/L		8/3/2022	14:45
Trichlorofluoromethane	<2.00	ug/L		8/3/2022	14:45
Vinyl chloride	<2.00	ug/L		8/3/2022	14:45

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>	
1,2-Dichloroethane-d4	103	81.1 - 136		8/3/2022	14:45
4-Bromofluorobenzene	106	75.8 - 132		8/3/2022	14:45
Pentafluorobenzene	100	82 - 132		8/3/2022	14:45
Toluene-D8	106	64.6 - 137		8/3/2022	14:45

Method Reference(s): EPA 8260C
EPA 5030C
Data File: z11019.D
QC Batch ID: voaw220803
QC Number: Blk 1



PARADIGM
ENVIRONMENTAL SERVICES, INC.

QC Report for Laboratory Control Sample

Client: Lu Engineers, Inc.
Project Reference: 40503-02
Lab Project ID: 223659
SDG #: 3659-01
Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
1,1,1-Trichloroethane	20.0	ug/L	18.1	90.3	80 - 132		8/3/2022
1,1,2,2-Tetrachloroethane	20.0	ug/L	20.1	101	23.6 - 185		8/3/2022
1,1,2-Trichloroethane	20.0	ug/L	19.7	98.4	62.9 - 138		8/3/2022
1,1-Dichloroethane	20.0	ug/L	18.6	92.9	79.7 - 124		8/3/2022
1,1-Dichloroethene	20.0	ug/L	18.2	90.8	65.5 - 116		8/3/2022
1,2-Dichlorobenzene	20.0	ug/L	18.4	91.8	59 - 126		8/3/2022
1,2-Dichloropropane	20.0	ug/L	20.1	101	78.3 - 122		8/3/2022
1,3-Dichlorobenzene	20.0	ug/L	19.6	97.9	75.9 - 115		8/3/2022
1,4-Dichlorobenzene	20.0	ug/L	18.0	89.8	66.4 - 109		8/3/2022
Benzene	20.0	ug/L	17.5	87.7	66.4 - 110		8/3/2022
Bromodichloromethane	20.0	ug/L	18.5	92.7	81.6 - 114		8/3/2022
Bromoform	20.0	ug/L	18.9	94.4	77.8 - 116		8/3/2022
Bromomethane	20.0	ug/L	19.4	97.2	47.9 - 153		8/3/2022
Carbon Tetrachloride	20.0	ug/L	18.6	92.8	50.9 - 166		8/3/2022
Chlorobenzene	20.0	ug/L	17.5	87.5	76.4 - 129		8/3/2022
	20.0	ug/L	19.0	95.2	77.2 - 106		8/3/2022

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

QC Report for Laboratory Control Sample

Client: Lu Engineers, Inc.
Project Reference: 40503-02
Lab Project ID: 223659
SDG #: 3659-01
Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
Chloroethane	20.0	ug/L	18.4	92.0	49.9 - 159		8/3/2022
Chloroform	20.0	ug/L	19.4	97.0	84.5 - 122		8/3/2022
Chloromethane	20.0	ug/L	18.4	91.8	42.2 - 174		8/3/2022
cis-1,3-Dichloropropene	20.0	ug/L	18.0	90.2	68.8 - 122		8/3/2022
Dibromochloromethane	20.0	ug/L	20.3	101	65.7 - 133		8/3/2022
Ethylbenzene	20.0	ug/L	18.2	90.8	72.1 - 110		8/3/2022
Methylene chloride	20.0	ug/L	19.7	98.5	52.5 - 139		8/3/2022
Tetrachloroethene	20.0	ug/L	17.3	86.3	64.4 - 130		8/3/2022
Toluene	20.0	ug/L	18.6	93.1	62.9 - 125		8/3/2022
trans-1,2-Dichloroethene	20.0	ug/L	19.0	95.1	73.9 - 120		8/3/2022
trans-1,3-Dichloropropene	20.0	ug/L	18.5	92.3	57.1 - 131		8/3/2022
Trichloroethene	20.0	ug/L	18.2	91.2	73.4 - 122		8/3/2022
Trichlorofluoromethane	20.0	ug/L	18.1	90.4	62.2 - 147		8/3/2022
Vinyl chloride	20.0	ug/L	18.9	94.4	50.9 - 164		8/3/2022

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

QC Report for Laboratory Control Sample

Client: Lu Engineers, Inc.

Project Reference: 40503-02

Lab Project ID: 223659

SDG #: 3659-01

Matrix: Groundwater

Volatile Organics

<u>Analyte</u>	<u>Method Reference(s):</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
	EPA 8260C							
	EPA 5030C							
	Data File: z11018.D							
	QC Number: LCS 1							
	QC Batch ID: voaw220803							

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Report Prepared Thursday, August 4, 2022



Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.

"E" = Result has been estimated, calibration limit exceeded.

"H" = Denotes a parameter analyzed outside of holding time.

"Z" = See case narrative.

"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.

"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.

"B" = Method blank contained trace levels of analyte. Refer to included method blank report.

"J" = Result estimated between the quantitation limit and half the quantitation limit.

"L" = Laboratory Control Sample recovery outside accepted QC limits.

"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.

"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.

"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*

"(1)" = Indicates data from primary column used for QC calculation.

"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.

"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

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GENERAL TERMS AND CONDITIONS

LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty.

Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation.

LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB will use LAB default method for all tests unless specified otherwise on the Work Order.

Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices.

Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability.

In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.

LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.

All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.

Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure.

Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling.

Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.

Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on the final report.

Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.

LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility.

LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment.

LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure.

LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law.

This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

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Turnaround Time	Report Supplements	
Availability contingent upon lab approval, additional fees may apply.		
Standard 5 day	<input checked="" type="checkbox"/>	None Required <input type="checkbox"/>
10 day	<input type="checkbox"/>	Batch QC <input type="checkbox"/>
Rush 3 day	<input type="checkbox"/>	Category A <input checked="" type="checkbox"/>
Rush 2 day	<input type="checkbox"/>	Category B <input type="checkbox"/>
Rush 1 day	<input type="checkbox"/>	
Date Needed _____ please indicate date needed:	Other _____ <input type="checkbox"/> please indicate package needed:	Other EDD _____ <input type="checkbox"/> please indicate EDD needed :

Total Cost:

2.

1

(inverse).

for sample conditions.



Chain of Custody Supplement

Client: Lu Engineers Completed by: EH
Lab Project ID: 223659 Date: 8/2/22

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt		
	Yes	No	N/A
Container Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Transferred to method-compliant container	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Headspace (<1 mL)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Preservation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Chlorine Absent (<0.10 ppm per test strip)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments			
Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<u>5°C iced</u>		
Compliant Sample Quantity/Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			

Attachment D- IC/EC Certification Form

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

February 07, 2020

Town of Clarkson
Paul Kimball
3710 Lake Road
PO Box 858
Clarkson, NY 14430

Re: Site Management (SM) Periodic Review Report (PRR) Response Letter

Former Service Station, Clarkson
Monroe County, Site No.: E828143

Dear Paul Kimball (as the Certifying Party):

The Department has reviewed your Periodic Review Report (PRR) and IC/EC Certification for following period: November 21, 2018 to November 21, 2019. The PRR requests to reduce the frequency of groundwater monitoring and PRR submissions. The Department approves this request and a PRR with groundwater data will be submitted every three years.

The Department hereby accepts the PRR and associated Certification. The frequency of Periodic Reviews for this site is 3 year(s), your next PRR is due on **December 21, 2022**. You will receive a reminder letter and updated certification form 45-days prior to the due date. Regardless of receipt or not, of the reminder notice, the next PRR including the signed certification form, is still due on the date specified above.

If you have any questions, or need additional forms, please contact me at 585-226-5349 or e-mail: danielle.miles@dec.ny.gov.

Sincerely,



Danielle Miles
Project Manager

cc: Greg Andrus, Lu Engineers
David Pratt, RHWRE



Department of
Environmental
Conservation

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. **E828143**

Site Name **Former Service Station**

Site Address: 8264 Ridge Road Zip Code: 14430
City/Town: Clarkson
County: Monroe
Site Acreage: 0.697

Reporting Period: November 21, 2019 to November 21, 2022

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 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

SITE NO. E828143

Box 3

Description of Institutional Controls

Parcel

Owner

Institutional Control

054.14-1-21

Town of Clarkson

Ground Water Use Restriction
Soil Management Plan
Landuse Restriction
Site Management Plan

Box 4

Description of Engineering Controls

Parcel

Engineering Control

054.14-1-21

Cover System

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 Engineering Control 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 complete.

YES NO

☒ ☐

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

(a) The 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

☒ ☐

**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. E828143**

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 Gregory L. Andrus, P.G. at 280 East Broad Street, Suite 170 Rochester, NY 14604,
print name print business address

am certifying as Owner's Representative (Owner or Remedial Party)

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



Signature of Owner, Remedial Party, or Designated Representative
Rendering Certification

12/19/22

Date

EC CERTIFICATIONS

Box 7

Professional Geologist 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 Gregory L. Andrus, P.G. at 280 East Broad Street, Suite 170 Rochester, NY 14604,
print name print business address

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



Signature of Professional Geologist, for the Owner or
Date Remedial Party, Rendering Certification

Stamp
(Required for PE)

12/19/22

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.

Attachment E- Site Photographs

Site Photographs

8264 Ridge Road West, Town of Clarkson, NY



Photo No. 1 Site facing southeast



Photo No. 2 Site facing west



Photo No. 3 Low-flow sampling setup at MW-04



Photo No. 4 Low-flow sampling setup at MW-01



Photo No. 5 MW-04 location (circled)



Photo No. 6 View of MW-03

Site Photographs

8264 Ridge Road West, Town of Clarkson, NY



Photo No. 7 Site facing south



Photo No. 8 Site facing north