Periodic Review Report- 2017/2018

Former Churchville Ford, Inc. Site
NYSDEC Voluntary Cleanup Program Site #V00658
Village of Churchville, Town of Riga, Monroe County, New York

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Executive Summary

The former Churchville Ford Site (hereinafter referred to as the "Site"), located at 111 South Main Street in the Village of Churchville, Town of Riga, Monroe County, New York, is approximately six (6) acres. The Site is owned by BLW Properties of Churchville, LLC and has been used as a commercial auto, boat and recreational vehicle sales and service facility. An environmental investigation conducted in 2002 (in conjunction with the transfer of ownership of property) identified groundwater and subsurface soil contamination. A remedial investigation (RI) was conducted between 2004 and 2008. This PRR covers Site monitoring and inspection events and activities conducted at the Site from June 1, 2017- June 1, 2018. It is noted that due to Site redevelopment activities and remedial efforts completed in 2016, the New York State Department of Environmental Conservation (NYSDEC) did not require PRR submission in 2016.

The RI results indicated a source area containing trichloroethene (TCE), tetrachloroethene (PCE), and cis-1,2-dichloroethene (cis-1,2-DCE) in groundwater beneath the southwestern portion of the original (now demolished) building at levels exceeding NYSDEC Part 703.5 Groundwater Standards and NYSDEC Guidance applicable groundwater standards (Technical and Operational Guidance Series ((TOGS)1.1.1). This area was formerly used for solvent and waste oil storage. Remedial action was recommended to address the chlorinated solvents detected in groundwater at concentration levels exceeding applicable guidance criteria.

The Site was remediated in accordance with and subject to a Voluntary Cleanup Agreement (VCA) # B8-0640-03-09, Site # V00658-8 which was executed on September 29, 2003 and amended on April 9, 2009. The VCA was initiated by former owners, Joseph Ognibene and Antonio Gabriele. Remedial activities occurred from May 2009 to January 2010 and were conducted in accordance with the Site Remedial Action Work Plan (RAWP), dated December 2008, and a minor modification, dated September 4, 2009. In-situ chemical oxidation (ISCO), using injected sodium permanganate (NaMnO4), was started in June 2009 and completed in January 2010. NaMnO4 was injected into the soil and groundwater underlying the source area in the southwestern portion of the building.

Additional soil vapor intrusion (SVI) sampling was conducted beneath the workshop floor slab after the NaMnO4 injection was completed to determine if vapor intrusion mitigation or long-term monitoring measures were necessary. As detailed in the Site Management Plan (SMP), a Sub-Slab Depressurization System (SSDS) was installed in June 2011 in the western portion of the original building (workshop).

In reference to NYSDEC letters dated September 17, 2014 and January 20, 2015, a Remedial Optimization Work Plan (ROWP) deferral for additional chemical oxidation injection was issued by the NYSDEC due to on-Site redevelopment activities.

In September 2015, a Site Change of Use was approved by the NYSDEC for Site redevelopment activities. This Change of Use included the construction of a 44,000 square foot building with 36,000 square feet located in the boundaries of the VCP Site and the demolition of the existing building, decommissioning of existing utilities, and Site-regrading.

As part of the redevelopment, a series of pre-excavation notifications detailing soil sampling programs prior to soil excavation/disturbance were submitted to the NYSDEC in accordance to requirements set forth in the SMP and EWP. A remedial approach to address impacted subsurface soils beneath the western portion of the former building, the "Source Area," was also developed and approved by the NYSDEC in 2016. A Remedial Design Construction Completion Report (CCR) detailing all Site activities associated with the redevelopment is being submitted to the NYSDEC concurrently with this PRR.

The remedial approach included soil removal and ISCO (Regenesis Inc. PersulfOx®) to address residual impacted groundwater. The effectiveness of ISCO is being evaluated through subsequent groundwater sampling as discussed in this report. The Site cap was restored upon completion of the project and was evaluated as part of the Site inspection.

Due to an oversight, a SSDS was not installed in the new building (which contains 36,000 square feet within the boundary of the VCP Site). Thus, to obtain compliance with the SMP, a SVI Corrective Measures Work Plan was developed and implemented with NYSDEC and NYSDOH approval in June 2016. Such corrective measures involved two (2) rounds of SVI sampling with one (1) in the heating season due to pressure differential. SVI analytical results indicated the presence of Site contaminants below New York State Department of Health (NYSDOH) guidelines. Based upon the results of the SVI sampling, the NYSDEC determined that at this time (July 2017), a SSDS is not required in the newly constructed building.

The effectiveness of the remedial program as outlined in the SMP has been monitored through 2016 SVI sampling in the recently constructed building and on-going groundwater sampling. In general, post-remedial groundwater sampling results indicate that the existing contamination appears to be attenuating in groundwater in the vicinity of the established source area. It is likely that concentrations will continue declining due to the sustained oxidative action of PersulfOx®. Groundwater samples collected during the current reporting period (June 1, 2017 to June 1, 2018) showed concentrations of chlorinated volatile organic compounds (CVOCs) exceeding applicable groundwater standards.

In general, the implemented remedies to manage the residual contamination are effective, protective, and are progressing towards the remedial action objectives. The Institutional Controls 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 Periodic Review Report (PRR) was prepared by Lu Engineers, on behalf of BLW Properties of Churchville, LLC, pursuant to NYSDEC 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 June 1, 2017 to June 1, 2018. The following items are included in this PRR:

- Identification, assessment, and certification of each EC/IC 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 and surface water contaminants of concern by media. These include a presentation of past VOC and metal data as part of an evaluation of contaminant concentration trends.
- 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 EQuIS 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 former Churchville Ford Site, located at 111 South Main Street in the Village of Churchville, Town of Riga, Monroe County, New York, consists of approximately six (6) acres and has been used as a commercial auto, boat and recreational vehicle sales and service facility in recent years (Figure 1). The Site is located north of Interstate Route 490 and Sanford Road. The topography of the Site is relatively flat, however, the elevation drops abruptly towards Sanford Road to the south and gently westward.

The Site is surrounded by residential and commercial land to the north, South Main Street and residential housing to the east, Sanford Road and Interstate Route 490 to the south and a commercial Camping World Recreational Vehicle sales facility to the west. The majority of the Site is covered with asphalt pavement and the Site sales/service building.

Contamination was found at the Site in 2002 during an environmental investigation conducted in conjunction with a property transfer. A Remedial Investigation (RI) was conducted between 2004 and 2008. Subsurface soil analytical results did not indicate VOCs, SVOCs, or metals above the Restricted Commercial Use Guidance Values (6 New York Codes, Rules, and Regulations (NYCRR) Part 375-6), therefore soil remediation was not required. CVOCs were detected in groundwater beneath the southwestern portion of the building at levels exceeding 6 NYCRR Part 703.5 Class GA drinking water standards. This area was formerly used for solvent and waste oil storage. The contamination appeared to be limited to this areas and west of the western wall of the building. Based on the findings of the RI, remedial action was recommended to address chlorinated solvents detected in groundwater at levels exceeding applicable guidance criteria.

Remedial activities were completed at the Site between May 2009 and January 2010. The remedial measure utilized was In-Situ Chemical Oxidation (ISCO) using sodium permanganate ($NaMnO_4$). $NaMnO_4$ was injected into groundwater where CVOC concentrations exceeded 5 parts per billion (ppb) and 2 ppb for vinyl chloride. When this chemical oxidant comes into contact with organic compounds such as TCE, PCE, and associated breakdown products, a reaction occurs oxidizing the organic contaminants to relatively benign compounds, such as carbon dioxide (CO^2) and water (H_2O). NaMnO4 was injected using a Geoprobe® GS2000 cart-mounted injection system and was administered through a series of injection wells (primarily 4 to 11.5 feet with a maximum depth of 20 feet) to treat saturated soils as well as groundwater.

Soil vapor intrusion (SVI) sampling was conducted after the NaMnO4 injection was completed to determine if additional vapor intrusion mitigation or long-term indoor air monitoring measures were needed. Based on the results and as described in the SMP, a SSDS was installed in June 2011 in the western portion of the original Site building. The presence of the SSDS precluded the need for monitoring of indoor air.

As part of Site redevelopment in 2016, a remedial approach to address impacted subsurface soils beneath the western portion of the former building, the “Source Area,” was developed

and approved by the NYSDEC in 2016. The Excavation Notification-Remedial Design, dated April 19, 2016, was submitted and approved by the NYSDEC, per requirements set forth in the SMP and EWP. Excavation oversight, existing utility protection, field screening and sampling along with community air monitoring were performed in accordance to the EWP.

Soil was removed from the source area and appropriately handled for off-Site disposal as non-hazardous waste to Mill Seat Landfill in Riga, New York. Soil designated as "clean" per 6 NYCRR Part 375 Unrestricted Reuse Criteria was used as clean cover soil in the property adjoining the VCP property as fill and Site grading material.

The remedial approach also involved the application of ISCO (PersulfOx®) to address residual impacted groundwater. The effectiveness of ISCO was evaluated through subsequent groundwater sampling completed in December 2017 and May 2018, as discussed in this report and in accordance to the SMP. Upon completion of ISCO application, the excavation area was backfilled with #2 crusher run, compliant with DER-10 Section 5.4(e), and the Site was regraded with a new asphalt cover in the location of the former building for use as a parking lot.

It is noted that due to the excavation activities, MW-03 was decommissioned pursuant to NYSDEC CP-43 and removed. This well was replaced with MW-03R following completion of source area soil removal. The locations of the monitoring wells were re-surveyed in December 2016 (refer to Figures 2, 3, and 4). The Cap was fully restored upon completion of Site regrading and excavation work.

A SSDS was not installed in the newly constructed building, therefore, a SVI Corrective Measures Plan was implemented following the completion of building construction and contaminant source removal in 2016. Two (2) rounds of SVI sampling to assess the sub-slab and interior air quality were completed in July 2016 and December 2016, pursuant to the *NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006*. The second round was completed during the heating season due to the pressure differential associated with typical building heating systems. SVI analytical results indicate the presence of Site contaminants below New York State Department of Health (NYSDOH) guidelines.

The effectiveness of the remedial program as outlined in the SMP has been monitored through 2016 SVI sampling in the recently constructed building and on-going groundwater sampling. In general, post-remedial groundwater sampling results indicate that the existing contamination persist, but also appears to be attenuating in groundwater in the source area. Groundwater samples collected during this reporting period (June 1, 2017 to June 1, 2018) showed concentrations of chlorinated volatile organic compounds (CVOCs) exceeding applicable groundwater standards, generally at lower concentrations than previously observed.

The SMP requires an Institutional Control (IC) in the form a Deed Restriction (DR) which requires the following; a) limiting the use and development of the property to commercial use, which also permits industrial use; b) compliance with the approved SMP; c) restriction on the use of groundwater as a source of potable or process water, without necessary water quality

treatment as determined by the New York State Department of Health (NYSDOH); and d) the property owner to complete and submit an annual certification of Institutional and Engineering Controls (ICs/ECs).

Long-term management of remaining contamination, as required by the DR, includes the following plans for ECs; 1) Monitoring; 2) Operation and maintenance; and 3) Reporting. The specific ECs implemented at the Site include: a) semi-annual groundwater sampling of monitoring wells MW-3R, MW-6, MW-13 and MW-JCL-02 for VOCs, iron and manganese; b) management and inspection of the existing soil cover system (the cap); and c) inspection and maintenance (if required) of the existing retaining wall.

3.0 Remedy Performance, Effectiveness, and Protectiveness

The most recent ISCO application (PersulfOx®) occurred in 2016 and prior to 2016, the last remedial ISCO injection occurred on January 15, 2010 by Lu Engineers using $NaMNO_4$. Post-remedial groundwater and SVI sampling indicate that groundwater contamination remains in the source area with evidence of attenuation, as suggested by this reporting period's analytical data. 13 post-remedial groundwater sampling events and three (3) SVI sampling events have been conducted at the Site since the completion of the $NaMnO_4$ ISCO program. All sampling events were conducted in accordance with and as outlined in the RAWP and SMP. The following is a list of all post-remedial groundwater and SVI sampling events:

- February and August 2010 (per RAWP)
- December 2011 (per SMP)
- June and November 2012 (per SMP)
- June and November 2013 (per SMP)
- June 2014 (per SMP)
- November 2014 (per SMP)
- June 2015 (per SMP)
- November 2015 (per SMP)
- July 2016 (per SVI Corrective Measures Plan)
- December 2016 (per SMP and SVI Corrective Measures Plan)
- May 2017 (per SMP)
- December 2017 (per SMP)
- May 2018 (per SMP)

Tables 1 and 2, included as an attachment to this report, indicate bi-annual VOC and iron and manganese sample concentrations since June 2012 following implementation of the remedies described in the SMP. Table 1 shows detected VOC concentrations in groundwater samples compared to the applicable NYSDEC 6 NYCRR Part 703.5 Class GA and TOGs 1.1.1 Groundwater Standards. Table 2 shows detected concentrations of iron and manganese, known indicators of natural attenuation, in comparison to applicable groundwater standards. Both tables include a trend analysis graph of contaminant concentration in groundwater since June 2012.

Groundwater collected from MW-06 and MW-JCL-02 continues to exceed applicable groundwater standards through the most recent sampling event conducted in May 2018.

The ICs established for the Site have been and continue to be in compliance with the SMP. Though residual contamination exists in the groundwater following source area soil removal, 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 Control Plan Compliance

Since remaining contaminated soil, groundwater, and soil vapor 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 are required by the SMP to: (1) implement, maintain and monitor EC systems; (2) prevent 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 ICs on the Site is required by the DR and implemented under the SMP.

- Land Use Restriction – Site property use is limited to Commercial and Industrial uses only; the Site is currently used as a commercial recreational vehicle sales and service facility and has met the requirements of this restriction throughout this reporting period.

- Groundwater Use Restriction – Use of groundwater as a potable or process water source is prohibited; the Site is currently connected to a supplied potable water source from the Village of Churchville and does not use the Site groundwater.

- Site Management Plan (SMP) – Compliance with the SMP is required, including required periodic certifications; the Site was in compliance with all components of the Site-specific SMP throughout this reporting period.

Additional Site restrictions that apply to the Controlled Property are:

- The property may not be used for a higher level of use, without additional remediation and amendment of the DR, as approved by the NYSDEC;
- All future activities on the property that will disturb residual impacted material must be conducted in accordance with the SMP;
- The potential for vapor intrusion must be evaluated for any buildings developed on the Site, any potential impacts that are identified must be monitored or mitigated;

- 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 annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

Institutional Controls identified in the DR may not be discontinued without an amendment to or extinguishment of the DR.

Engineering Controls (ECs)

- Soil Cover System (Cap) – Exposure to residual contamination in subsurface soil/fill, groundwater and soil vapor at the Site is prevented by a soil cover system placed over the Site (the "Cap"). This cover system consists of asphalt pavement, concrete-covered sidewalks, and concrete building slabs. 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 residual contamination is disturbed. Procedures for the inspection, maintenance and monitoring of this cover are provided in the Monitoring Plan included in Section 3 of the SMP.

  Per NYSDEC and NYSDOH determination, in a letter dated May 15, 2017, a SSDS is not required for the building located at the site and no additional SVI testing is planned.

  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
1	Bi-annually (seasonal high and low groundwater)	Groundwater	EPA Method 8260 EPA Method 6010 Manganese and Iron
2	N/A	SSDS	N/A
3	Bi-annually	Soil Cover	N/A

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

Monitoring activities completed during this reporting period (June 1, 2017 - June 1, 2018) included the following:

- Bi-annual groundwater sampling of Site wells MW-03R, MW-JCL-02, MW-06, and MW-13; and
- Bi-annual inspection of the Site soil cover system

Groundwater Sampling

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

Media Sampling and Analysis Summary

Sample Type	Sample Location	Analytical Parameters	Frequency	QA/QC	Total
Groundwater	MW-03R, 06, 13, MW-JCL-02	EPA 8260 EPA 6010 Manganese and Iron	Semi-annual (twice each year during seasonal high and low groundwater)	Trip Blank (1)	5

The previously-mentioned Site wells were sampled bi-annually with dedicated bailers per the procedures outlined in the SMP. Each well was purged a minimum of three (3) well volumes prior to sampling. Groundwater quality measurements including temperature, turbidity, pH, conductivity and oxidation reduction potential (ORP) were collected during the purging process at each well. No odors were observed during the groundwater sampling and water was generally turbid. Purge water from each well was containerized in steel 55-gallon drums.

At each well, samples were collected for TCL VOCs (EPA Method 8260B), iron and manganese (EPA Method 6010C). Groundwater sampling logs are included as Attachment B of this report.

Results of the groundwater sampling conducted during this period are summarized in Tables 1 and 2 and depicted on Figures 2, 3, and 4. Table 1 presents the analytical results of VOCs detected in groundwater from June 2012 through May 2018 in comparison to applicable standards. Table 2 presents the analytical results of iron and manganese (natural attenuation indicators) from June 2012 through May 2018. Both tables include a trend analysis graph of the analytical data. Figure 2 illustrates the detected VOCs concentrations in groundwater that exceeded applicable standards for December 2017. Figure 3 illustrates the detected VOCs and associated concentrations in groundwater that exceed applicable standards in the May 2018 sampling event. Each figure also illustrates groundwater elevation contours based on water level measurements collected at each well during each sampling event. It is noted that groundwater generally flows south and west across the Site, generally following Site topography.

For comparison and future reference, the following sections summarize the analytical results since 2014.

2014

From June 2014 to November 2014, CVOC concentrations fluctuated and continued to exceed applicable groundwater standards in all monitoring wells. There was a general decline in concentration levels of PCE, TCE, and cis-1,2-DCE in MW-03 and MW-JCL-02. In MW-06, the PCE concentration level increased and dichlorodifluoromethane was detected for the first time since the June 2012 sampling event. Iron and manganese concentrations increased in MW-03 and MW-06 and decreased in MW-JCL-02. Concentration levels of these metals exceeded groundwater standards except for iron in MW-JCL-02.

2015

CVOC concentrations continued to fluctuate between July 2014 and July 2015. In MW-03, PCE and cis-1,2-DCE concentrations decreased and TCE slightly increased. Dichlorodifluoromethane concentration increased and PCE concentrations decreased in MW-06. Chloroform and TCE were also detected for the first time in MW-06 since semi-annual groundwater monitoring began in 2012. MW-JCL-02 had increases in cis-1,2-DCE, TCE, and PCE. Dichlorodifluoromethane was detected for the first time since the June 2012 sampling event in MW-JCL-02 as well. Between June 2015 and November 2015, contaminant concentrations remained relatively the same in MW-03 and MW-06. PCE decreased in MW-03 and slightly increased in MW-06. Cis-1,2-DCE also decreased in MW-03. In JCL-02, dichlorodifluoromethane was not detected and concentrations of PCE, TCE, and 1,2-DCE declined. Consistent with previous years, no VOCs were detected in MW-13. All four (4) wells had increased concentrations of iron and manganese with the exception of manganese in MW-06. All concentrations of iron and manganese exceeded NYS groundwater standards for this period.

2016 - May 2017

From November 2015 to December 2016, CVOC concentrations generally declined as indicated by analytical results from MW-JCL-02 and MW-06. MW-03 was decommissioned and removed during the source area soil removal in 2016 and replaced with MW-03R, installed on September 12, 2016. No CVOC concentration exceedances were detected in MW-03R in December 2016 or May 2017. It is noted that the ISCO agent, PersulfOx®, was installed into the excavation following source area removal as approved by the NYSDEC in the Excavation Notification-Remedial Design, dated April 19, 2016.

Presumably, CVOC reductions observed can be attributed to the installation of the oxidizing agent. Significant reductions in PCE, TCE, and cis-1,2,-DCE were observed in MW-JCL-02 between December 2016 and May 2017, as shown on Table 1. A slight increase in PCE and dichlorodifluoromethane occurred in MW-06 between December 2016 and May 2017. No VOCs were detected in MW-13, as found in previous years.

As shown on Table 2, iron and manganese concentrations fluctuated from December 2016-May 2017. Overall, iron concentrations appeared to increase from November 2015 to May 2017 in three (3) of the monitoring wells. A notable increase in manganese and iron was noted between December2016 and May 2017 in MW-06. A significant rise in iron was also observed in MW-JCL-02 between December 2016 and May 2017.

Concentrations of CVOCs in the source area exceeded applicable groundwater standards. With the exception of MW-06, an overall decline in the concentrations of CVOCs was observed.

June 2017 - June 2018

From June 2017 to June 2018, CVOC concentrations generally declined as indicated by the analytical results from MW-JCL-02, and MW-06. No CVOC concentration exceedances were detected in MW-03R in December 2017 or May 2018. This reduction in CVOC concentration is attributed to the introduction of the ISCO agent, PersulfOx®, administered in the excavation following source area removal and natural attenuation in April 2016.

As shown in Table 1 Iron and Manganese concentrations fluctuated from December 2017 to May 2018. Overall, iron concentrations generally appeared to increase from 2014 to June 2018 in four (4) of the monitoring wells. An increase in iron concentration was observed in MW-03R and MW-JCL-02 from June 2017 to June 2018. An increase in manganese was noted in MW-03R, MW-06 and MW-JCL-02 during the reporting period. Iron and manganese serve as alternate electron acceptors for microbial respiration in the absence of oxygen and nitrate. An increase in dissolved or total manganese and iron indicates that the groundwater environment is sufficiently reducing to sustain Mn and FE reduction and for anaerobic dechlorination to occur (ITRC. 2008. In Situ Bioremediation of Chlorinated Ethene: DNAPL Source Zones. Interstate Technology and Regulatory Council).

All laboratory analytical data is included as Attachment C of this report. Samples were analyzed at Paradigm Environmental Services, Inc., a NYSDOH ELAP-CLP certified laboratory (ELAP)

located in Rochester, New York. All sampling methods and QA/QC measures were adhered to as outlined in the approved SMP.

6.0 Operation and Maintenance Plan Compliance Report

ECs in place at the Site are the building floor slab, sidewalks and asphalt pavement, collectively referred to as the "Cap" or soil cover system, and the retaining wall. During this reporting period, operation and maintenance is limited to periodic inspection of the Cap, which is documented using the Site Inspection Form. The revised SMP, complete with Site updates, has been submitted to and approved by the NYSDEC. 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.

7.0 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:

Landuse Restriction – The Site is currently used as a commercial recreational vehicle sales and service facility and has met the requirements of this restriction in this reporting period.

Groundwater Use Restriction – The Site is currently connected to a supplied potable water source and does not use the 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. Following asphalt replacement per the provisions outlined in the SMP in 2013 as well as Cap restoration following redevelopment activities in 2016, the Cap met and continues to meet the necessary compliance requirements. All requirements have been met during this reporting period.

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

Based on post-remedial groundwater and SVI sampling conducted to date, residual groundwater, soil, and soil vapor contamination persists, but appears to be attenuating. Groundwater CVOC concentrations continue to fluctuate. However, it does not appear that residual contamination is migrating on Site. 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 one (1) year from submittal of this PRR. Lu Engineers also recommends that the Department consider discontinuing the requirement for bi-annual monitoring of monitoring well MW-13 due to 13 consecutive rounds of sampling resulting in no VOC detections at that location. Lu Engineers also recommends that groundwater monitoring and PPR compliance inspections be completed once per year rotating to the next consecutive quarter each year. On behalf of Wilkins RV, Lu Engineers requests NYSDEC concurrence on discontinuation of monitoring and sampling at MW-13 and the annual versus bi-annual sampling and monitoring of the Site.

Tables

Wilkins RV (Former Churchville Ford) Site (#V00658-8)
Village of Churchville
Town of Riga
June 2018

Table 1 Groundwater Results - Metals

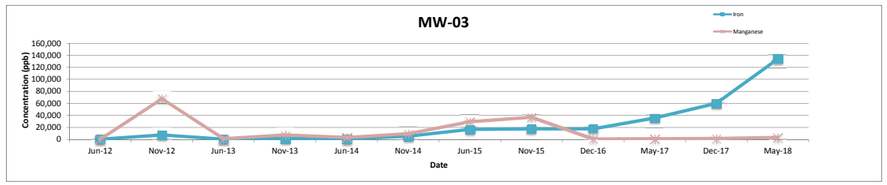
Analytical Parameters[1]	Groundwater Standard[2]	MW-03								MW-03R				MW-06												MW-13												MW-JCL-02											
		Post-Remediation												Post-Remediation												Post-Remediation												Post-Remediation											
		Jun-12	Nov-12	Jun-13	Nov-13	Jun-14	Nov-14	Jun-15	Nov-15	Dec-16	May-17	Dec-17	May-18	Jun-12	Nov-12	Jun-13	Nov-13	Dec-11	Nov-14	Jun-15	Nov-15	Dec-16	May-17	Dec-17	May-18	Jun-12	Nov-12	Jun-13	Aug-10	Dec-11	Nov-14	Jun-15	Nov-15	Dec-16	May-17	Dec-17	May-18	Jun-12	Nov-12	Jun-13	Nov-13	Jun-14	Nov-14	Jun-15	Nov-15	Dec-16	May-17	Dec-17	18-May
Iron	300**	134	7,370	229	1,740	789	5,460	16,700	17,700	17,400	35,600	60,000	134,000	360	378	1,340	1,110	3,510	5,830	27,700	32,700	6,990	47,200	20,500	23,100	875	1,670	1,800	8,610	3,740	2,710	3,340	11,400	4,060	5,630	66,900	76,200	5,250	611	6,140	10,600	4,630	195	22,700	38,000	7,860	47,500	46,700	87,000
Manganese	300**	293	67,600	1,250	7,350	3,350	9,540	29,200	36,800	913	1,030	1,530	3,030	1,290	920	1,940	1,470	146	8,840	18,200	14,900	4,910	20,700	7,330	13,300	606	576	411	2,260	2,260	738	699	1,240	777	327	1,690	1,930	2,260	1,290	1,580	2,710	2,190	557	6,650	11,100	1,740	2,780	1,490	3,350

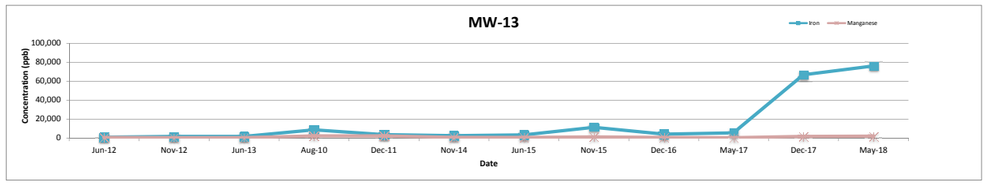
~ parameter detected above NYS Ambient Groundwater Standard or applicable NYSDEC Guidance Value

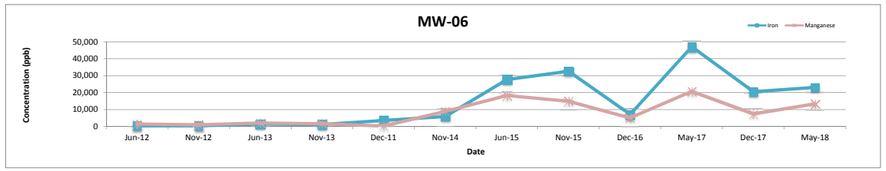
1 - Results presentend in ug/L (parts per billion)

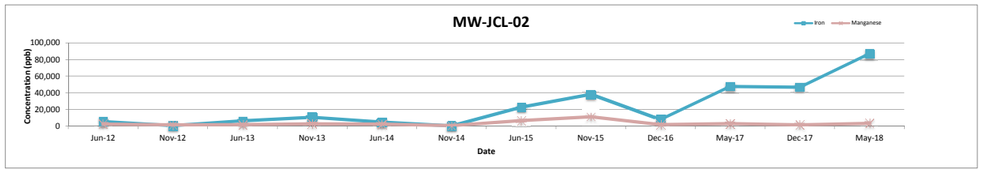
2 - NYS Ambient Groundwater Standards (6 NYCRR Part 703.5)

** - Sum total concentration of Iron and Manganese standard is 500 ug/L per NYSDEC Part 703.5 Class GA groundwater standards









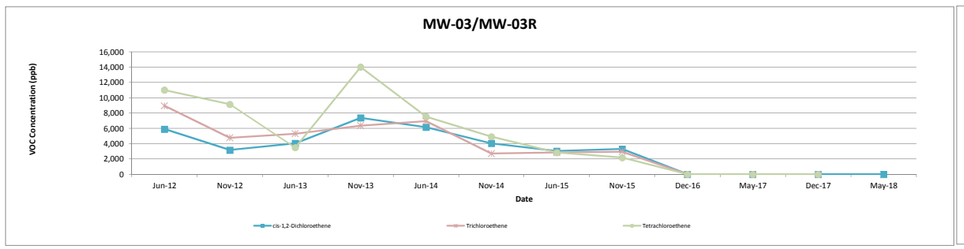
Wilkins RV (Former Churchville Ford) Site (#V00658-8)
Village of Churchville
Town of Riga
June 2018

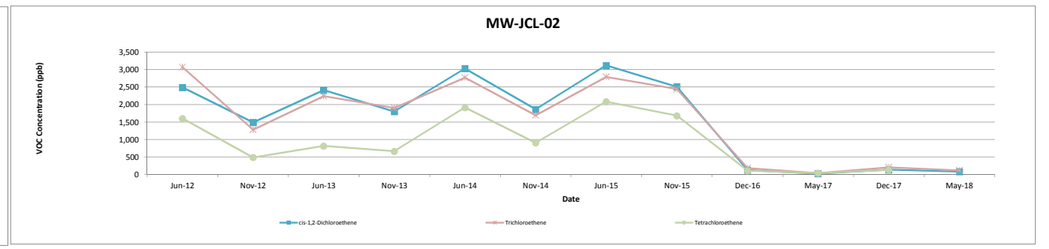
Table 2 Groundwater Results - CVOCs/VOCs

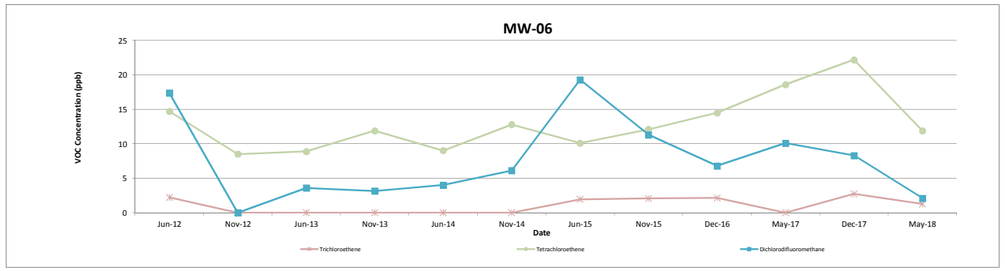
Detected Parameters[1]	NYS Groundwater Standard[2]	MW-03								MW-03R				MW-06												MW-13											
		Post-Remediation												Post-Remediation												Post-Remediation											
		Jun-12	Nov-12	Jun-13	Nov-13	Jun-14	Nov-14	Jun-15	Nov-15	Dec-16	May-17	Dec-17	May-18	Jun-12	Nov-12	Jun-13	Nov-13	Jun-14	Nov-14	Jun-15	Nov-15	Dec-16	May-17	Dec-17	May-18	Jun-12	Nov-12	Jun-13	Nov-13	Jun-14	Nov-14	Jun-15	Nov-15	Dec-16	May-17	Dec-17	May-18
Acetone	50*	ND	ND	2270	1,200 B	ND	ND	ND	ND	14.9	7.99 J	ND	6.57 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	0.510 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	5	ND	995 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.14 J	2.27	1.28 J
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.92	2.91	1.59	ND	1.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.76	1.51 J	35.3	9.1
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	1.49	ND	2.64	2.1	**17.4**	1.75 J	3.59	3.15	4.01	**6.11**	**19.3**	**11.3**	**6.8**	**10.1**	**8.3**	**2.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**90 J**	ND	ND	ND	ND	ND	**68.5 J**	ND	2.91	ND	**23.7**	**3.68**
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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	**11,000**	**9,140**	**3480**	**14,000**	**7,530**	**4,920**	**2,840**	**2,170**	ND	ND	ND	ND	**14.7**	**8.51**	**8.89**	**11.9**	**9.01**	**12.8**	**10.1**	**12.1**	**14.5**	**18.6**	**22.2**	**11.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1,600**	**480**	**812**	**659**	**1,910**	**900**	**2,080**	**1,680**	**102**	**32.2**	**127**	**43.1**
trans-1,2-Dichloroethene	5*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	**8,940**	**4,760**	**5300**	**6,340**	**6,930**	**2,700**	**2,830**	**2,960**	ND	ND	ND	ND	2.22	1.92 J	1.5 J	1.78 J	1.47 J	ND	1.94	2.06	2.14	1.88 J	2.73	1.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3,070**	**1,280**	**2240**	**1,900**	**2,770**	**1,690**	**2,790**	**2,440**	**180**	**28.8**	**200**	**114**
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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	**5,900**	**3,170**	**4030**	**7,380**	**6,150**	**4,040**	**3,030**	**3,300**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.54	**2,490**	**1,490**	**2410**	**1,800**	**3,030**	**1,860**	**3,120**	**2,510**	**121**	**17.8**	**130**	**76.7**

~ parameter detected above NYS Ambient Groundwater Standard or applicable NYSDEC Guidance Value

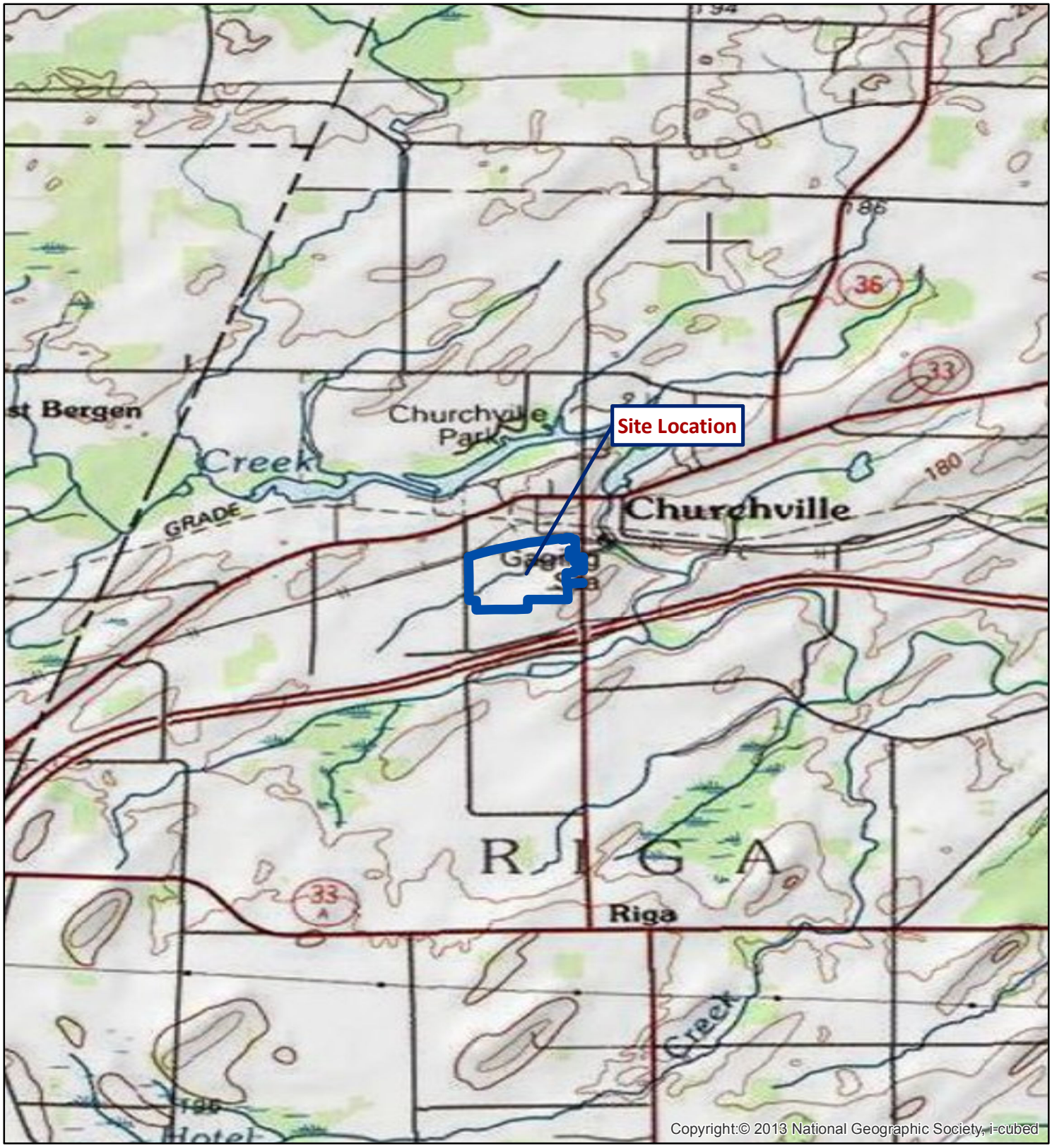
J - value is estimated
ND - Not detected above reporting limit
1 - Results presentend in ug/L or parts per billion (ppb)
2 - NYS Ambient Groundwater Standards (6 NYCRR Part 703.5)







Figures



1 inch = 4,000 feet

0 2,500 5,000 10,000 Feet

N W E S

New York Quadrangle Location

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FIGURE 1
SITE LOCATION PLAN

97 SOUTH MAIN STREET
CHURCHVILLE, NEW YORK

DATE: June 2017
SCALE: AS NOTED
DRAWN/CHECKED: SMK/JB
DATA SOURCE: AS NOTED

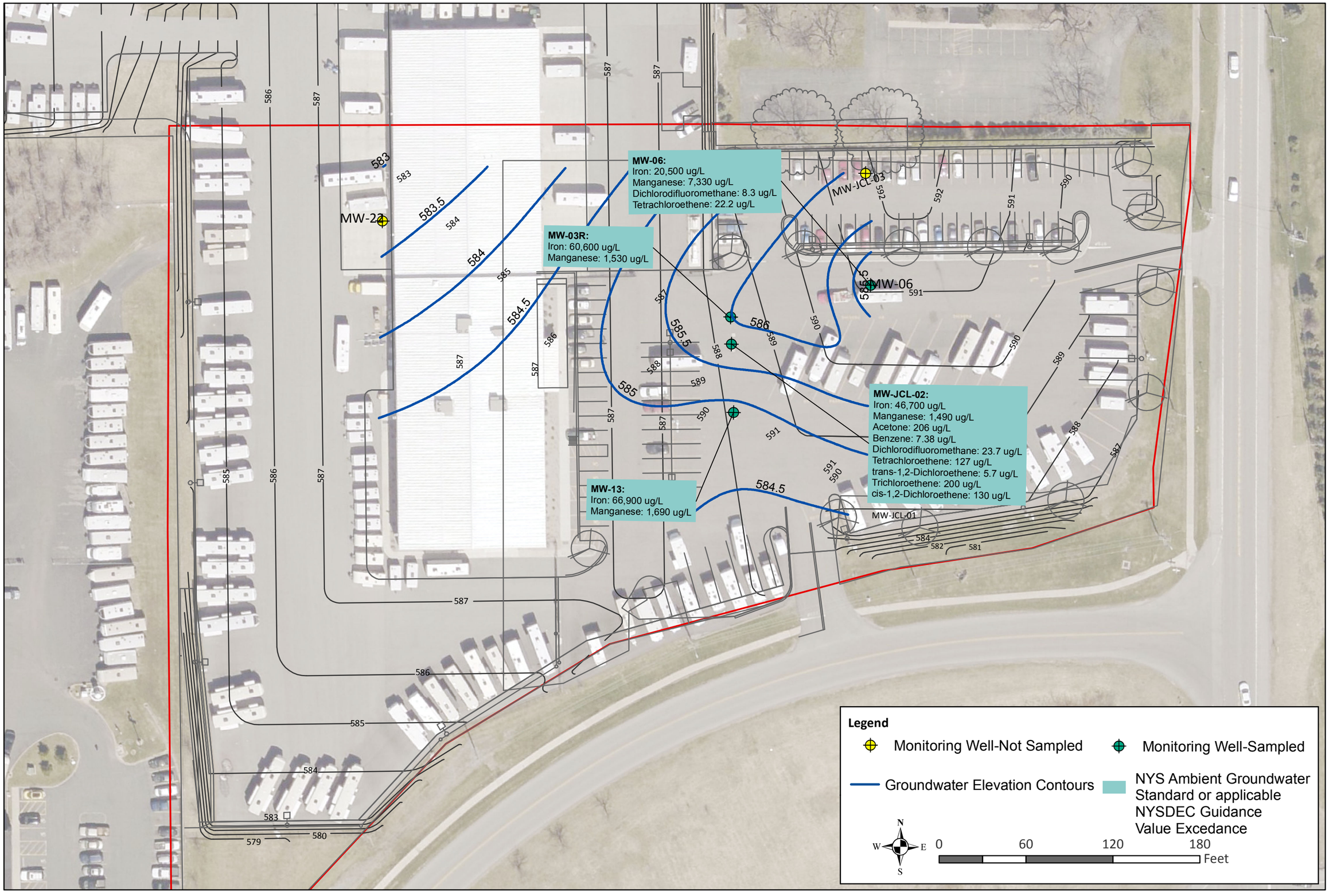

Figure 2. Groundwater Contours & Analytical Results
December 2017
Former Churchville Ford Site, #V00658
CHURCHVILLE, NY

DATE: December 2017
PROJECT NO: 50185-02
DRAWN/CHECKED: PRC/AC
DATA SOURCE: PSTR MAY 2018

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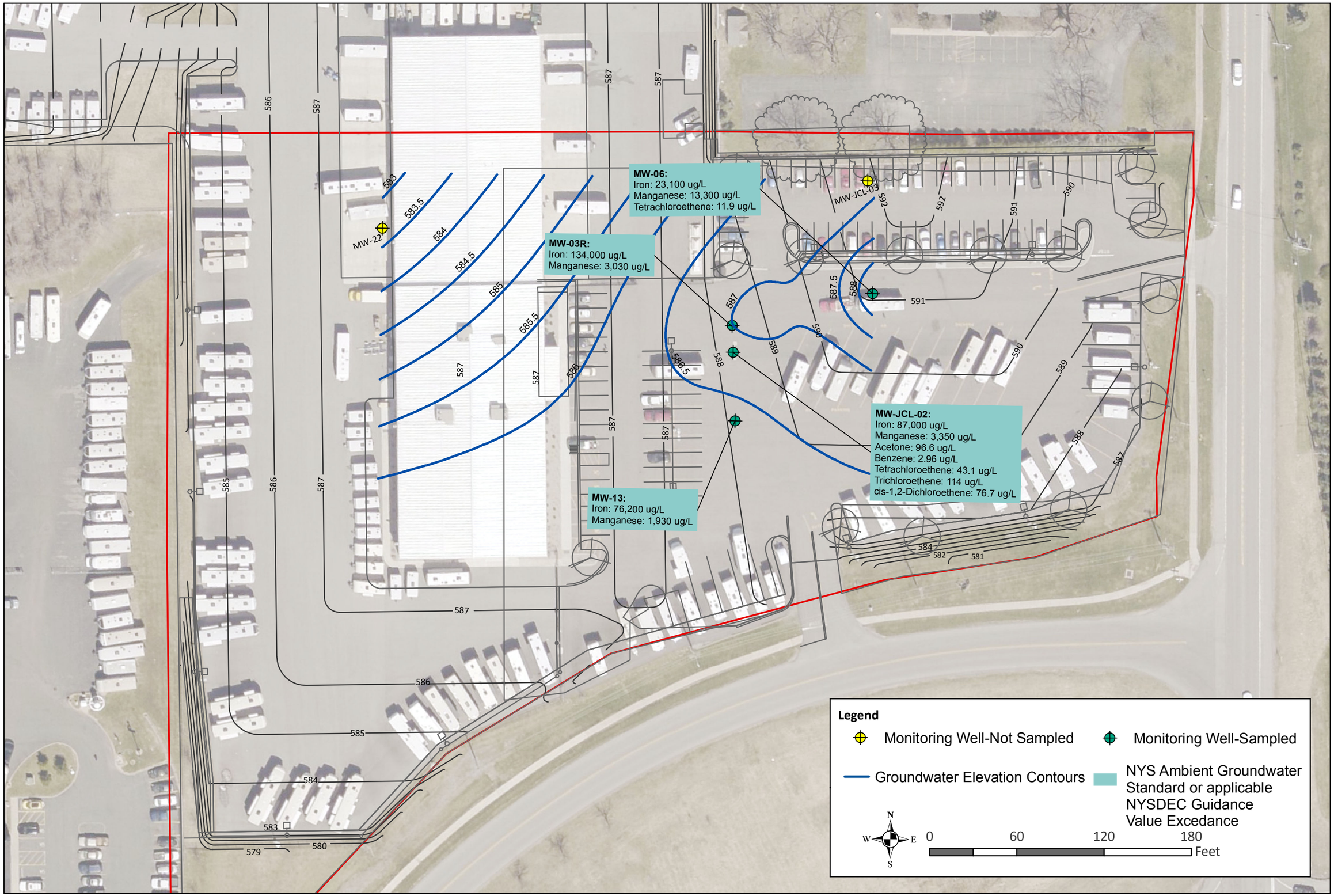

DATE: JUNE 2018
PROJECT NO: 50185-02
DRAWN/CHECKED: PRC/GLA
DATA SOURCE: PICTOMETRY 2018

Figure 3. Groundwater Contours & Analytical Results
May 2018
Former Churchville Ford Site, #V00658
CHURCHVILLE, NY

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SITE-WIDE INSPECTION FORM
FORMER CHURCHVILLE FORD VCP SITE

Date: 12-18-17

Name: Patrick Colern

Company: Lu Engineers

Position of person(s) conducting maintenance/inspection activities: Environmental Scientist

Document the following information during each biannual site visit for groundwater sampling:

1. Compliance with all ECs/ICs, including site usage

   Yes, all ECs/ICs appear to be in compliance

2. An evaluation of the condition and continued effectiveness of the Site Cap and SSDS

   - Asphault Cap in excellent condition, NO cracks or potholes
   - New buildings in good condition
   - Former building w/SSDs demolished.
   - New buildings does not have SSDs

3. General site conditions at the time of the inspection

   Excellent condition

4. The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection

   SMP activities include sampling of 4 MW wells for VOCs Fe, tMn

5. Compliance with permits and schedules included in the Operation and Maintenance Plan

   Yes this sampling round is 1st round of bi-Annual sampling + inspection for 2018

6. Confirm that site records are up to date

   yes

7. Conduct a visual inspection of the complete SSDS (i.e., vent fan, piping, warning device, labeling on systems, etc.).

   NA SSDS not in new buildings

8. Conduct an inspection of all surfaces to which vacuum is applied.

N/A

9. Inspect all components for condition and proper operation. Are both fans operational?

N/A

10. Inspect the exhaust or discharge point to verify that no air intakes have been located nearby.

N/A

11. Identify and repair any leaks in accordance with Sections 4.3.1(a) and 4.3.4(a) of the NYSDOH Guidance (i.e.; with the systems running, smoke tubes will used to check for leaks through concrete cracks, floor joints and at the suction points and any leaks will be resealed until smoke is no longer observed flowing through the opening).

N/A

12. Interview an appropriate occupant seeking comments and observations regarding the operation of the System.

N/A

Any Questions or Service needed to the SSDS call MITIGATION TECH at 1-800-637-9228

End of Inspection Form

SITE-WIDE INSPECTION FORM
FORMER CHURCHVILLE FORD VCP SITE

Date: 5-15-18

Name: Patrick Colern

Company: Lu Engineers

Position of person(s) conducting maintenance/inspection activities: Environmental Scientist

Document the following information during each biannual site visit for groundwater sampling:

1. Compliance with all ECs/ICs, including site usage

   Yes, all ECs/ICs are in compliance

2. An evaluation of the condition and continued effectiveness of the Site Cap and SSDS

   -Asphault Cap in excellent condition, NO cracks or pot holes
   -NO SSDS in new buildings
   -New buildings slab is in excellent condition

3. General site conditions at the time of the inspection

   Rain + Wind, Site is in excellent condition

4. The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection

   SMP activites include sampling of 4 MW for VOCs Fe, + MNA, + Site Wide Inspection

5. Compliance with permits and schedules included in the Operation and Maintenance Plan

   Yes, this sampling rounnd is 2nd round of biannual samplins + Inspection for 2017

6. Confirm that site records are up to date

   Yes

7. Conduct a visual inspection of the complete SSDS (i.e., vent fan, piping, warning device, labeling on systems, etc.).

   NA, building does not exist, New buildings does not have an SSDS system

8. Conduct an inspection of all surfaces to which vacuum is applied.

NA

9. Inspect all components for condition and proper operation. Are both fans operational?

NA

10. Inspect the exhaust or discharge point to verify that no air intakes have been located nearby.

NA

11. Identify and repair any leaks in accordance with Sections 4.3.1(a) and 4.3.4(a) of the NYSDOH Guidance (i.e.; with the systems running, smoke tubes will used to check for leaks through concrete cracks, floor joints and at the suction points and any leaks will be resealed until smoke is no longer observed flowing through the opening).

NA

12. Interview an appropriate occupant seeking comments and observations regarding the operation of the System.

NA

Any Questions or Service needed to the SSDS call MITIGATION TECH at 1-800-637-9228

End of Inspection Form

Groundwater Sampling
Field Record

Project Name Wilkens RV- Sampling Job # 50185-02
Location ID MW-03R Field Sample ID MW-06-1218 Sampling Event # 01
Activity Time 1000 Sample Time 10:30 Date 12/18/2017

SAMPLING NOTES

Initial Depth to Water 2.3 feet Measurement Point Well Diameter 2'
Final Depth to Water 16.65 feet Well Depth 20.3 feet Well Integrity:
Screen Length 10 feet Pump Intake Depth Cap X
Total Volume Purged 8 gallons PID Well Head 0.0 Casing X
[purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter] Locked X
Volume of Water in casing – 2" diameter = 0.163 gallons per foot of depth, 4" diameter = 0.653 gallons per foot of depth Collar X

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
1030	16.65	-	14.5	6.54	2.86	2225	4.20	-129	Sampled 8 Gal

Purge Observations: Turbid, No Odor
Purge Water Containerized: Yes

EQUIPMENT DOCUMENTATION

Type of Pump: PVC Bailer
Type of Tubing:
Type of Water Quality Meter: Calibrated:

ANALYTICAL PARAMETERS

Parameter	Volumes	Sample Collected
VOC's	2 X 40 ml	
Fe, Mn	1 x 250 ml	

LOCATION NOTES

Lu Engineers
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Groundwater Sampling Field Record

Project Name Wilkens RV- Sampling
Job # 50185-02
Location ID MW-06
Field Sample ID MW-06-1218
Sampling Event # 01
Activity Time 0800
Sample Time 8:35
Date 12/18/2017

SAMPLING NOTES

Initial Depth to Water 3.3 feet
Measurement Point
Well Diameter 2'
Final Depth to Water 9.6 feet
Well Depth 17.75 feet
Well Integrity:
Screen Length 10 feet
Pump Intake Depth
Cap X
Total Volume Purged 5 gallons
PID Well Head 0.0
Casing X
[purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter]
Locked X
Volume of Water in casing – 2" diameter = 0.163 gallons per foot of depth, 4" diameter = 0.653 gallons per foot of depth
Collar X

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
0835	9.6	-	12.9	7.53	3.09	1666 AU	1.75	-150	Sampled 5 Gal

Purge Observations: Turbid, No Odor
Purge Water Containerized: Yes

EQUIPMENT DOCUMENTATION

Type of Pump: PVC Bailer
Type of Tubing:
Type of Water Quality Meter:
Calibrated:

ANALYTICAL PARAMETERS

Parameter	Volumes	Sample Collected
VOC's	2 X 40 ml	
Fe, Mn	1 x 250 ml	

LOCATION NOTES

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

Groundwater Sampling Field Record

Project Name Wilkens RV- Sampling
Job # 50185-02
Location ID MW-13
Field Sample ID MW-06-1218
Sampling Event # 01
Activity Time 1145
Sample Time 12:30
Date 12/18/2017

SAMPLING NOTES

Initial Depth to Water 3.2 feet
Measurement Point
Well Diameter 2'
Final Depth to Water 8.6 feet
Well Depth 11.35 feet
Well Integrity:
Screen Length 10 feet
Pump Intake Depth
Cap X
Total Volume Purged 6 gallons
PID Well Head 0.0
Casing X
[purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter]
Locked X
Volume of Water in casing – 2" diameter = 0.163 gallons per foot of depth, 4" diameter = 0.653 gallons per foot of depth
Collar X

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
1230	8.6	-	11.2	6.87	3.60	1002	.465	-145	Sampled 6 Gal

Purge Observations: Turbid, No Odor
Purge Water Containerized: Yes

EQUIPMENT DOCUMENTATION

Type of Pump: PVC Bailer
Type of Tubing:
Type of Water Quality Meter:
Calibrated:

ANALYTICAL PARAMETERS

Parameter	Volumes	Sample Collected
VOC's	2 X 40 ml	
Fe, Mn	1 x 250 ml	

LOCATION NOTES

Groundwater Sampling
Field Record

Lu Engineers
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Project Name Wilkens RV- Sampling — Job # 50185-02
Location ID MW-JCL-02 — Field Sample ID MW-06-1218 — Sampling Event # 01
Activity Time 1100 — Sample Time 11:50 — Date 12/18/2017

SAMPLING NOTES

Initial Depth to Water 3.3 feet — Measurement Point — Well Diameter 2'
Final Depth to Water 21 feet — Well Depth 11.35 feet — Well Integrity:
Screen Length 10 feet — Pump Intake Depth — Cap X
Total Volume Purged 9 gallons — PID Well Head 0.0 — Casing X
[purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter] — Locked X
Volume of Water in casing – 2" diameter = 0.163 gallons per foot of depth, 4" diameter = 0.653 gallons per foot of depth — Collar X

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
1150	21	-	14	6.15	1.70	10	11.12	200	Sampled 9 Gal

Purge Observations: Turbid, No Odor
Purge Water Containerized: Yes

EQUIPMENT DOCUMENTATION

Type of Pump: PVC Bailer
Type of Tubing:
Type of Water Quality Meter: — Calibrated:

ANALYTICAL PARAMETERS

Parameter	Volumes	Sample Collected
VOC's	2 X 40 ml	
Fe, Mn	1 x 250 ml	

LOCATION NOTES

Groundwater Sampling
Field Record

Lu Engineers
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Project Name Wilkens RV
Job # 50185-02
Location ID MW-06
Field Sample ID MW-06
Sampling Event # 02
Activity Time 11:15
Sample Time 1200
Date 05/15/18

SAMPLING NOTES

Initial Depth to Water 2.5 feet
Measurement Point
Well Diameter 2”
Final Depth to Water 15.3 feet
Well Depth 17.6 feet
Well Integrity:
Screen Length feet
Pump Intake Depth
Cap X
Total Volume Purged 7.3 gallons
PID Well Head 0.0
Casing X
[purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter]
Locked
Volume of Water in casing – 2” diameter = 0.163 gallons per foot of depth, 4” diameter = 0.653 gallons per foot of depth
Collar X

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
1115	15.3		11.9	8.23	7.31	943	1196	7.9	

Purge Observations:
Purge Water Containerized:

EQUIPMENT DOCUMENTATION

Type of Pump: PVC Bailer
Type of Tubing:
Type of Water Quality Meter:
Calibrated:

ANALYTICAL PARAMETERS

Parameter Volumes Sample Collected

LOCATION NOTES

Anticipated purge: 7.3 gals

Groundwater Sampling
Field Record

Lu Engineers
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Project Name Wilkens RV
Job #50185-02
Location ID MW-03
Field Sample ID MW-03
Sampling Event # 02
Activity Time 1000
Sample Time 1030
Date 05/15/18

SAMPLING NOTES

Initial Depth to Water 1.3 feet
Measurement Point
Well Diameter 2”
Final Depth to Water 16.2 feet
Well Depth 17.2 feet
Well Integrity:
Screen Length feet
Pump Intake Depth
Cap X
Total Volume Purged 4.5 gallons
PID Well Head 0.0
Casing X
[purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter]
Locked X
Volume of Water in casing – 2” diameter = 0.163 gallons per foot of depth, 4” diameter = 0.653 gallons per foot of depth
Collar X

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
1030	2.3		12.7	6.69	3.59	OR	10138	-64.4	

Purge Observations: No odor
Purge Water Containerized:

EQUIPMENT DOCUMENTATION

Type of Pump: PVC Bailer
Type of Tubing:
Type of Water Quality Meter:
Calibrated:

ANALYTICAL PARAMETERS

Parameter Volumes Sample Collected

LOCATION NOTES

Anticipated purge: Anticipated purge 8 gals

Groundwater Sampling
Field Record

Lu Engineers
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Project Name Wilkens RV
Job # 50185-02
Location ID JCL-02
Field Sample ID JCL-02
Sampling Event # 02
Activity Time 1200
Sample Time 1215
Date 05/15/18

SAMPLING NOTES

Initial Depth to Water 2.35 feet
Measurement Point
Well Diameter 2”
Final Depth to Water 27.9 feet
Well Depth 31.6 feet
Well Integrity:
Screen Length feet
Pump Intake Depth
Cap X
Total Volume Purged 7.3 gallons
PID Well Head 2.5 ppm
Casing X
[purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter]
Locked X
Volume of Water in casing – 2” diameter = 0.163 gallons per foot of depth, 4” diameter = 0.653 gallons per foot of depth
Collar X

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
0900	27.9		16.5	6.67	7.39	2875	6787	264.7	

Purge Observations: No odor
Purge Water Containerized: Well dried up at 9 gals purged.

EQUIPMENT DOCUMENTATION

Type of Pump: PVC Bailer
Type of Tubing:
Type of Water Quality Meter:
Calibrated:

ANALYTICAL PARAMETERS

Parameter Volumes Sample Collected

LOCATION NOTES

Anticipated purge: 14 gals

Groundwater Sampling
Field Record

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

Project Name Wilkens RV
Job # 50185-02
Location ID MW-13
Field Sample ID MW-13
Sampling Event # 02
Activity Time 0900
Sample Time 0930
Date 05/15/18

SAMPLING NOTES

Initial Depth to Water 1.7 feet
Measurement Point
Well Diameter
Final Depth to Water 15.3 feet
Well Depth 11.2 feet
Well Integrity:
Screen Length feet
Pump Intake Depth
Cap
Total Volume Purged 7.3 gallons
PID Well Head
Casing
[purge volume (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter]
Locked
Volume of Water in casing – 2" diameter = 0.163 gallons per foot of depth, 4" diameter = 0.653 gallons per foot of depth
Collar

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
0910	10.5		11.7	7.63	4.42	OR	1556	65.4	

Purge Observations:
Purge Water Containerized:

EQUIPMENT DOCUMENTATION

Type of Pump: PVC Bailer
Type of Tubing:
Type of Water Quality Meter:
Calibrated:

ANALYTICAL PARAMETERS

Parameter Volumes Sample Collected

LOCATION NOTES

Anticipated purge: 4.6 gals

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier:	MW-06-121817		
Lab Sample ID:	175604-01	**Date Sampled:**	12/18/2017
Matrix:	Groundwater	**Date Received:**	12/18/2017

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Iron	**20.5**	mg/L		12/19/2017 18:20
Manganese	**7.33**	mg/L		12/19/2017 18:20

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 12/18/2017
Data File: 171219A

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Report Prepared Friday, December 22, 2017

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier:	MW-06-121817		
Lab Sample ID:	175604-01	**Date Sampled:**	12/18/2017
Matrix:	Groundwater	**Date Received:**	12/18/2017

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		12/21/2017 14:38
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		12/21/2017 14:38
1,1,2-Trichloroethane	< 2.00	ug/L		12/21/2017 14:38
1,1-Dichloroethane	< 2.00	ug/L		12/21/2017 14:38
1,1-Dichloroethene	< 2.00	ug/L		12/21/2017 14:38
1,2,3-Trichlorobenzene	< 5.00	ug/L		12/21/2017 14:38
1,2,4-Trichlorobenzene	< 5.00	ug/L		12/21/2017 14:38
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		12/21/2017 14:38
1,2-Dibromoethane	< 2.00	ug/L		12/21/2017 14:38
1,2-Dichlorobenzene	< 2.00	ug/L		12/21/2017 14:38
1,2-Dichloroethane	< 2.00	ug/L		12/21/2017 14:38
1,2-Dichloropropane	< 2.00	ug/L		12/21/2017 14:38
1,3-Dichlorobenzene	< 2.00	ug/L		12/21/2017 14:38
1,4-Dichlorobenzene	< 2.00	ug/L		12/21/2017 14:38
1,4-dioxane	< 20.0	ug/L		12/21/2017 14:38
2-Butanone	< 10.0	ug/L		12/21/2017 14:38
2-Hexanone	< 5.00	ug/L		12/21/2017 14:38
4-Methyl-2-pentanone	< 5.00	ug/L		12/21/2017 14:38
Acetone	< 10.0	ug/L		12/21/2017 14:38
Benzene	< 1.00	ug/L		12/21/2017 14:38
Bromochloromethane	< 5.00	ug/L		12/21/2017 14:38
Bromodichloromethane	< 2.00	ug/L		12/21/2017 14:38
Bromoform	< 5.00	ug/L		12/21/2017 14:38
Bromomethane	< 2.00	ug/L		12/21/2017 14:38
Carbon disulfide	< 2.00	ug/L		12/21/2017 14:38
Carbon Tetrachloride	< 2.00	ug/L		12/21/2017 14:38
Chlorobenzene	< 2.00	ug/L		12/21/2017 14:38

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier: MW-06-121817
Lab Sample ID: 175604-01 **Date Sampled:** 12/18/2017
Matrix: Groundwater **Date Received:** 12/18/2017

Chloroethane	< 2.00	ug/L		12/21/2017	14:38
Chloroform	**1.03**	ug/L	J	12/21/2017	14:38
Chloromethane	< 2.00	ug/L		12/21/2017	14:38
cis-1,2-Dichloroethene	< 2.00	ug/L		12/21/2017	14:38
cis-1,3-Dichloropropene	< 2.00	ug/L		12/21/2017	14:38
Cyclohexane	< 10.0	ug/L		12/21/2017	14:38
Dibromochloromethane	< 2.00	ug/L		12/21/2017	14:38
Dichlorodifluoromethane	**8.30**	ug/L		12/21/2017	14:38
Ethylbenzene	< 2.00	ug/L		12/21/2017	14:38
Freon 113	< 2.00	ug/L		12/21/2017	14:38
Isopropylbenzene	< 2.00	ug/L		12/21/2017	14:38
m,p-Xylene	< 2.00	ug/L		12/21/2017	14:38
Methyl acetate	< 2.00	ug/L		12/21/2017	14:38
Methyl tert-butyl Ether	< 2.00	ug/L		12/21/2017	14:38
Methylcyclohexane	< 2.00	ug/L		12/21/2017	14:38
Methylene chloride	< 5.00	ug/L		12/21/2017	14:38
o-Xylene	< 2.00	ug/L		12/21/2017	14:38
Styrene	< 5.00	ug/L		12/21/2017	14:38
Tetrachloroethene	**22.2**	ug/L		12/21/2017	14:38
Toluene	< 2.00	ug/L		12/21/2017	14:38
trans-1,2-Dichloroethene	< 2.00	ug/L		12/21/2017	14:38
trans-1,3-Dichloropropene	< 2.00	ug/L		12/21/2017	14:38
Trichloroethene	**2.73**	ug/L		12/21/2017	14:38
Trichlorofluoromethane	< 2.00	ug/L		12/21/2017	14:38
Vinyl chloride	< 2.00	ug/L		12/21/2017	14:38

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier: MW-06-121817
Lab Sample ID: 175604-01 **Date Sampled:** 12/18/2017
Matrix: Groundwater **Date Received:** 12/18/2017

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**98.9**	85.9 - 118		12/21/2017 14:38
4-Bromofluorobenzene	**98.1**	69.4 - 123		12/21/2017 14:38
Pentafluorobenzene	**99.1**	81.6 - 114		12/21/2017 14:38
Toluene-D8	**99.1**	82.7 - 112		12/21/2017 14:38

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x47761.D

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Report Prepared Friday, December 22, 2017

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier:	MW-03R-121817		
Lab Sample ID:	175604-02	**Date Sampled:**	12/18/2017
Matrix:	Groundwater	**Date Received:**	12/18/2017

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Iron	**60.0**	mg/L		12/19/2017 18:24
Manganese	**1.53**	mg/L		12/19/2017 18:24

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 12/18/2017
Data File: 171219A

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Report Prepared Friday, December 22, 2017

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier:	MW-03R-121817		
Lab Sample ID:	175604-02	**Date Sampled:**	12/18/2017
Matrix:	Groundwater	**Date Received:**	12/18/2017

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		12/21/2017 15:01
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		12/21/2017 15:01
1,1,2-Trichloroethane	< 2.00	ug/L		12/21/2017 15:01
1,1-Dichloroethane	< 2.00	ug/L		12/21/2017 15:01
1,1-Dichloroethene	< 2.00	ug/L		12/21/2017 15:01
1,2,3-Trichlorobenzene	< 5.00	ug/L		12/21/2017 15:01
1,2,4-Trichlorobenzene	< 5.00	ug/L		12/21/2017 15:01
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		12/21/2017 15:01
1,2-Dibromoethane	< 2.00	ug/L		12/21/2017 15:01
1,2-Dichlorobenzene	< 2.00	ug/L		12/21/2017 15:01
1,2-Dichloroethane	< 2.00	ug/L		12/21/2017 15:01
1,2-Dichloropropane	< 2.00	ug/L		12/21/2017 15:01
1,3-Dichlorobenzene	< 2.00	ug/L		12/21/2017 15:01
1,4-Dichlorobenzene	< 2.00	ug/L		12/21/2017 15:01
1,4-dioxane	< 20.0	ug/L		12/21/2017 15:01
2-Butanone	< 10.0	ug/L		12/21/2017 15:01
2-Hexanone	< 5.00	ug/L		12/21/2017 15:01
4-Methyl-2-pentanone	< 5.00	ug/L		12/21/2017 15:01
Acetone	< 10.0	ug/L		12/21/2017 15:01
Benzene	< 1.00	ug/L		12/21/2017 15:01
Bromochloromethane	< 5.00	ug/L		12/21/2017 15:01
Bromodichloromethane	< 2.00	ug/L		12/21/2017 15:01
Bromoform	< 5.00	ug/L		12/21/2017 15:01
Bromomethane	< 2.00	ug/L		12/21/2017 15:01
Carbon disulfide	< 2.00	ug/L		12/21/2017 15:01
Carbon Tetrachloride	< 2.00	ug/L		12/21/2017 15:01
Chlorobenzene	< 2.00	ug/L		12/21/2017 15:01

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier: MW-03R-121817
Lab Sample ID: 175604-02 **Date Sampled:** 12/18/2017
Matrix: Groundwater **Date Received:** 12/18/2017

Chloroethane	< 2.00	ug/L	12/21/2017	15:01
Chloroform	< 2.00	ug/L	12/21/2017	15:01
Chloromethane	< 2.00	ug/L	12/21/2017	15:01
cis-1,2-Dichloroethene	< 2.00	ug/L	12/21/2017	15:01
cis-1,3-Dichloropropene	< 2.00	ug/L	12/21/2017	15:01
Cyclohexane	< 10.0	ug/L	12/21/2017	15:01
Dibromochloromethane	< 2.00	ug/L	12/21/2017	15:01
Dichlorodifluoromethane	**2.64**	ug/L	12/21/2017	15:01
Ethylbenzene	< 2.00	ug/L	12/21/2017	15:01
Freon 113	< 2.00	ug/L	12/21/2017	15:01
Isopropylbenzene	< 2.00	ug/L	12/21/2017	15:01
m,p-Xylene	< 2.00	ug/L	12/21/2017	15:01
Methyl acetate	< 2.00	ug/L	12/21/2017	15:01
Methyl tert-butyl Ether	< 2.00	ug/L	12/21/2017	15:01
Methylcyclohexane	< 2.00	ug/L	12/21/2017	15:01
Methylene chloride	< 5.00	ug/L	12/21/2017	15:01
o-Xylene	< 2.00	ug/L	12/21/2017	15:01
Styrene	< 5.00	ug/L	12/21/2017	15:01
Tetrachloroethene	< 2.00	ug/L	12/21/2017	15:01
Toluene	< 2.00	ug/L	12/21/2017	15:01
trans-1,2-Dichloroethene	< 2.00	ug/L	12/21/2017	15:01
trans-1,3-Dichloropropene	< 2.00	ug/L	12/21/2017	15:01
Trichloroethene	< 2.00	ug/L	12/21/2017	15:01
Trichlorofluoromethane	< 2.00	ug/L	12/21/2017	15:01
Vinyl chloride	< 2.00	ug/L	12/21/2017	15:01

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier: MW-03R-121817
Lab Sample ID: 175604-02 **Date Sampled:** 12/18/2017
Matrix: Groundwater **Date Received:** 12/18/2017

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**99.9**	85.9 - 118		12/21/2017 15:01
4-Bromofluorobenzene	**98.2**	69.4 - 123		12/21/2017 15:01
Pentafluorobenzene	**100**	81.6 - 114		12/21/2017 15:01
Toluene-D8	**99.6**	82.7 - 112		12/21/2017 15:01

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x47762.D

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Report Prepared Friday, December 22, 2017

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier:	MW-SCL-02-121817		
Lab Sample ID:	175604-03	**Date Sampled:**	12/18/2017
Matrix:	Groundwater	**Date Received:**	12/18/2017

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Iron	**46.7**	mg/L		12/19/2017 18:29
Manganese	**1.49**	mg/L		12/19/2017 18:29

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 12/18/2017
Data File: 171219A

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Report Prepared Friday, December 22, 2017

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier:	MW-SCL-02-121817		
Lab Sample ID:	175604-03	**Date Sampled:**	12/18/2017
Matrix:	Groundwater	**Date Received:**	12/18/2017

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 4.00	ug/L		12/21/2017 15:25
1,1,2,2-Tetrachloroethane	< 4.00	ug/L		12/21/2017 15:25
1,1,2-Trichloroethane	< 4.00	ug/L		12/21/2017 15:25
1,1-Dichloroethane	< 4.00	ug/L		12/21/2017 15:25
1,1-Dichloroethene	< 4.00	ug/L		12/21/2017 15:25
1,2,3-Trichlorobenzene	< 10.0	ug/L		12/21/2017 15:25
1,2,4-Trichlorobenzene	< 10.0	ug/L		12/21/2017 15:25
1,2-Dibromo-3-Chloropropane	< 20.0	ug/L		12/21/2017 15:25
1,2-Dibromoethane	< 4.00	ug/L		12/21/2017 15:25
1,2-Dichlorobenzene	< 4.00	ug/L		12/21/2017 15:25
1,2-Dichloroethane	< 4.00	ug/L		12/21/2017 15:25
1,2-Dichloropropane	< 4.00	ug/L		12/21/2017 15:25
1,3-Dichlorobenzene	< 4.00	ug/L		12/21/2017 15:25
1,4-Dichlorobenzene	< 4.00	ug/L		12/21/2017 15:25
1,4-dioxane	< 40.0	ug/L		12/21/2017 15:25
2-Butanone	**26.6**	ug/L		12/21/2017 15:25
2-Hexanone	< 10.0	ug/L		12/21/2017 15:25
4-Methyl-2-pentanone	< 10.0	ug/L		12/21/2017 15:25
Acetone	**206**	ug/L		12/21/2017 15:25
Benzene	**7.38**	ug/L		12/21/2017 15:25
Bromochloromethane	< 10.0	ug/L		12/21/2017 15:25
Bromodichloromethane	< 4.00	ug/L		12/21/2017 15:25
Bromoform	< 10.0	ug/L		12/21/2017 15:25
Bromomethane	< 4.00	ug/L		12/21/2017 15:25
Carbon disulfide	**2.27**	ug/L	J	12/21/2017 15:25
Carbon Tetrachloride	< 4.00	ug/L		12/21/2017 15:25
Chlorobenzene	< 4.00	ug/L		12/21/2017 15:25

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier: MW-SCL-02-121817
Lab Sample ID: 175604-03 **Date Sampled:** 12/18/2017
Matrix: Groundwater **Date Received:** 12/18/2017

Chloroethane	< 4.00	ug/L	12/21/2017	15:25
Chloroform	< 4.00	ug/L	12/21/2017	15:25
Chloromethane	**35.3**	ug/L	12/21/2017	15:25
cis-1,2-Dichloroethene	**130**	ug/L	12/21/2017	15:25
cis-1,3-Dichloropropene	< 4.00	ug/L	12/21/2017	15:25
Cyclohexane	< 20.0	ug/L	12/21/2017	15:25
Dibromochloromethane	< 4.00	ug/L	12/21/2017	15:25
Dichlorodifluoromethane	**23.7**	ug/L	12/21/2017	15:25
Ethylbenzene	< 4.00	ug/L	12/21/2017	15:25
Freon 113	< 4.00	ug/L	12/21/2017	15:25
Isopropylbenzene	< 4.00	ug/L	12/21/2017	15:25
m,p-Xylene	< 4.00	ug/L	12/21/2017	15:25
Methyl acetate	< 4.00	ug/L	12/21/2017	15:25
Methyl tert-butyl Ether	< 4.00	ug/L	12/21/2017	15:25
Methylcyclohexane	< 4.00	ug/L	12/21/2017	15:25
Methylene chloride	< 10.0	ug/L	12/21/2017	15:25
o-Xylene	< 4.00	ug/L	12/21/2017	15:25
Styrene	< 10.0	ug/L	12/21/2017	15:25
Tetrachloroethene	**127**	ug/L	12/21/2017	15:25
Toluene	< 4.00	ug/L	12/21/2017	15:25
trans-1,2-Dichloroethene	**5.70**	ug/L	12/21/2017	15:25
trans-1,3-Dichloropropene	< 4.00	ug/L	12/21/2017	15:25
Trichloroethene	**200**	ug/L	12/21/2017	15:25
Trichlorofluoromethane	< 4.00	ug/L	12/21/2017	15:25
Vinyl chloride	< 4.00	ug/L	12/21/2017	15:25

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier: MW-SCL-02-121817
Lab Sample ID: 175604-03 **Date Sampled:** 12/18/2017
Matrix: Groundwater **Date Received:** 12/18/2017

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**101**	85.9 - 118		12/21/2017 15:25
4-Bromofluorobenzene	**98.4**	69.4 - 123		12/21/2017 15:25
Pentafluorobenzene	**101**	81.6 - 114		12/21/2017 15:25
Toluene-D8	**101**	82.7 - 112		12/21/2017 15:25

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x47763.D

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Report Prepared Friday, December 22, 2017

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier:	MW-13-121817		
Lab Sample ID:	175604-04	**Date Sampled:**	12/18/2017
Matrix:	Groundwater	**Date Received:**	12/18/2017

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Iron	**66.9**	mg/L		12/19/2017 18:33
Manganese	**1.69**	mg/L		12/19/2017 18:33

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 12/18/2017
Data File: 171219A

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Report Prepared Friday, December 22, 2017

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier:	MW-13-121817		
Lab Sample ID:	175604-04	**Date Sampled:**	12/18/2017
Matrix:	Groundwater	**Date Received:**	12/18/2017

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		12/19/2017 19:58
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		12/19/2017 19:58
1,1,2-Trichloroethane	< 2.00	ug/L		12/19/2017 19:58
1,1-Dichloroethane	< 2.00	ug/L		12/19/2017 19:58
1,1-Dichloroethene	< 2.00	ug/L		12/19/2017 19:58
1,2,3-Trichlorobenzene	< 5.00	ug/L		12/19/2017 19:58
1,2,4-Trichlorobenzene	< 5.00	ug/L		12/19/2017 19:58
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		12/19/2017 19:58
1,2-Dibromoethane	< 2.00	ug/L		12/19/2017 19:58
1,2-Dichlorobenzene	< 2.00	ug/L		12/19/2017 19:58
1,2-Dichloroethane	< 2.00	ug/L		12/19/2017 19:58
1,2-Dichloropropane	< 2.00	ug/L		12/19/2017 19:58
1,3-Dichlorobenzene	< 2.00	ug/L		12/19/2017 19:58
1,4-Dichlorobenzene	< 2.00	ug/L		12/19/2017 19:58
1,4-dioxane	< 20.0	ug/L		12/19/2017 19:58
2-Butanone	< 10.0	ug/L		12/19/2017 19:58
2-Hexanone	< 5.00	ug/L		12/19/2017 19:58
4-Methyl-2-pentanone	< 5.00	ug/L		12/19/2017 19:58
Acetone	< 10.0	ug/L		12/19/2017 19:58
Benzene	< 1.00	ug/L		12/19/2017 19:58
Bromochloromethane	< 5.00	ug/L		12/19/2017 19:58
Bromodichloromethane	< 2.00	ug/L		12/19/2017 19:58
Bromoform	< 5.00	ug/L		12/19/2017 19:58
Bromomethane	< 2.00	ug/L		12/19/2017 19:58
Carbon disulfide	< 2.00	ug/L		12/19/2017 19:58
Carbon Tetrachloride	< 2.00	ug/L		12/19/2017 19:58
Chlorobenzene	< 2.00	ug/L		12/19/2017 19:58

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.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier: MW-13-121817
Lab Sample ID: 175604-04 **Date Sampled:** 12/18/2017
Matrix: Groundwater **Date Received:** 12/18/2017

Chloroethane	< 2.00	ug/L	12/19/2017	19:58
Chloroform	< 2.00	ug/L	12/19/2017	19:58
Chloromethane	< 2.00	ug/L	12/19/2017	19:58
cis-1,2-Dichloroethene	< 2.00	ug/L	12/19/2017	19:58
cis-1,3-Dichloropropene	< 2.00	ug/L	12/19/2017	19:58
Cyclohexane	< 10.0	ug/L	12/19/2017	19:58
Dibromochloromethane	< 2.00	ug/L	12/19/2017	19:58
Dichlorodifluoromethane	< 2.00	ug/L	12/19/2017	19:58
Ethylbenzene	< 2.00	ug/L	12/19/2017	19:58
Freon 113	< 2.00	ug/L	12/19/2017	19:58
Isopropylbenzene	< 2.00	ug/L	12/19/2017	19:58
m,p-Xylene	< 2.00	ug/L	12/19/2017	19:58
Methyl acetate	< 2.00	ug/L	12/19/2017	19:58
Methyl tert-butyl Ether	< 2.00	ug/L	12/19/2017	19:58
Methylcyclohexane	< 2.00	ug/L	12/19/2017	19:58
Methylene chloride	< 5.00	ug/L	12/19/2017	19:58
o-Xylene	< 2.00	ug/L	12/19/2017	19:58
Styrene	< 5.00	ug/L	12/19/2017	19:58
Tetrachloroethene	< 2.00	ug/L	12/19/2017	19:58
Toluene	< 2.00	ug/L	12/19/2017	19:58
trans-1,2-Dichloroethene	< 2.00	ug/L	12/19/2017	19:58
trans-1,3-Dichloropropene	< 2.00	ug/L	12/19/2017	19:58
Trichloroethene	< 2.00	ug/L	12/19/2017	19:58
Trichlorofluoromethane	< 2.00	ug/L	12/19/2017	19:58
Vinyl chloride	< 2.00	ug/L	12/19/2017	19:58

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 175604

Client: **Lu Engineers, Inc.**

Project Reference: WRV-50185-02

Sample Identifier: MW-13-121817
Lab Sample ID: 175604-04 **Date Sampled:** 12/18/2017
Matrix: Groundwater **Date Received:** 12/18/2017

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**91.3**	85.9 - 118		12/19/2017 19:58
4-Bromofluorobenzene	**97.0**	69.4 - 123		12/19/2017 19:58
Pentafluorobenzene	**95.2**	81.6 - 114		12/19/2017 19:58
Toluene-D8	**99.4**	82.7 - 112		12/19/2017 19:58

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x47703.D

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, December 22, 2017

PARADIGM
ENVIRONMENTAL SERVICES, INC.

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.
"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.

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.

1 of 2

PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

REPORT TO:	INVOICE TO:	
CLIENT: Lo Engineers	CLIENT: SAME	LAB PROJECT ID: 175604
ADDRESS: 399 East Ave	ADDRESS:	
CITY: Rochester STATE: NY ZIP: 14043	CITY: STATE: ZIP:	Quotation #:
PHONE: 5858857417	PHONE:	Email: gregandrus@loengineers.com pcoleman@ " "
ATTN: Greg Andrus	ATTN:	

PROJECT REFERENCE: WRV-50185-02

Matrix Codes:
AQ - Aqueous Liquid, NQ - Non-Aqueous Liquid, WA - Water, WG - Groundwater, DW - Drinking Water, WW - Wastewater, SO - Soil, SL - Sludge, SD - Solid, PT - Paint, WP - Wipe, CK - Caulk, OL - Oil, AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	TCL VOC 8260	FE, MN	REMARKS	PARADIGM LAB SAMPLE NUMBER
11-18-17	830			MW-D6-121817 GW	WA	3	2	1		01
11-18-17	950			MW-03R-121817	WA	3	2	1		02
11-18-17	1130			MW-SCL-02-121817	WA	3	2	1		03
11-18-17	1230			MW-13-121817	WA	3	2	1		04

12/15/17 per sample jar labels + sampled by mv 121817

per bottles mv 121817

5°C iced 12/18/17 1356
custody seals NA client delivered MollyVail

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☒	None Required	☐	None Required	☐
10 day	☐	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☒
Rush 2 day	☐	Category B	☒		
Rush 1 day	☐				
Other please indicate date needed:	☐	Other please indicate package needed:	☐	Other EDD please indicate EDD needed:	☐

	Date/Time
Sampled By: [signature]	12-18-17 0800
Relinquished By: [signature]	12-18-17 1300
Received By: [signature]	12/18/17 1300
Received @ Lab By: MollyVail	12/18/17 1406

Total Cost:

P.I.F.

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

PARADIGM

Chain of Custody Supplement

Client: Lu Eng
Completed by: [signature]
Lab Project ID: 175604
Date: 12/18/17

Sample Condition Requirements

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

NELAC compliance with the sample condition requirements upon receipt

Condition	Yes	No	N/A
Container Type	X		
Comments: bottle certs for metals N/A - client used non certified bottles			
Transferred to method-compliant container			X
Headspace (<1 mL)	VOA		X
Comments			
Preservation	X		
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature	X		met
Comments: 5°C iced 12/18/17 1356			
Sufficient Sample Quantity	X		
Comments			

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier:	MW-13		
Lab Sample ID:	182093-01	**Date Sampled:**	5/15/2018
Matrix:	Water	**Date Received:**	5/15/2018

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Iron	**76.2**	mg/L		5/18/2018 16:08
Manganese	**1.93**	mg/L		5/18/2018 16:08

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 5/17/2018
Data File: 180518B

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier:	MW-13		
Lab Sample ID:	182093-01	**Date Sampled:**	5/15/2018
Matrix:	Water	**Date Received:**	5/15/2018

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		5/18/2018 19:27
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		5/18/2018 19:27
1,1,2-Trichloroethane	< 2.00	ug/L		5/18/2018 19:27
1,1-Dichloroethane	< 2.00	ug/L		5/18/2018 19:27
1,1-Dichloroethene	< 2.00	ug/L		5/18/2018 19:27
1,2,3-Trichlorobenzene	< 5.00	ug/L		5/18/2018 19:27
1,2,4-Trichlorobenzene	< 5.00	ug/L		5/18/2018 19:27
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		5/18/2018 19:27
1,2-Dibromoethane	< 2.00	ug/L		5/18/2018 19:27
1,2-Dichlorobenzene	< 2.00	ug/L		5/18/2018 19:27
1,2-Dichloroethane	< 2.00	ug/L		5/18/2018 19:27
1,2-Dichloropropane	< 2.00	ug/L		5/18/2018 19:27
1,3-Dichlorobenzene	< 2.00	ug/L		5/18/2018 19:27
1,4-Dichlorobenzene	< 2.00	ug/L		5/18/2018 19:27
1,4-dioxane	< 20.0	ug/L		5/18/2018 19:27
2-Butanone	< 10.0	ug/L		5/18/2018 19:27
2-Hexanone	< 5.00	ug/L		5/18/2018 19:27
4-Methyl-2-pentanone	< 5.00	ug/L		5/18/2018 19:27
Acetone	< 10.0	ug/L		5/18/2018 19:27
Benzene	< 1.00	ug/L		5/18/2018 19:27
Bromochloromethane	< 5.00	ug/L		5/18/2018 19:27
Bromodichloromethane	< 2.00	ug/L		5/18/2018 19:27
Bromoform	< 5.00	ug/L		5/18/2018 19:27
Bromomethane	< 2.00	ug/L		5/18/2018 19:27
Carbon disulfide	< 2.00	ug/L		5/18/2018 19:27
Carbon Tetrachloride	< 2.00	ug/L		5/18/2018 19:27
Chlorobenzene	< 2.00	ug/L		5/18/2018 19:27

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier:	MW-13		
Lab Sample ID:	182093-01	**Date Sampled:**	5/15/2018
Matrix:	Water	**Date Received:**	5/15/2018

Chloroethane	< 2.00	ug/L	5/18/2018	19:27
Chloroform	< 2.00	ug/L	5/18/2018	19:27
Chloromethane	< 2.00	ug/L	5/18/2018	19:27
cis-1,2-Dichloroethene	**2.54**	ug/L	5/18/2018	19:27
cis-1,3-Dichloropropene	< 2.00	ug/L	5/18/2018	19:27
Cyclohexane	< 10.0	ug/L	5/18/2018	19:27
Dibromochloromethane	< 2.00	ug/L	5/18/2018	19:27
Dichlorodifluoromethane	< 2.00	ug/L	5/18/2018	19:27
Ethylbenzene	< 2.00	ug/L	5/18/2018	19:27
Freon 113	< 2.00	ug/L	5/18/2018	19:27
Isopropylbenzene	< 2.00	ug/L	5/18/2018	19:27
m,p-Xylene	< 2.00	ug/L	5/18/2018	19:27
Methyl acetate	< 2.00	ug/L	5/18/2018	19:27
Methyl tert-butyl Ether	< 2.00	ug/L	5/18/2018	19:27
Methylcyclohexane	< 2.00	ug/L	5/18/2018	19:27
Methylene chloride	< 5.00	ug/L	5/18/2018	19:27
o-Xylene	< 2.00	ug/L	5/18/2018	19:27
Styrene	< 5.00	ug/L	5/18/2018	19:27
Tetrachloroethene	< 2.00	ug/L	5/18/2018	19:27
Toluene	< 2.00	ug/L	5/18/2018	19:27
trans-1,2-Dichloroethene	< 2.00	ug/L	5/18/2018	19:27
trans-1,3-Dichloropropene	< 2.00	ug/L	5/18/2018	19:27
Trichloroethene	< 2.00	ug/L	5/18/2018	19:27
Trichlorofluoromethane	< 2.00	ug/L	5/18/2018	19:27
Vinyl chloride	< 2.00	ug/L	5/18/2018	19:27

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier: MW-13
Lab Sample ID: 182093-01 **Date Sampled:** 5/15/2018
Matrix: Water **Date Received:** 5/15/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**97.5**	77.2 - 121		5/18/2018 19:27
4-Bromofluorobenzene	**91.6**	70 - 123		5/18/2018 19:27
Pentafluorobenzene	**97.9**	85.4 - 110		5/18/2018 19:27
Toluene-D8	**95.7**	83.8 - 112		5/18/2018 19:27

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x50852.D

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier:	JCL-02		
Lab Sample ID:	182093-02	**Date Sampled:**	5/15/2018
Matrix:	Water	**Date Received:**	5/15/2018

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Iron	**87.0**	mg/L		5/18/2018 16:13
Manganese	**3.35**	mg/L		5/18/2018 16:13

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 5/17/2018
Data File: 180518B

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier:	JCL-02		
Lab Sample ID:	182093-02	**Date Sampled:**	5/15/2018
Matrix:	Water	**Date Received:**	5/15/2018

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		5/18/2018 19:50
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		5/18/2018 19:50
1,1,2-Trichloroethane	< 2.00	ug/L		5/18/2018 19:50
1,1-Dichloroethane	< 2.00	ug/L		5/18/2018 19:50
1,1-Dichloroethene	< 2.00	ug/L		5/18/2018 19:50
1,2,3-Trichlorobenzene	< 5.00	ug/L		5/18/2018 19:50
1,2,4-Trichlorobenzene	< 5.00	ug/L		5/18/2018 19:50
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		5/18/2018 19:50
1,2-Dibromoethane	< 2.00	ug/L		5/18/2018 19:50
1,2-Dichlorobenzene	< 2.00	ug/L		5/18/2018 19:50
1,2-Dichloroethane	< 2.00	ug/L		5/18/2018 19:50
1,2-Dichloropropane	< 2.00	ug/L		5/18/2018 19:50
1,3-Dichlorobenzene	< 2.00	ug/L		5/18/2018 19:50
1,4-Dichlorobenzene	< 2.00	ug/L		5/18/2018 19:50
1,4-dioxane	< 20.0	ug/L		5/18/2018 19:50
2-Butanone	**16.1**	ug/L		5/18/2018 19:50
2-Hexanone	< 5.00	ug/L		5/18/2018 19:50
4-Methyl-2-pentanone	< 5.00	ug/L		5/18/2018 19:50
Acetone	**96.6**	ug/L		5/18/2018 19:50
Benzene	**2.96**	ug/L		5/18/2018 19:50
Bromochloromethane	< 5.00	ug/L		5/18/2018 19:50
Bromodichloromethane	< 2.00	ug/L		5/18/2018 19:50
Bromoform	< 5.00	ug/L		5/18/2018 19:50
Bromomethane	< 2.00	ug/L		5/18/2018 19:50
Carbon disulfide	**1.28**	ug/L	J	5/18/2018 19:50
Carbon Tetrachloride	< 2.00	ug/L		5/18/2018 19:50
Chlorobenzene	< 2.00	ug/L		5/18/2018 19:50

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier: JCL-02
Lab Sample ID: 182093-02 **Date Sampled:** 5/15/2018
Matrix: Water **Date Received:** 5/15/2018

Chloroethane	< 2.00	ug/L	5/18/2018	19:50
Chloroform	< 2.00	ug/L	5/18/2018	19:50
Chloromethane	**9.10**	ug/L	5/18/2018	19:50
cis-1,2-Dichloroethene	**76.7**	ug/L	5/18/2018	19:50
cis-1,3-Dichloropropene	< 2.00	ug/L	5/18/2018	19:50
Cyclohexane	< 10.0	ug/L	5/18/2018	19:50
Dibromochloromethane	< 2.00	ug/L	5/18/2018	19:50
Dichlorodifluoromethane	**3.68**	ug/L	5/18/2018	19:50
Ethylbenzene	< 2.00	ug/L	5/18/2018	19:50
Freon 113	< 2.00	ug/L	5/18/2018	19:50
Isopropylbenzene	< 2.00	ug/L	5/18/2018	19:50
m,p-Xylene	< 2.00	ug/L	5/18/2018	19:50
Methyl acetate	< 2.00	ug/L	5/18/2018	19:50
Methyl tert-butyl Ether	< 2.00	ug/L	5/18/2018	19:50
Methylcyclohexane	< 2.00	ug/L	5/18/2018	19:50
Methylene chloride	< 5.00	ug/L	5/18/2018	19:50
o-Xylene	< 2.00	ug/L	5/18/2018	19:50
Styrene	< 5.00	ug/L	5/18/2018	19:50
Tetrachloroethene	**43.1**	ug/L	5/18/2018	19:50
Toluene	< 2.00	ug/L	5/18/2018	19:50
trans-1,2-Dichloroethene	**3.54**	ug/L	5/18/2018	19:50
trans-1,3-Dichloropropene	< 2.00	ug/L	5/18/2018	19:50
Trichloroethene	**114**	ug/L	5/18/2018	19:50
Trichlorofluoromethane	< 2.00	ug/L	5/18/2018	19:50
Vinyl chloride	< 2.00	ug/L	5/18/2018	19:50

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier: JCL-02
Lab Sample ID: 182093-02 **Date Sampled:** 5/15/2018
Matrix: Water **Date Received:** 5/15/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**103**	77.2 - 121		5/18/2018 19:50
4-Bromofluorobenzene	**90.4**	70 - 123		5/18/2018 19:50
Pentafluorobenzene	**98.2**	85.4 - 110		5/18/2018 19:50
Toluene-D8	**95.4**	83.8 - 112		5/18/2018 19:50

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x50853.D

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier:	MW-3R		
Lab Sample ID:	182093-03	**Date Sampled:**	5/15/2018
Matrix:	Water	**Date Received:**	5/15/2018

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Iron	**134**	mg/L		5/18/2018 16:17
Manganese	**3.03**	mg/L		5/18/2018 16:17

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 5/17/2018
Data File: 180518B

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier: MW-3R
Lab Sample ID: 182093-03 **Date Sampled:** 5/15/2018
Matrix: Water **Date Received:** 5/15/2018

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		5/18/2018 20:14
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		5/18/2018 20:14
1,1,2-Trichloroethane	< 2.00	ug/L		5/18/2018 20:14
1,1-Dichloroethane	< 2.00	ug/L		5/18/2018 20:14
1,1-Dichloroethene	< 2.00	ug/L		5/18/2018 20:14
1,2,3-Trichlorobenzene	< 5.00	ug/L		5/18/2018 20:14
1,2,4-Trichlorobenzene	< 5.00	ug/L		5/18/2018 20:14
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		5/18/2018 20:14
1,2-Dibromoethane	< 2.00	ug/L		5/18/2018 20:14
1,2-Dichlorobenzene	< 2.00	ug/L		5/18/2018 20:14
1,2-Dichloroethane	< 2.00	ug/L		5/18/2018 20:14
1,2-Dichloropropane	< 2.00	ug/L		5/18/2018 20:14
1,3-Dichlorobenzene	< 2.00	ug/L		5/18/2018 20:14
1,4-Dichlorobenzene	< 2.00	ug/L		5/18/2018 20:14
1,4-dioxane	< 20.0	ug/L		5/18/2018 20:14
2-Butanone	< 10.0	ug/L		5/18/2018 20:14
2-Hexanone	< 5.00	ug/L		5/18/2018 20:14
4-Methyl-2-pentanone	< 5.00	ug/L		5/18/2018 20:14
Acetone	**6.57**	ug/L	J	5/18/2018 20:14
Benzene	< 1.00	ug/L		5/18/2018 20:14
Bromochloromethane	< 5.00	ug/L		5/18/2018 20:14
Bromodichloromethane	< 2.00	ug/L		5/18/2018 20:14
Bromoform	< 5.00	ug/L		5/18/2018 20:14
Bromomethane	< 2.00	ug/L		5/18/2018 20:14
Carbon disulfide	< 2.00	ug/L		5/18/2018 20:14
Carbon Tetrachloride	< 2.00	ug/L		5/18/2018 20:14
Chlorobenzene	< 2.00	ug/L		5/18/2018 20:14

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier: MW-3R
Lab Sample ID: 182093-03 **Date Sampled:** 5/15/2018
Matrix: Water **Date Received:** 5/15/2018

Chloroethane	< 2.00	ug/L	5/18/2018	20:14
Chloroform	< 2.00	ug/L	5/18/2018	20:14
Chloromethane	< 2.00	ug/L	5/18/2018	20:14
cis-1,2-Dichloroethene	< 2.00	ug/L	5/18/2018	20:14
cis-1,3-Dichloropropene	< 2.00	ug/L	5/18/2018	20:14
Cyclohexane	< 10.0	ug/L	5/18/2018	20:14
Dibromochloromethane	< 2.00	ug/L	5/18/2018	20:14
Dichlorodifluoromethane	**2.10**	ug/L	5/18/2018	20:14
Ethylbenzene	< 2.00	ug/L	5/18/2018	20:14
Freon 113	< 2.00	ug/L	5/18/2018	20:14
Isopropylbenzene	< 2.00	ug/L	5/18/2018	20:14
m,p-Xylene	< 2.00	ug/L	5/18/2018	20:14
Methyl acetate	< 2.00	ug/L	5/18/2018	20:14
Methyl tert-butyl Ether	< 2.00	ug/L	5/18/2018	20:14
Methylcyclohexane	< 2.00	ug/L	5/18/2018	20:14
Methylene chloride	< 5.00	ug/L	5/18/2018	20:14
o-Xylene	< 2.00	ug/L	5/18/2018	20:14
Styrene	< 5.00	ug/L	5/18/2018	20:14
Tetrachloroethene	< 2.00	ug/L	5/18/2018	20:14
Toluene	< 2.00	ug/L	5/18/2018	20:14
trans-1,2-Dichloroethene	< 2.00	ug/L	5/18/2018	20:14
trans-1,3-Dichloropropene	< 2.00	ug/L	5/18/2018	20:14
Trichloroethene	< 2.00	ug/L	5/18/2018	20:14
Trichlorofluoromethane	< 2.00	ug/L	5/18/2018	20:14
Vinyl chloride	< 2.00	ug/L	5/18/2018	20:14

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier: MW-3R
Lab Sample ID: 182093-03 **Date Sampled:** 5/15/2018
Matrix: Water **Date Received:** 5/15/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**101**	77.2 - 121		5/18/2018 20:14
4-Bromofluorobenzene	**90.9**	70 - 123		5/18/2018 20:14
Pentafluorobenzene	**94.9**	85.4 - 110		5/18/2018 20:14
Toluene-D8	**97.8**	83.8 - 112		5/18/2018 20:14

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x50854.D

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier:	MW-06		
Lab Sample ID:	182093-04	**Date Sampled:**	5/15/2018
Matrix:	Water	**Date Received:**	5/15/2018

Metals

Analyte	Result	Units	Qualifier	Date Analyzed
Iron	**23.1**	mg/L		5/18/2018 16:26
Manganese	**13.3**	mg/L		5/18/2018 16:22

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 5/17/2018
Data File: 180518B

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier:	MW-06		
Lab Sample ID:	182093-04	**Date Sampled:**	5/15/2018
Matrix:	Water	**Date Received:**	5/15/2018

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		5/18/2018 20:37
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		5/18/2018 20:37
1,1,2-Trichloroethane	< 2.00	ug/L		5/18/2018 20:37
1,1-Dichloroethane	< 2.00	ug/L		5/18/2018 20:37
1,1-Dichloroethene	< 2.00	ug/L		5/18/2018 20:37
1,2,3-Trichlorobenzene	< 5.00	ug/L		5/18/2018 20:37
1,2,4-Trichlorobenzene	< 5.00	ug/L		5/18/2018 20:37
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		5/18/2018 20:37
1,2-Dibromoethane	< 2.00	ug/L		5/18/2018 20:37
1,2-Dichlorobenzene	< 2.00	ug/L		5/18/2018 20:37
1,2-Dichloroethane	< 2.00	ug/L		5/18/2018 20:37
1,2-Dichloropropane	< 2.00	ug/L		5/18/2018 20:37
1,3-Dichlorobenzene	< 2.00	ug/L		5/18/2018 20:37
1,4-Dichlorobenzene	< 2.00	ug/L		5/18/2018 20:37
1,4-dioxane	< 20.0	ug/L		5/18/2018 20:37
2-Butanone	< 10.0	ug/L		5/18/2018 20:37
2-Hexanone	< 5.00	ug/L		5/18/2018 20:37
4-Methyl-2-pentanone	< 5.00	ug/L		5/18/2018 20:37
Acetone	< 10.0	ug/L		5/18/2018 20:37
Benzene	< 1.00	ug/L		5/18/2018 20:37
Bromochloromethane	< 5.00	ug/L		5/18/2018 20:37
Bromodichloromethane	< 2.00	ug/L		5/18/2018 20:37
Bromoform	< 5.00	ug/L		5/18/2018 20:37
Bromomethane	< 2.00	ug/L		5/18/2018 20:37
Carbon disulfide	< 2.00	ug/L		5/18/2018 20:37
Carbon Tetrachloride	< 2.00	ug/L		5/18/2018 20:37
Chlorobenzene	< 2.00	ug/L		5/18/2018 20:37

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier: MW-06
Lab Sample ID: 182093-04 **Date Sampled:** 5/15/2018
Matrix: Water **Date Received:** 5/15/2018

Chloroethane	< 2.00	ug/L		5/18/2018	20:37
Chloroform	< 2.00	ug/L		5/18/2018	20:37
Chloromethane	< 2.00	ug/L		5/18/2018	20:37
cis-1,2-Dichloroethene	< 2.00	ug/L		5/18/2018	20:37
cis-1,3-Dichloropropene	< 2.00	ug/L		5/18/2018	20:37
Cyclohexane	< 10.0	ug/L		5/18/2018	20:37
Dibromochloromethane	< 2.00	ug/L		5/18/2018	20:37
Dichlorodifluoromethane	**2.10**	ug/L		5/18/2018	20:37
Ethylbenzene	< 2.00	ug/L		5/18/2018	20:37
Freon 113	< 2.00	ug/L		5/18/2018	20:37
Isopropylbenzene	< 2.00	ug/L		5/18/2018	20:37
m,p-Xylene	< 2.00	ug/L		5/18/2018	20:37
Methyl acetate	< 2.00	ug/L		5/18/2018	20:37
Methyl tert-butyl Ether	< 2.00	ug/L		5/18/2018	20:37
Methylcyclohexane	< 2.00	ug/L		5/18/2018	20:37
Methylene chloride	< 5.00	ug/L		5/18/2018	20:37
o-Xylene	< 2.00	ug/L		5/18/2018	20:37
Styrene	< 5.00	ug/L		5/18/2018	20:37
Tetrachloroethene	**11.9**	ug/L		5/18/2018	20:37
Toluene	< 2.00	ug/L		5/18/2018	20:37
trans-1,2-Dichloroethene	< 2.00	ug/L		5/18/2018	20:37
trans-1,3-Dichloropropene	< 2.00	ug/L		5/18/2018	20:37
Trichloroethene	**1.26**	ug/L	J	5/18/2018	20:37
Trichlorofluoromethane	< 2.00	ug/L		5/18/2018	20:37
Vinyl chloride	< 2.00	ug/L		5/18/2018	20:37

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PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 182093

Client: **Lu Engineers, Inc.**

Project Reference: WRV 50185-02

Sample Identifier: MW-06
Lab Sample ID: 182093-04 **Date Sampled:** 5/15/2018
Matrix: Water **Date Received:** 5/15/2018

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**103**	77.2 - 121		5/18/2018 20:37
4-Bromofluorobenzene	**91.5**	70 - 123		5/18/2018 20:37
Pentafluorobenzene	**98.3**	85.4 - 110		5/18/2018 20:37
Toluene-D8	**96.8**	83.8 - 112		5/18/2018 20:37

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x50855.D

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Report Prepared Tuesday, May 22, 2018

PARADIGM
ENVIRONMENTAL SERVICES, INC.

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.
"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.

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.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM
ENVIRONMENTAL SERVICES, INC

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	LU Engineers	CLIENT:	S & ME	182093
ADDRESS:	339 East Ave.	ADDRESS:		Quotation #:
CITY:	Rochester STATE: NY ZIP 14604	CITY: STATE: ZIP:		
PHONE:	585-385-7417	PHONE:		Email: pcolern@luengineers.com
ATTN:	Pat Colern Greg Andrus	ATTN:		

PROJECT REFERENCE

WRV 50185-02

Matrix Codes:

AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	VOC 8260TCL	Fe, Mn								REMARKS	PARADIGM LAB SAMPLE NUMBER
5-15	0930		X	MW-13	WA	3	X	X									01
	1000			JCL-02	WA	3	X	X									02
	1030			MW-3R	WA	3	X	X									03
				MW-06	WA	3	X	X									04
					per usual/sample labels GP 5/15/18												

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	None Required		None Required	
10 day		Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	X
Rush 2 day		Category B	X		
Rush 1 day					
Other please indicate date needed:		Other please indicate package needed:		Other EDD please indicate EDD needed :	

Patrick Colern	5-15-18 0930	Total Cost:
Sampled By	Date/Time	
Patrick Colern	5-15-18 1335	
Relinquished By	Date/Time	
	5/15/18 1335	
Received By	Date/Time	P.I.F.
	5/15/18 14:22	
Received @ Lab By	Date/Time	

8°C iced started in field 5/15/18 13:38

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

Chain of Custody Supplement

Client: Lu Engineers **Completed by:** Glenn Pezzulo

Lab Project ID: 182093 **Date:** 5/15/18

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	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)	X VOA		X
Comments			
Preservation	X VOA metals		
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature	X		X metals
Comments	8°C iced started in field		
Sufficient Sample Quantity	X		
Comments			

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. **V00658**

Site Name Churchville Ford, Inc.

Site Address: 111 South Main Street Zip Code: 14428
City/Town: Churchville
County: Monroe
Site Acreage: 6.0

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

	YES	NO
1. Is the information above correct?		
If NO, include handwritten above or on a separate sheet.	X	
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		X
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		X

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?		X

Box 2

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

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. V00658

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
143.17-1-50	BLW Properties of Churchville, LLC.	Ground Water Use Restriction Landuse Restriction Site Management Plan

1. Site use is limited to Commercial and industrial uses.
2. Groundwater use is prohibited.
3. Compliance with a Site Management Plan is required.
4. Periodic certifications are required.
5. The Site and associated institutional controls apply to a 6-acre portion of a 16-acre parcel.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
143.17-1-50	Cover System

1. Cover system consisting primarily of asphalt pavement and the building slab.
2. The Site and associated engineering controls apply to a 6-acre portion of a 16-acre parcel.

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. V00658

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 339 East Avenue Rochester, NY 14604,
print name print business address

am certifying as Designated Representative of Owner (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

6/28/18
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer 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 SUSAN HILTON (print name) at 339 EAST AVENUE, SUITE 200, ROCHESTER, NY 14604 (print business address)

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

Susan A. Hilton
Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

6/28/2018
Date

Village of Churchville Building Department

23 East Buffalo Street
Churchville, NY 14428
(585)293-3720

Receipt # 57254

PAID

APR 19 2016

VILLAGE OF CHURCHVILLE

BUILDING PERMIT

(Please Post in a Conspicuous Place)

Issued : *04/12/16*
Expires : *04/12/17*

Permit # : *16-0010*
Fee : *$100.00*

Project Description: Demolition of single story building

Location: 111 S Main St

Property Information:

Tax Map#: 143.17-1-50
Class: 431

Front: 0.00 **Lot:**
Depth: 0.00 **Subdivision:**
Acres: 6.02 **Zone:** HC

Owner:
BLW Properties of
7520 State Route 415
Bath, NY

Applicant : BLW Properties of Churchville
7520 State Route 415
Bath, NY 14810

Contractor :
Constr. Type: IV
Est. Project Cost : $100,000.00

Occupancy : B
Material :
Square Feet : 0

Permission is hereby granted to proceed with the work as set forth in the plans, specifications or statements now on file in the Code Enforcement Office. Any changes made to the original plans must first be submitted for approval.

The applicant shall notify Village of Churchville Code Enforcement Officer for the following inspections:

Site Work
Final Plumbing Inspection
Final Electrical Inspection
Final Inspection

It is the responsibility of the owner and/or contractor to comply will all applicable Town ordinances. All inspections require a 24-hour minimum advance notice.

Meghan Lodge

04/12/16
Date

Timothy Mc Elligott
Tim McElligott/BI/CEO/Fire Marshal