NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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September 25, 2018

Arno Bebernitz GW Lisk Company Inc. 2 South Street Clifton Springs, NY 14432

Subject: Site Characterization Report G.W. Lisk NYSDEC Site No. 835026 Clifton Springs (V), Ontario County

Dear Mr. Bebernitz:

The New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH), collectively referred to as the Departments, have reviewed the Revised Site Characterization Report (SCR) dated September 18, 2018 and prepared by ERM for the G.W. Lisk site. In accordance with 6 NYCRR 375-1.6, the Departments have determined that the SCR substantially addresses the requirements of the Order. The SCR is hereby approved.

By October 10, 2018, please provide copies of the SCR as follows:

- Danielle Miles (NYSDEC Avon, 1 bound hard copy); and,
- Renata Ockerby (NYSDOH Albany, electronic file/CD).

Please contact me at (585) 226-5349 or <u>danielle.miles@dec.ny.gov</u> if you have any questions.

Sincerely,

ame Mils

Danielle Miles, EIT Assistant Engineer

ec: Jon Fox, ERM Ernie Rossano, ERM Leslie Mauro, Harter Secrest & Emery LLP Renata Ockerby, NYSDOH Justin Deming, NYSDOH Frank Sowers, NYSDEC Bernette Schilling, NYSDEC Dudley Loew, NYSDEC



Department of Environmental Conservation



G.W. Lisk Company, Inc.

Final Site Characterization Report

September 2018

G.W. Lisk Facility – 2 South Street Village of Clifton Springs, Ontario County, New York NYSDEC Site Number 835026

Final Site Characterization Report

G.W. Lisk Facility – 2 South Street Village of Clifton Springs, Ontario County, New York NYSDEC Site Number 835026

September 2018

Prepared for:

G.W. Lisk Company, Inc.

Prepared by:

ERM Consulting & Engineering, Inc. www.erm.com

ERM Project Number 0346372

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FINAL SITE CHARACTERIZATION REPORT G.W. LISK FACILITY – 2 SOUTH STREET VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK NYSDEC SITE NUMBER 835026

I, Jon S. Fox, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Site Characterization Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DERapproved modifications.

Jon N. Sr

Jon S. Fox, P.G. ERM Consulting & Engineering, Inc.

Date: 18 September 2018

ERM Consulting & Engineering, Inc. 5788 Widewaters Parkway Syracuse, New York 13214 www.erm.com

FINAL

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ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
ASP	Analytical Services Protocol
AOPC	Area of Potential Concern
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
BCP	Brownfield Cleanup Program
bgs	below ground surface
°C	Degrees Celsius
CAMP	Community Air Monitoring Plan
CBS	Chemical Bulk Storage
COPC	Compound of Potential Concern
CSHC	Clifton Springs Hospital and Clinic
DCA	Dichloroethane
DCE	Dichloroethene
DER	Division of Environmental Remediation
DO	Dissolved Oxygen
DQO	Data Quality Objective
DQU DSNY	Dig Safely New York
DTW	Depth to Water
DUSR	Data Usability Summary Report
DVR	Data Validation Report
EDB	Ethylene Dibromide
EDS	Electronic Data Summary
ERM	ERM Consulting & Engineering, Inc.
ESA	Environmental Site Assessment
ft	feet
GPS	Global Positioning System
GWL	G.W. Lisk Company Inc.
HASP	Health and Safety Plan
HDPE	High-Density Polyethylene
IDW	Investigation-Derived Waste
MEK	Methyl Ethyl Ketone
mg/kg	Milligrams per kilogram
mg/l	Milligrams per liter
MGP	Manufactured Gas Plant
MW	Monitoring Well
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSGS	New York State Geological Survey
ORP	Oxidation-Reduction Potential
PARCC	Precision, Accuracy, Reproducibility, Completeness, and Comparability
PBS	Petroleum Bulk Storage
PCE	Tetrachloroethene
PFAS	Per-and Polyfluoroalkyl Substances

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PID	Photoionization detector
POTW	Publicly-Owned Treatment Works
PPE	Personal Protective Equipment
ppm	Parts per million
PTFE	Polytetrafluoroethylene
PVC	Polyvinyl Chloride
QA/QC	Quality Assurance / Quality Control
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
SCGs	Standards, Criteria and Guidance
SCOs	Soil Cleanup Objectives
STARS-#1	Spill Technology and Remediation Series Memorandum Number One
SVOCs	Semivolatile Organic Compounds
TAL	Target Analyte List
TCA	Trichloroethane
TCE	Trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively Identified Compound
TOGS	Technical Operations Guidance Series
µg/kg	Micrograms per Kilogram (parts per billion)
µg/L	Micrograms per Liter (parts per billion)
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

G.W. Lisk Company, Inc. (G.W. Lisk) entered into an Order on Consent and Administrative Settlement with the New York State Department of Environmental Conservation (NYSDEC) dated 27 May 2015 (the Order, Index Number R8-0852-15-04). The Order required the performance of a Site Characterization (SC) at the G.W. Lisk Facility located at 2 South Street in the Village of Clifton Springs, Ontario County, New York (the Site). The location of the Site is shown in Figure 1. The NYSDEC has identified the Site as Site Number 835026.

This SC Report describes the field efforts and associated analytical results for environmental media samples. The current use and contemplated future use of the Site is Industrial.

G.W. Lisk is preparing an application to enter the Site into the NYSDEC's Brownfield Cleanup Program (BCP).

1.1 PURPOSE AND OBJECTIVES

The work presented in this report was based on the following NYSDECapproved work plan:

• Draft Final Site Characterization Work Plan dated January 2016 (ERM, 2016).

As outlined in NYSDEC's Technical Guidance on Site Investigation and Remediation (NYSDEC, 2010a), the SC was performed to meet the following goals:

- Perform a Records Search to identify and review documentation on site histories; and
- If necessary, perform field characterization to identify potentiallyimpacted areas.

1.2 DESCRIPTION AND HISTORY

The Site is located in the south-central portion of the Village of Clifton Springs in Ontario County, New York. Figure 1 shows the location of the Site and adjacent areas. Figure 2 show the layout and land use of the Site including the parcel boundary and surrounding areas. The parcel currently contains approximately 26.654 acres. The Site is located within a mixed industrial, commercial, and residential use area.

The Site was originally developed in the mid-1800s for agricultural use. The G.W. Lisk facility is privately owned and has been operating since the early-1900s. The facility originally operated as a manufacturer of tin cake pans, pails, and spraying devices from 1910 until the late-1940s. The facility began solenoid manufacturing operations in 1948 and continues to operate as a manufacturer of solenoids and valves for industrial and commercial markets.

After originally consisting of a single chicken coop in 1910, the facility currently occupies approximately 225,000 square feet of building space. There are two main clusters of attached buildings where facility operations occur (Figure 2). Paved parking areas are located on the central, southern, and eastern portions of the Site. Paved driveways and shipping areas are also located throughout the Site. The western and southern portions of the Site are primarily wooded.

2.0 PROJECT BACKGROUND

2.1 GEOLOGIC SETTING

The Site is located within the Erie-Ontario Lowlands physiographic province (Bloom, 1978). The Site is positioned directly on the Onondaga Escarpment where it intersects the Sulphur Creek outwash valley. Topography generally slopes towards the northeast (towards Sulphur Creek) on the western part of the Site, and generally towards the northwest (towards Sulphur Creek) on the eastern part of the Site. Topographic relief across the site is approximately 90 feet with the highest elevations in the southwestern portion of the Site and the lowest elevations along Sulphur Creek in the north-central portion of the Site. Examination of topography shown in Figure 1 suggests that regional groundwater flow in the mapped area may be north to northwest towards the Canandaigua Outlet.

Native soil at the Site is predominantly of Palmyra gravelly loam, derived from glacial outwash deposits or bedrock (Caldwell, 1988; USDA, 2017). The glacial outwash deposits consist predominantly of gravel with sand and are generally thin or not present in the southeastern portion of the Site and increase in thickness towards the north and west. Diamictons encountered are interpreted as glacial till (Caldwell, 1988). Overburden deposits underlying the facility generally consists of clean fill, including fine sand and gravel. Total overburden thickness in the area is generally less than 20 feet, with overburden thinning towards the southeast to thicknesses of generally less than 3 feet.

Bedrock at the Site consists of the Middle Devonian Onondaga Limestone, which consists predominantly of gray, fine-grained limestone that is locally cherty (Rickard and Fisher, 1970). Depth to bedrock in the vicinity of the Site is typically 2 to 20 feet below ground surface (bgs).

The natural geochemical constituents in groundwater are obtained primarily from the solution of rock materials and/or overburden. The major mineral constituent of limestone is calcite (CaCO₃), but other dissolved minerals are also picked up as groundwater passes through bedrock, including dolomite [CaMg(CO₃)₂], gypsum (CaSO4.2H2O), pyrite (FeS₂), and halite (NaCl). Due to the likelihood that groundwater will encounter these various minerals as it passes through the bedrock or overburden, significant concentrations of these minerals are typically present in groundwater in this area.

2.2 PREVIOUS INVESTIGATIONS AND AREAS OF POTENTIAL CONCERN

Several volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and inorganic (metal) compounds were detected in one or more groundwater samples previously collected by others at the adjacent property to the north (the Clifton Springs Hospital and Clinic property or CSHC). Chlorinated VOCs were detected in some groundwater samples at the CSHC property at concentrations above the ambient water quality standards and guidance values (NYSDEC, 1998). At least one on-site source of VOCs, SVOCs, and metals detected in soil and/or groundwater at the CSHC property has been confirmed via subsurface investigation previously performed by others as part of the evaluation of a former manufactured gas plant (MGP) at the CSHC property.

The NYSDEC contacted G.W. Lisk in February 2015 (NYSDEC, 2015) and identified the following points of interest and outfall locations at the Site:

- degreasers;
- 1,1,1-trichloroethane (TCA) tanks;
- tank area;
- plating discharge and boiler blowdown;
- tumbler machine rinses; and
- other outfall locations, if any.

These points of interest and outfall locations were reviewed by G.W. Lisk and ERM during the Records Search effort. The results of the Records Search are summarized below in Section 3.2. With one exception, degreaser locations were eliminated from further consideration because:

- the degreasers and associated piping, controls, and valves were above floor level;
- the degreasers did not contain sub-floor penetrations, sumps or other apparent conduits that may have allowed the release of fluids or vapors into the subsurface;
- spills of solvents to the land or water from these degreasers reportedly did not occur; and
- inspection of the current and former degreaser locations did not produce visual or other evidence of a spill or release in these areas.

The 1,1,1-TCA tanks were 275-gallon steel aboveground storage tanks (ASTs) that were secondarily contained. No spills from these ASTs were reported to ERM by G.W. Lisk personnel and visual or other evidence of a release at these locations was not observed by ERM during Site inspections. These ASTs were registered under the NYSDEC's Chemical

Bulk Storage (CBS) regulations and were taken out of service in 1997 and were removed from the Site by the vendor that provided the ASTs.

The current petroleum storage tank area contains several ASTs used primarily for the storage of lubricating oils and cutting oils and is secondarily contained. No spills from these ASTs were reported to ERM by G.W. Lisk personnel and visual or other evidence of a spill or release in this area was not observed by ERM during the Site inspection. These ASTs are registered under the NYSDEC's Petroleum Bulk Storage (PBS) regulations and are currently in service.

G.W. Lisk historically held permits from NYSDEC to discharge wastewater into Sulphur Creek. All industrial discharges into Sulphur Creek were terminated in 1988 when an updated plating and wastewater treatment system was installed at the Site and industrial wastewaters were connected to the Village of Clifton Springs Publicly-Owned Treatment Works (POTW).

Bedrock is typically exposed in the streambed of Sulphur Creek. The streambed of Sulphur Creek near the facility was lined with concrete in 1993 for erosion and sediment control purposes to protect the structural integrity of the G.W. Lisk building. Concrete lining of the streambed also occurred on the adjacent CSHC property.

Nine areas of potential concern (AOPCs) were identified in the Final SC Work Plan (ERM, 2016). These AOPCs are summarized below.

2.2.1 AOPC-1: Former Outfall 001

G.W. Lisk historically held a permit from the NYSDEC to discharge wastewater into Sulphur Creek at this location. The facility subsequently expanded and this former outfall is now located beneath the current building.

2.2.2 AOPC-2: Former Outfall 006

The facility was previously permitted to discharge boiler blow down into Sulphur Creek at this location. The facility subsequently expanded and this former outfall is now located beneath the current building.

2.2.3 AOPC-3: Former Outfall 009

Occasional discharges of wastewater from salt spray corrosion tests may have occurred at this location. It is believed based on interviews with G.W. Lisk personnel that this outfall primarily discharged storm water from the roof onto the ground surface. The facility subsequently expanded and this former outfall is now located beneath the current building.

2.2.4 AOPC-4: Former Outfall 011

Plating and solvent wastes were previously discharged for a period of time to a former septic tank at this location. The former septic tank was constructed of concrete and had an associated leach field. The location and design/construction of the leach field is unknown. The former septic tank was removed in 1982 during building expansion activities.

2.2.5 AOPC-5: Former Outfall 012

Plating and solvent wastes were previously discharged for a period of time to a former septic tank at this location. The former septic tank was constructed of concrete and had an associated leach field. The location and design/construction of the leach field is unknown. The former septic tank was removed in 1987 during building expansion activities.

2.2.6 AOPC-6: Southwestern Parking Lot

The former septic tanks associated with former outfalls 011 and 012 were crushed and the concrete was reused as sub-base material in this parking area. Some soil excavated during removal of the former septic tanks and some unknown debris from the CSHC may have been reused in this location as well.

2.2.7 AOPC-7: Former Tank Area

Prior to implementation of the NYSDEC's Petroleum Bulk Storage regulations, storage of petroleum in ASTs historically occurred in this area, and the area did not have secondary containment. The stored petroleum consisted primarily of cutting and lubricating oils.

2.2.8 AOPC-8: Former TCE Degreaser with Sump

A former degreaser that utilized TCE that was stored in a former nearby AST designated B4CT1 was located in this area. According to historical information review, no spills or leaks were associated with this degreaser. However, a sump that penetrates the thickness of floor in this area is present at this location, which may have provided a conduit for the release of TCE vapors or liquids to the subsurface.

2.2.9 AOPC-9: Former Water Supply Wells

Two water supply wells located at the Site are used to supply water to the CSHC for non-potable purposes. The two water supply wells were observed at the Site during the Site inspection. An NYSDEC spill report form from 1991 (NYSDEC Spill Number 9103956) alleged that in 1982 and for three years prior, a five-gallon pail of TCE was "dumped" into an old water well located at the Site. VOCs were detected in water samples collected from two wells in this area in 1991; however, follow-up investigation by the NYSDEC, including additional water sampling and analysis, resulted in the spill file being closed without further action required.

ERM

3.0 SITE CHARACTERIZATION METHODS

The SC was performed using environmental investigation methods outlined in the NYSDEC-approved Final Site Characterization Work Plan (ERM, 2016). All samples were analyzed by Alpha Analytical Inc. (Alpha) of Westborough, Massachusetts. Alpha is a New York State Department of Health (NYSDOH)-approved environmental Laboratory (ID number 11148).

3.1 STANDARDS, CRITERIA AND GUIDANCE

The following standards and criteria apply to this project.

- 6 NYCRR Part 375 Environmental Remediation Programs
- 6 NYCRR Part 608 Use and Protection of Waters
- 6 NYCRR Parts 700-706 Water Quality Standards
- 29 CFR Part 1910.120 Hazardous Waste Operations and Emergency Response

The following guidance applies to this project.

- DER-10 Technical Guidance for Site Investigation and Remediation (May 2010)
- NYSDEC Division of Spills Management Sampling Guidelines and Protocols: Technologies Background and Quality Control/Quality Assurance for the NYSDEC Spill Response Program (NYSDEC, 1992)
- TOGS 1.1.1 Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations (NYSDEC, 1998)
- NYSDOH Guidance for Evaluating Soil Vapor Intrusion in New York State (NYSDOH, 2006) and the May 2017 Updates to Soil Vapor/Indoor Air Decision Matrices

Sample results were compared to applicable NYSDEC standards, criteria and guidance (SCGs) by media as summarized below.

<u>Groundwater</u>

Groundwater results are compared to NYSDEC's ambient water quality standards and guidance values (NYSDEC, 1998) for groundwater (Class GA).

Surface Water

Sulphur Creek has been designated as a Class D stream by NYSDEC. Therefore, surface water results are compared to NYSDEC's ambient water quality standards and guidance values (NYSDEC, 1998) for Class D surface water using type W values (wildlife protection).

Soil

Soil results are compared to 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs; NYSDEC, 2006) for the current and anticipated future land use (industrial).

Sub-Slab Soil Vapor, Indoor Air, and Outdoor (Ambient) Air

Sub-slab soil vapor, indoor air, and outdoor (ambient) air sample results are compared to the NYSDOH's Guidance for the Evaluation of Soil Vapor Intrusion in New York State, including the May 2017 Updates to the Soil Vapor/Indoor Air Decision Matrices.

3.2 RECORDS SEARCH

In accordance with Appendix 3A of DER-10 (NYSDEC, 2010a), a Records Search was conducted to evaluate Site history and operations. In addition to correspondence from the NYSDEC to G.W. Lisk dated 23 February 2015 which identified preliminary "points of interest" at the Site (NYSDEC, 2015), available historical documentation pertaining to the Site was obtained and reviewed, as were federal, state, and local agency environmental databases. Freedom of Information Law requests were submitted by ERM to the NYSDEC, the NYSDOH, Ontario County, and the Village of Clifton Springs in an attempt to gather additional information relevant to environmental conditions at the Site.

A Site visit was performed to verify the findings of the Records Search, review additional Site documentation, and evaluate access, operational, and other potential logistical limitations for potential environmental sampling procedures. The Site visit was conducted on 21 July 2015. ERM was accompanied during the Site visit by Mr. Arno Bebernitz of G.W. Lisk. An interview with Mr. Bebernitz was also conducted at that time to obtain additional information related to past operations and waste handling and management at the Site. A follow-up Site visit was performed on 3 August 2015 to review property deed information and analytical data related to storm water and industrial wastewater discharges. ERM visited the NYSDEC's office in Avon, New York on 27 July 2015 to obtain and review additional information that was provided by NYSDEC.

Additional details from the Records Search effort including summary tables of salient findings, a photographic log, and documentation obtained and reviewed during the Records Search effort are presented in Appendix A of the SC Work Plan (ERM, 2016). Additionally, the Records Search results were previously provided to the NYSDEC by G.W. Lisk via e-mail correspondence on 20 August 2015.

3.3 INDOOR AIR AND SOIL VAPOR SAMPLING

Passive soil vapor samples were collected and analyzed in 2016 as a screening method for VOCs on a semi-quantitative basis (i.e., results are reported as mass in micrograms). ERM deployed samplers in a grid pattern across the Site as shown in Figure 9. A 1-inch diameter hole was hammer-drilled three feet into the ground surface, the module was deployed and the surface sealed with a cork. Modules were recovered two weeks after deployment. The analysis was performed by Amplified Geochemical Imaging LLC (AGI) and the results were used to identify AOPCs and inform subsequent SC activities. Following module retrieval, holes were patched with concrete and holes in lawn and other outdoor locations were filled with topsoil.

A round of quantitative soil vapor sampling was completed in May 2017 to assess indoor air, sub-slab soil vapor, and outdoor ambient air. Five colocated sub-slab and indoor air locations were selected based on the passive screening results (Figure 9). Sub-slab soil vapor samples were collected using helium-tested Vapor PinTM sample ports and SUMMATM Canisters. Following sample collection, Vapor PinTM sample ports were removed and the concrete slab was patched and sealed.

3.4 SOIL SAMPLING

Soil borings were installed between May and October 2017 and were advanced to the top of bedrock or refusal using direct-push or hollowstem auger drilling methods. Soil core was collected continuously using dedicated sample liners. Reusable sampling equipment was cleaned between each borehole location by washing in a phosphate-free detergent and potable water solution followed by rinsing with distilled water.

Retrieved soil samples were visually examined by an ERM geologist and field-screened to assess subsurface conditions and physical properties including color, texture, composition, moisture content, odor, and visual evidence of staining, discoloration, or product/sheen. If necessary, companion boreholes explorations were made adjacent to the original sample location to obtain sufficient sample volume from selected depth intervals.

All soil cores were field screened for VOCs using a calibrated PID equipped with an 11.7 eV lamp. Sample descriptions and other field data and observations were documented in field notes and in soil boring logs (Appendix A). Soil samples were placed into a pre-chilled cooler for transport under proper chain-of-custody procedures to the project laboratory for analysis.

3.5 MONITORING WELL INSTALLATIONS AND GROUNDWATER SAMPLING

3.5.1 Monitoring Well Installations

Overburden monitoring wells were constructed using 2-inch diameter polyvinyl chloride (PVC) threaded well screen (0.010-inch slots) and flushjointed threaded well riser pipe. Washed quartz sand (Morie #00 or #0, see well construction logs in Appendix B) was installed as a filter pack to a depth of approximately 1 foot above the top of the screen. A one foot bentonite seal was hydrated above the filter pack. The remaining well annulus was sealed with cement-bentonite grout. Well screens were placed at depths deemed sufficient by the field geologist to intersect the groundwater table and capture zones of visual, olfactory, or PID evidence of possible contamination. Bedrock monitoring wells were constructed by cementing steel casing a minimum of one foot into bedrock followed by an open-hole well completion using rock coring techniques to a target depth of approximately 20 feet into bedrock. Rock matrix inconsistencies (i.e. quartz chert nodules) and limitations on drilling equipment for work inside the facility resulted in decreased coring depth at MW-02D, MW-03D, and MW-04D (see Appendix B). Rock cores were collected during bedrock drilling to evaluate of Site geology and groundwater flow. Overburden geology at the Site from soil borings and well installation activities informed the development of a representative typical stratigraphic section (Figure 4) identifying major geologic units and screened intervals. Confirmed depth to bedrock was used to generate an interpretation of the bedrock surface at the Site (Figure 5).

Monitoring wells were developed to facilitate collection of representative groundwater samples. Groundwater levels were measured in each well using an electronic water level indicator. Wells were developed using the surging/bailing technique with dedicated high-density polyethylene (HDPE) tubing with a stainless steel check valve and inertial lift pump. The volume of water removed during well development was measured and recorded. After completion of well development, each well was fitted with a locking expansion cap.

3.5.2 Groundwater Sampling

A water reservoir building located south of the main facility collects groundwater from two production wells (PW-A and PW-B; see Figure 3). The water is reportedly used in water fountains on the CSHC property. Two groundwater samples were collected from within the reservoir building from different valves that reportedly are associated with production wells PW-A and PW-B. ERM's utility location subcontractor was unable to determine which valve is associated with which production well using electromagnetic tracing techniques. Production well samples were collected on 9 May 2017.

Six water supply wells were reportedly located near the existing water supply wells. ERM geologists searched for additional water supply wells in the area but were not able to locate any additional wells.

Depth to water in monitoring wells was measured and top of casing elevations measured by a licensed surveyor to generate:

- 1. a representative water table contour map from overburden wells screened across the water table (Figure 6); and
- 2. a potentiometric surface map of groundwater in underlying bedrock (Figure 7).

Overburden and bedrock groundwater samples were collected from monitoring wells on 20 November 2017. Groundwater samples were collected using low-flow/minimal drawdown purging and sampling techniques. Field parameters including dissolved oxygen (DO), pH, oxidation-reduction potential (ORP), conductivity, turbidity, and temperature were measured and recorded on groundwater sampling records during sampling activities (Appendix C). Samples were placed into a pre-chilled cooler for transport under proper chain-of-custody to the project laboratory for analysis.

3.6 SURFACE WATER SAMPLING

Surface water samples SW-01 and SW-02 were collected on 9 May 2017 near the up-stream (up-gradient) parcel boundary (SW-01) and at the down-stream (down-gradient) parcel boundary (SW-02; see Figure 3). Field parameters DO, pH, ORP, conductivity, turbidity, and temperature were measured and recorded during sampling activities at a location immediately down-gradient of sampling location. These data were recorded on water sampling records (Appendix C). Flow rate, channel bathymetry, and water level were measured at the sample locations and two other locations in Sulphur Creek to facilitate evaluation of stream discharge and flux following sample collection (Figure 8). Stream gauging was completed using a Marsh-McBirney Flow Mate 2000TM electromagnetic flow meter. Samples were collected downstream first to prevent dislodgement of streambed material up-gradient that would potentially be present in samples later collected downstream. Sampling personnel also stood down-gradient of each sampling location during sample collection. Samples were placed into a pre-chilled cooler for transport under proper chain-of-custody procedures to the project laboratory for analysis.

There are no industrial or process discharge locations into Sulphur Creek; all discharges have been directed to the Publicly-Owned Treatment Works since 1988. Storm water piping discharges into Sulphur Creek at various points within the property boundary. G.W. Lisk performs sampling within the property as required by the State Pollution Discharge Elimination System permit.

An additional surface water sample (SW-03) was collected from an 18-inch diameter culvert pipe on 27 June 2017 to assist in the evaluation of preliminary laboratory analytical results from location SW-02.

3.7 DECONTAMINATION

Re-usable drilling equipment was washed between sample locations. Disposable plastic sample liners were used for sampling direct-push borings. During monitoring well construction, split-spoon samplers were washed between all samples, and drilling equipment was pressurewashed/steam cleaned between monitoring well clusters. Similarly, bedrock-coring equipment was also pressure washed/steam cleaned between each bedrock core location. Water generated from decontamination activities was captured and placed into labeled steel drums and temporarily staged on Site with other investigation-derived waste (IDW).

Decontamination of water level sensors was completed using a potable water/AlconoxTM solution and distilled water rinses between well measurements. All surface water sampling was performed using new HDPE tubing and a peristaltic pump; therefore, decontamination between sample locations was not required. Similarly, groundwater sampling was completed using dedicated HDPE tubing that was not re-used in other locations. All personnel protective equipment (PPE) waste generated during investigation and/or sampling activities was containerized with other IDW for subsequent characterization and disposal.

3.8 DEVIATIONS FROM THE WORK PLAN

ERM was unable to complete soil boring B-05 due to subsurface and overhead utilities inside the facility due to impacts to production operations, equipment use, and configuration within the facility. Soil samples collected during monitoring well installations were collected using split-spoon samplers in some locations (MW-01 and MW-04 clusters) where direct-push technology was not feasible.

Morie #00 sand or equivalent was not used at all well locations due to the predominantly sandy nature of the overburden material encountered. ERM used coarser #0 sand in monitoring wells MW-04S and MW-03S.

Bedrock coring was completed to a depth of 20 feet into bedrock only at location MW-01D. Drilling progress was slowed considerably due to a significant amount of hard chert (microcrystalline quartz) in the limestone bedrock. Groundwater within bedrock was encountered within 5- to 10-feet from the top of bedrock, and therefore MW-02D, MW-03D, and MW-04D were installed to depths of approximately 10-feet into bedrock.

Well development was completed with HDPE tubing and a stainless steel foot valve based on a request from NYSDEC to apply PFAS sampling considerations (NYSDEC, 2018a) after approval of the SC Work Plan (ERM, 2016).

Surface water sample analysis was expanded to include PFAS and 1,4dioxane based on a subsequent request for emerging contaminant sampling from NYSDEC.

An additional sample of water was collected at an 18-inch storm water outfall discharge into Sulphur Creek to assist with evaluation of the detection of PCBs at location SW-02.

4.0 SITE CHARACTERIZATION RESULTS

This section summarizes findings from implementation of the NYSDECapproved SC Work Plan (ERM, 2016).

4.1 GEOLOGY AND HYDROGEOLOGY

Figure 4 summarizes typical geological lithologies encountered during SC activities. Unconsolidated overburden units underlying the Hundreds Building consist of a shallow sandy fill-like unit immediately below the concrete slab. Native materials underlying the fill are comprised of interbedded silt and clay with some discontinuous lenses of sand and gravel. The silt and clay unit is typically underlain by brown to gray diamicton (interpreted as glacial till) of various thicknesses. The basal overburden unit consists of fine-grained lithic sand and silt with interbedded gravel. The basal sand unit is commonly thin and laterally variable and is superimposed on weathered or competent bedrock.

Geologic materials encountered southwest of the facility (i.e., borings B-01 through B-03) consist of fill-like materials of varying thicknesses which are underlain by native sorted lithic sands. The underlying sand unit is consistent with glacial outwash sand.

Bedrock consists of medium gray limestone of the Devonian Onondaga Formation. The limestone encountered at the Site is consistent with a mudstone based on the limestone classification of Dunham (1962). The top of bedrock was encountered at depths ranging from 13.3 to 23 feet below ground (or floor) surface (Table 1). The limestone also contains bedding partings with concentrations of dark gray to black chert. Figure 5 presents an interpolated subsurface topography of bedrock surface, demonstrating the west-northwest oriented grade of the overburdenbedrock surface.

Groundwater was encountered in the overburden units on top of the bedrock at depths ranging from 10.91 to 21.22 feet below ground (or floor) surface. Figure 6 shows groundwater contours for the overburden units. Estimated groundwater flow direction in overburden across the Site is generally towards the west-northwest towards and along Sulphur Creek. This estimated flow direction is consistent with the interpolated bedrock surface topography (Figure 5).

Groundwater was also encountered within the bedrock unit. Figure 7 shows groundwater contours for the bedrock unit. Estimated groundwater flow direction in shallow bedrock across the Site is generally towards the west-northwest. Hydraulic head measurements from the bedrock wells indicate that the bedrock unit groundwater elevations occur within the overburden unit at depths ranging from 0.32 to 7.76 feet above the top of the bedrock surface. Comparison of overburden and bedrock groundwater levels from all four monitoring well couplets indicate that vertical hydraulic gradient is downwards (from overburden into bedrock) in all monitoring well clusters with the exception of MW-03 where it is upwards (from bedrock into overburden). These data suggest that vertical groundwater flow direction at the Site can be either downwards or upwards depending on the specific location and depth.

Sulphur Creek flows generally from the south towards the north and northwest through the Site and has been designated as Class D surface water body by NYSDEC. Bathymetric cross sections were prepared at four stream gauging stations established at the Site (Figure 8). The stream channel has been influenced by development and construction activities over the years and the channel morphology is variable. Bedrock locally crops out in the stream channel. Stream depth was typically less than one foot on the date measured (10 May 2017) and calculated stream discharge was consistently approximately seven cubic feet per second at all stream gauge stations (Figure 8).

4.2 SAMPLE RESULTS

4.2.1 Air and Soil Vapor

Passive soil vapor sampling was performed in May 2016. This initial screening method was used to identify areas for further investigation later during the SC. The passive soil vapor results were contoured and are summarized in Figure 9.

Locations for co-located indoor air and sub-slab soil vapor sample collection were proposed based on the passive soil vapor results. These locations are shown in Figure 3 and laboratory analytical results are presented in Table 2.

The following VOCs were detected in outdoor ambient air collected upwind of the G.W. Lisk facility:

- Acetone;
- Carbon tetrachloride;
- Chloromethane;
- Freon 11; and
- Freon 12.

TCE was detected in indoor air at locations VI-03 and VI-04 at concentrations above the NYSDOH's current Indoor Air Guideline value

of 2 μ g/m³. Other VOCs were not detected at concentrations above current NYSDOH air guideline values. As outlined in documentation contained in Appendix D, TCE is a component of some industrial products used within the Main Building.

The following VOCs were detected in sub-slab vapor samples at concentrations above potential sub-slab vapor action levels contained in NYSDOH (2006) and/or in subsequent on-line updates:

- 1,1-DCE;
- cis-1,2-DCE;
- PCE;
- 1,1,1-TCA; and
- TCE.

Based on these data, G.W. Lisk promptly increased (doubled) the flow of fresh air into the Main Building, has initiated a comprehensive inventory of currently-used products that may contain TCE or other chlorinated VOCs, and has prepared a SVI Interim Remedial Measure (IRM) Work Plan (ERM, 2018) to further reduce concentrations of TCE in indoor air and to address potential SVI in the Main Building. The SVI IRM Work Plan was approved by NYSDEC and NYSDOH in correspondence dated 24 May 2018 (NYSDEC, 2018b) and SVI IRM site work was initiated in August 2018. G.W. Lisk has also notified employees of these results and actions taken to address TCE concentrations in indoor air.

Figure 10 provides an illustration of the relative concentrations of several VOCs detected in indoor air and sub-slab soil vapor samples at selected locations within the Main Building. Review of Figure 10 indicates that the relative concentrations of these VOCs are similar at locations VI-03 and VI-04. Several VOCs were detected in the sub-slab vapor sample at location VI-02 that were not detected in the co-located indoor air sample.

4.2.2 Soil

Thirteen soil samples were collected from eight soil borings during the SC (not including QA/QC samples). Analytical results are summarized in Table 3.

<u>VOCs</u>

VOCs detected in one or more soil samples at concentrations above NYSDEC's Unrestricted use SCOs include:

- Acetone;
- Benzene;
- Ethylbenzene;
- Naphthalene;

- TCE; and
- Xylenes.

VOCs detected in one or more soil samples at concentrations above NYSDEC's Protection of Groundwater SCOs include:

- Acetone;
- Benzene;
- Ethylbenzene;
- Naphthalene;
- TCE; and
- Xylenes.

VOCs were not detected in soil samples at concentrations above NYSDEC's Industrial use SCOs.

Twelve soil samples were also collected and analyzed for 1,4-dioxane, which was not detected in any of the 12 samples.

Figure 11 provides an illustration of the relative concentrations of several VOCs detected in soil samples. Review of Figure 11 indicates that the relative concentrations of these VOCs in soil are similar at locations MW-01 through MW-03 and B-04. VOCs detected in soil at location MW-04 appear to be distinct proportionally relative to the VOCs detected in soil at locations MW01 through MW-03 and B-04. Additionally, the chlorinated VOCs listed in Figure 11 were not detected in soil samples collected in the Southwestern Parking Lot area (soil borings B-01 through B-03; AOPC-6).

SVOCs

SVOCs detected in one or more soil samples at concentrations above NYSDEC's Unrestricted use SCOs include:

- Benzo(a)anthracene;
- Benzo(a)pyrene;
- Benzo(b)fluoranthene;
- Benzo(k)fluoranthene;
- Chrysene;
- Dibenzo(a,h)anthracene;
- Indeno(1,2,3-cd)pyrene; and
- Naphthalene.

SVOCs detected in one or more soil samples at concentrations above NYSDEC's Unrestricted use SCOs include:

- Benzo(a)anthracene;
- Benzo(b)fluoranthene;

- Benzo(k)fluoranthene;
- Chrysene; and
- Naphthalene.

SVOCs detected in one or more soil samples at concentrations above NYSDEC's Industrial use SCOs include:

• Benzo(a)pyrene.

Figure 12 shows locations where one or more SVOCs exceed the Industrial SCOs. The exceedance of benzo(a)pyrene is limited to one location (B-01) in the Southwestern Parking Lot (AOPC-6). These SVOCs may be related to the reuse of asphalt pavement in AOPC-6.

PCBs

Ten soil samples were collected and analyzed for PCBs, which were not detected in any of the 10 samples.

Inorganics

Inorganics detected in one or more soil samples at concentrations above NYSDEC's Unrestricted use SCOs include:

- Arsenic;
- Chromium;
- Lead;
- Mercury; and
- Zinc.

Inorganics detected in one or more soil samples at concentrations above NYSDEC's Protection of Groundwater SCOs include:

- Arsenic; and
- Mercury.

Inorganics detected in one or more soil samples at concentrations above NYSDEC's Industrial use SCOs include:

- Arsenic; and
- Mercury.

Figure 12 shows locations where one or more inorganics exceed the Industrial SCOs. There are two locations:

- Location MW-03 near Former Outfall 11 (AOPC-4); and
- Location B-03 in the Southwestern Parking Lot (AOPC-6).

4.2.3 Groundwater

Laboratory analytical results for groundwater samples are summarized in Table 4. Compounds of potential concern (COPCs) that exceed the NYSDEC's ambient water quality standards and guidance values (NYSDEC, 1998) are summarized in Figure 13.

VOCs

VOCs detected in one or more groundwater samples at concentrations above ambient groundwater quality standards or guidance values include:

- cis-1,2-DCE;
- 1,1-DCA;
- 1,1-DCE;
- Freon-12;
- Freon-113;
- PCE;
- 1,1,1-TCA; and
- TCE.

All groundwater samples were also analyzed for 1,4-dioxane, which was typically not detected in groundwater samples at reporting limits of approximately 0.16 μ g/l. Detected concentrations range from a minimum of 0.429 μ g/l at MW-03S to a maximum of 3.64 μ g/l at MW-02S.

VOC concentrations in overburden groundwater are generally higher than bedrock groundwater concentrations in samples collected south of Sulphur Creek. Conversely, VOC concentrations in bedrock groundwater are generally higher than overburden groundwater concentrations in samples collected north of Sulphur Creek.

VOCs exceedances were not detected in groundwater samples from the three monitoring wells located north of the Site (on CSHC property).

Figures 14 and 15 provide illustrations of the relative concentrations of several VOCs detected in overburden and bedrock groundwater samples, respectively. Review of Figure 14 indicates that the relative concentrations of these VOCs in groundwater are generally similar with the exception that cis-1,2-DCE and Freon-113 were detected to the south of Sulphur Creek but not to the north. Review of Figure 15 indicates there is greater variability in relative concentrations of VOCs in bedrock groundwater across the Site. Also, bedrock groundwater from locations PW-A and PW-B, which are located close to the property line and may be located hydraulically up-gradient from the Site, contain relatively low concentrations of cis-1,2-DCE, Freon-113, and TCE.

SVOCs

SVOCs detected at concentrations above ambient groundwater quality standards or guidance values were limited to one J-flagged detection of phenol in one sample of bedrock groundwater (MW-04D). The detected concentration of 2.6 μ g/l is slightly higher than its standard of 1.0 μ g/l.

PCBs

PCBs were not detected in any groundwater samples collected at the Site.

Inorganics

Inorganics detected in groundwater samples at concentrations above ambient groundwater quality standards or guidance values include:

- Antimony
- Iron;
- Magnesium;
- Manganese; and
- Sodium.

Figure 13 shows locations where one or more inorganics in groundwater exceed the ambient groundwater quality standards or guidance values. Antimony exceeds at only one location (MW-03D) and is only very slightly above its standard. The other metals are naturally occurring and are considered as possibly raising only aesthetic and not environmental concerns.

PFAS

Review of PFAS data in Table 4 indicates that individual PFAS were either not detected in groundwater samples or they were detected at very low concentrations. Detected concentrations of individual PFAS ranged from a minimum of 0.238 J to a maximum of 8.36 nanograms-per-liter.

4.2.4 Surface Water

Sample results for surface water samples are summarized in Table 5 and Figure 12.

VOCs (including 1,4-dioxane), SVOCs, metals, and PFAS were not detected in surface water samples at concentrations above SCGs. The PCB Aroclor 1260 was detected at a concentration above the Class D surface water standard at location SW-02.

4.3 ASSESSMENT OF DATA QUALITY

4.3.1 Data Quality Objectives

Data Quality Objectives (DQOs) are qualitative and quantitative criteria used to support the decision making process. DQOs define the uncertainty in analytical data and consider precision, accuracy, representatives, completeness, and comparability (PARCC):

- Precision is a measure of mutual agreement among measurements of the same property usually under prescribed similar conditions. Precision is best expressed in terms of the standard deviation.
- Accuracy is the degree of agreement of a measurement (or an average of measurements) with an accepted reference of "true value". Accuracy is an estimate of potential numerical bias (i.e., low or high) in analytical data.
- Representativeness expresses the degree to which data parameter variations at a sampling point indicate a process condition, or an environmental condition.
- Completeness is a measure of the amount of valid data obtained compared to the amount that was expected to be obtained under correct normal conditions.
- Comparability expresses the confidence with which one data set can be compared with another. Comparability is a qualitative measurement. Comparability is assessed by reviewing results or procedures for analytical data that do not agree with expected results.

NYSDEC Analytical Services Protocol (ASP) Category B deliverables were provided for all data. The Quality Assurance Officer performed a preliminary review of the data packages. The data were validated by an independent third party, Environmental Data Services, Inc. (EDS) of Newport News, Virginia. EDS's review was performed in accordance with:

- analytical methods;
- NYSDEC ASP (NYSDEC, 2010b);
- USEPA CLP National Functional Guidelines for Organic Superfund Data Review (USEPA, 2017a);
- USEPA CLP National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2017b);
- applicable USEPA Data Review Standard Operating Procedures; and
- the reviewer's professional judgment.

The order listed above does not imply a hierarchy of reliance. The most comprehensive reference sources were used to perform a complete data validation.

4.3.2 Data Usability

Data validation reports (DVRs) were prepared for all samples based upon the data review. The DVRs consist of a section that contains an assessment of the deliverables, followed by a section that describes the analytical results and any qualifications that should be considered when using the data. The DVRs highlight the data results that did not meet quality control (QC) limits and therefore required data qualification. These tables include information such as, blank contamination, surrogate recoveries, and internal standard area counts that did not meet QC criteria.

The following items/criteria were reviewed for organics:

- Case narrative and deliverables compliance;
- Holding times both technical and procedural and sample preservation (including pH and temperature);
- System Monitoring Compound (Surrogate) recoveries and summaries;
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) results, recoveries and summaries;
- Laboratory Control Sample (LCS) or Blank spike (BS) results, recoveries and summaries;
- Method blank results and summaries;
- Gas Chromatography (GC)/Mass Spectroscopy (MS) tuning and performance;
- Initial and continuing calibration summaries;
- Internal standard areas, retention times and summaries;
- Field and Trip Blank Data when applicable;
- Blind Field Duplicate sample results when applicable
- Organic analysis data sheets (Form I);
- GC/MS chromatograms, mass spectra and quantitation reports

- Quantitation/detection limits; and
- Qualitative and quantitative compound identification.

The following items/criteria were reviewed for the Inorganics:

- Case narrative and deliverable requirements;
- Holding times and sample preservation;
- Detection limits;
- Inorganic analysis data sheets (Form I);
- Initial and continuing calibration verifications;
- Contract-Required Detection Limit (CRDL) standard analysis;
- Lab blank data;
- Inductively Coupled Plasma Spectroscopy (ICP) interference check sample (ICS) analysis;
- Matrix Spike analysis;
- Matrix Duplicate analysis;
- LCS results;
- ICP serial dilution analysis;
- Field Blank results when applicable; and
- Blind Field Duplicate results when applicable.

Qualification of data, where appropriate, was made by the use of qualifier codes based upon the data validation process. These qualifiers serve as an indication of the qualitative and quantitative reliability of the data. The qualifier codes utilized are as follows:

- No qualifier Positive Detect. The compound was analyzed for and was positively identified above the sample reporting limit. The reported value is valid and useable.
- U Non Detect. The compound was analyzed for, but not detected. The associated numerical value is the reporting limit (RL). The value is valid and useable as a non-detect at the reporting limit.

- J Positive Detect at an estimated value. The compound was analyzed for and was positively identified; the associated numerical value is the approximate concentration of the compound in the sample. The value was designated as estimated as a result of the data validation criteria or when an organic compound is present (mass spectral identification criteria are met), but the concentration is less than the RL. The value is valid and useable as an estimated result.
- UJ Non Detect at an estimated value. The compound was analyzed for, but not detected above the RL. The associated numerical value is the RL; however, the RL is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the compound in the sample. The value is valid and useable as a non-detect at the estimated RL.
- R The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The data are unusable. The presence or absence of the analyte cannot be verified.

The final review of the all DVRs was performed by the ERM Quality Assurance Officer. The validation indicated that all data are valid and usable for the purposes of the SC with the few exceptions described in the DVRs. Of over 189 analyses performed, none were rejected for a completeness of 100%. The rejected analyses were not used for data interpretation. Tables 2 to 5 present final validated data.

4.4 INVESTIGATION DERIVED WASTES

Investigation-derived waste (IDW) generated during the SC consisted of the following:

- Water: monitoring well purge water, wireline-core drilling fluids, and decontamination fluids;
- Solids: soil cuttings and drilling mud; and
- Disposables: personal protective equipment (PPE), HDPE sheeting, HDPE tubing used for water sampling, and other disposable sampling equipment and supplies.

IDW was placed into United States Department of Transportation (USDOT)-approved 55-gallon steel drums. Drums were labeled with generator name, address, contents, waste determination status, and accumulation start date and were temporarily staged on Site in a secure area for waste characterization sampling and analysis. A total of 30 drums of IDW were generated as follows:

- 20 drums of soil cuttings/drilling mud;
- 8 drums of wastewater; and
- 2 drums of disposables.

Samples of soil cuttings, drilling mud, and wastewater were collected on 21 November 2017 for waste characterization analyses. Solid samples were analyzed for VOCs, SVOCs, metals, pesticides, and herbicides by USEPA's Toxicity Characteristic Leaching Procedure (TCLP). The wastewater sample was analyzed for the same parameters. These samples were also analyzed for ignitability and reactivity. The waste characterization analytical results are included in Table 6.

Analytical results from individual soil and groundwater samples collected during the SC as well as the waste characterization sample results referenced above were provided to Environmental Waste Minimization, Inc. (EWMI) for review and waste profiling in consultation with G.W. Lisk and the facility receiving the wastes. All IDW was determined to be nonhazardous waste. The IDW was picked-up from the Site on 12 February 2018 and transported under an approved waste profile to the EQ Detroit, Inc. disposal facility in Detroit, Michigan (soil and drilling muds) or the Envirite of Pennsylvania disposal facility located in York, Pennsylvania (disposables and wastewater). Copies of the waste transport and disposal documentation are provided in Appendix E.

4.5 EVALUATION OF AREAS OF POTENTIAL CONCERN

Nine AOPCs were identified in the Final SC Work Plan (ERM, 2016). The AOPCs and the results of SC sampling efforts are summarized in Table 7. Based on SC results, AOPCs 3 and 9 are proposed for deletion from further evaluation. Other AOPCs will be further evaluated during a Remedial Investigation (RI).

4.6 RECOMMENDATIONS

COPCs including several VOCs, SVOCs, and metals have been detected in soil, groundwater, and/or surface water at concentrations above applicable SCGs. Additional investigation of these media is recommended and will be proposed in a RI Work Plan that will be submitted to NYSDEC for review and approval. The goals of the RI will be to further:

- delineate the extent of COPCs in environmental media at or emanating from the Site, including whether or not COPCs may be migrating from off-Site properties onto the Site;
- determine the surface and subsurface characteristics of the Site;

- identify the sources of COPCs, migration pathways, and actual or potential receptors with regards to the protection of human health and the environment;
- perform an assessment of ecological resources; and
- collect data necessary to evaluate potential remedial alternatives.

If appropriate, the RI should also identify removal, treatment, containment, or other interim remedial measures (IRMs) to:

- remove, treat, or contain any source areas identified; and
- prevent, mitigate, or remedy potential exposure to COPCs while remedial alternatives are being evaluated.

TCE was detected at two indoor air sample locations at concentrations above its Indoor Air Guideline value. To this end, a SVI IRM Work Plan (ERM, 2018) was provided by G.W. Lisk to NYSDEC and NYSDOH for review to address potential SVI at the Main Building. The SVI Work Plan was approved by NYSDEC and NYSDOH in correspondence dated 24 May 2018 (NYSDEC, 2018b). G.W. Lisk is currently implementing the SVI IRM under Department oversight, and G.W. Lisk is also currently preparing a BCP application for Department review.

Results from implementation of the NYSDEC-approved RI Work Plan will be combined with the SC investigations outlined in this report to fulfill the requirements for an RI.

COPCs in soil, groundwater, or surface water are limited to one or more VOCs, SVOCs, and metals. The following analytes were either not detected or they were not detected in any SC samples at concentrations above potentially applicable SCGs:

- Cyanide
- Sulfite

Therefore, it is recommended that these analytes be removed from future sampling and analysis programs at the Site.

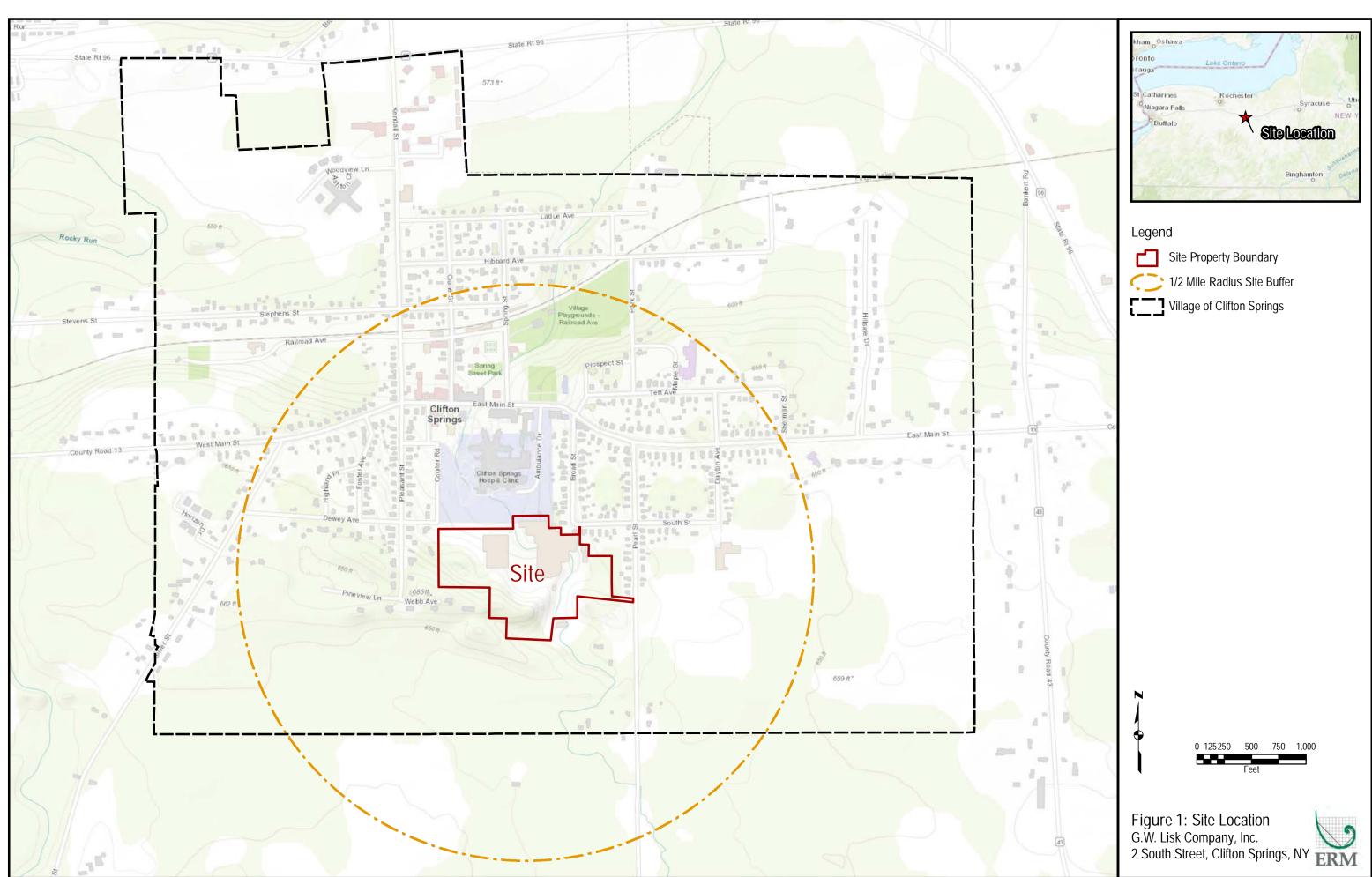
The emerging contaminants 1,4-dioxane and PFAS were either not detected in groundwater samples or were detected at very low concentrations.

5.0 REFERENCES CITED

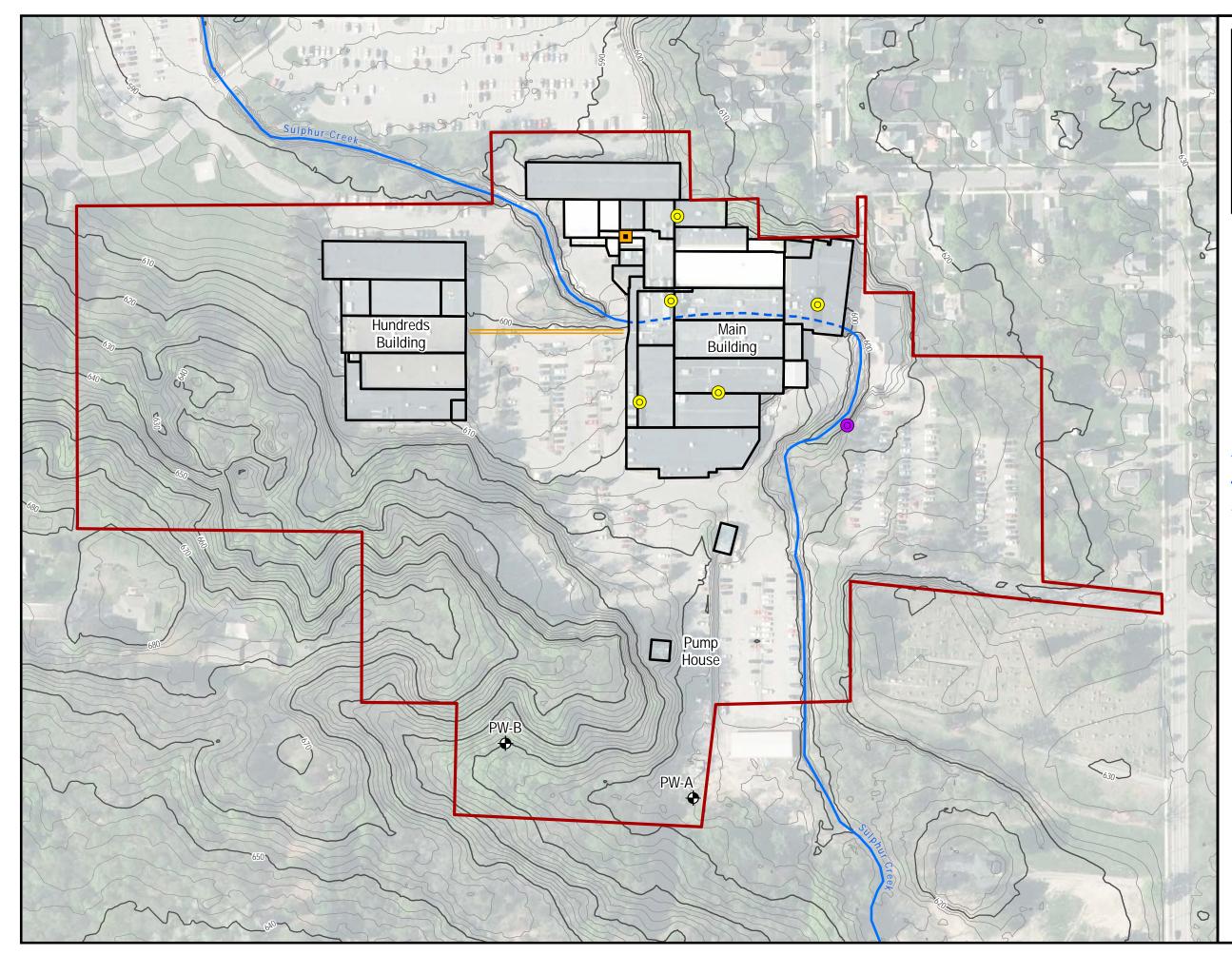
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Figures



m/DM/MV/Clients_F_K/GW/Lisk/CliftonSprings_MY/MXD/SC Report 2018/Figure1_SiteLocation_20171019.mxd - Joseph.Hakam - 5/25/2018

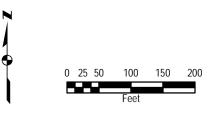




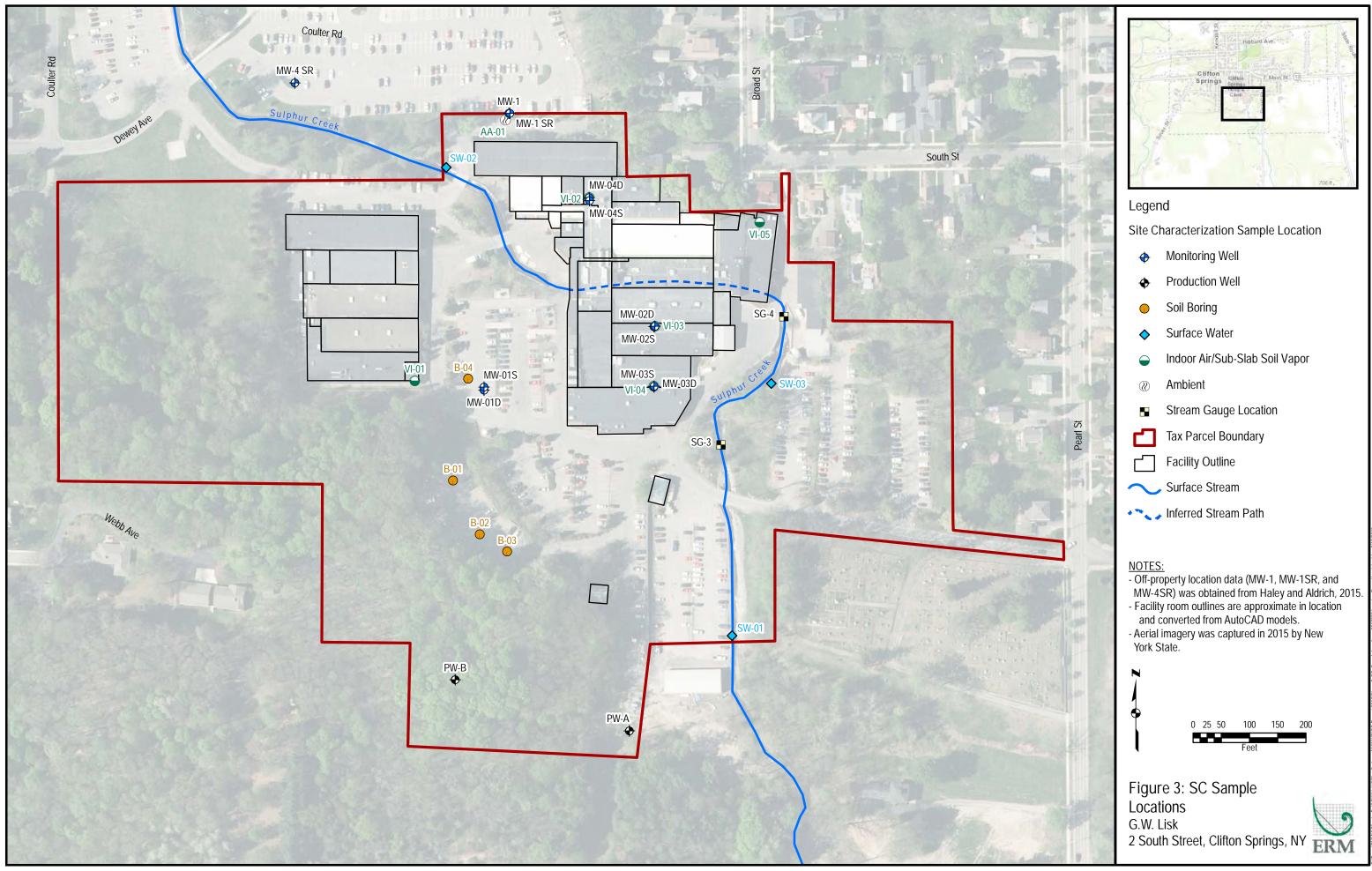
- Property Parcel Boundary
- Facility Outline
- Water Supply Wells
- Stormwater Outfall Location \bigcirc
- Former Degreaser Sump
- Former Outfall Location 0
- **——** Former Trench (Approximate)
- ✓ Surface Stream
- Inferred Stream Path
 - 10 ft. Elevation Contour
 - 2 ft. Elevation Contour

NOTES:

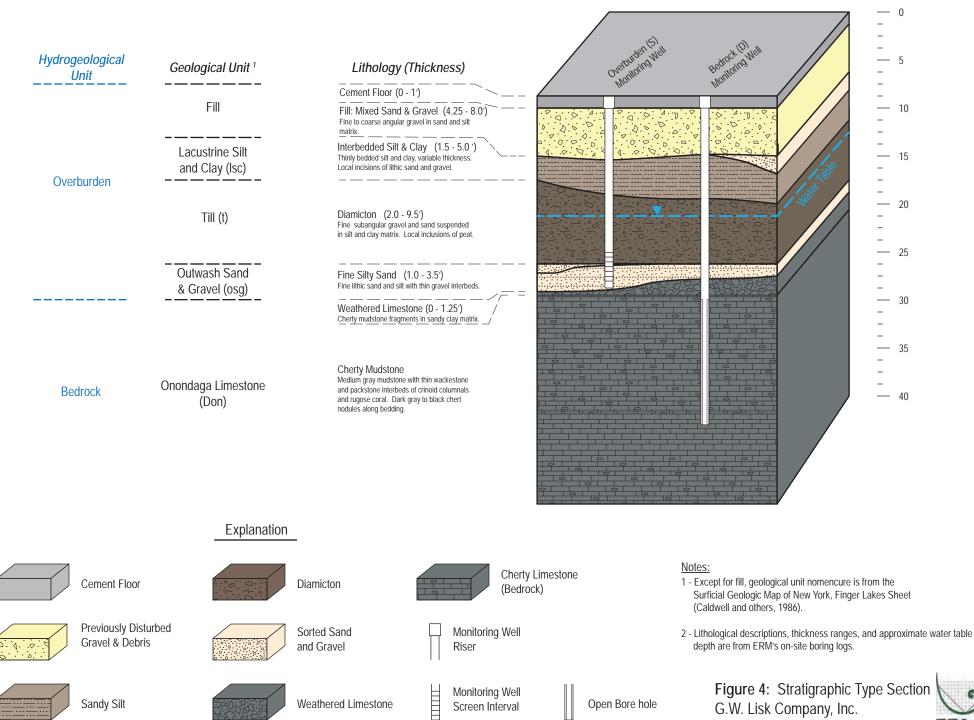
- Facility room outlines are approximate in location and converted from AutoCAD models.
 Surface elevation contours are modified from
- Ontario County, 2017. Elevation is reported as feet above Mean Sea
- Level (MSL).
- Aerial imagery was captured in 2015 by New York State.





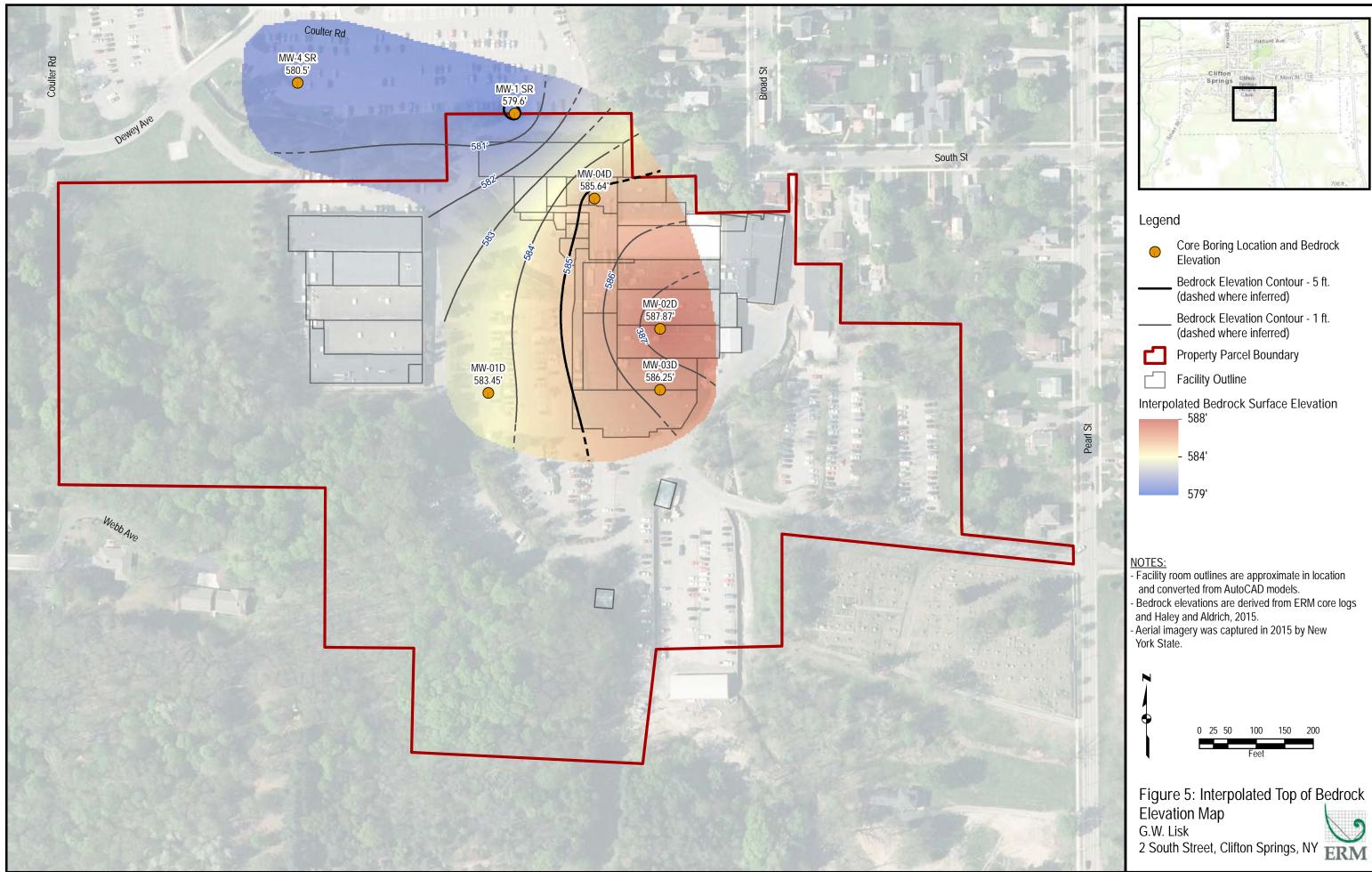


Depth (feet below ground surface)



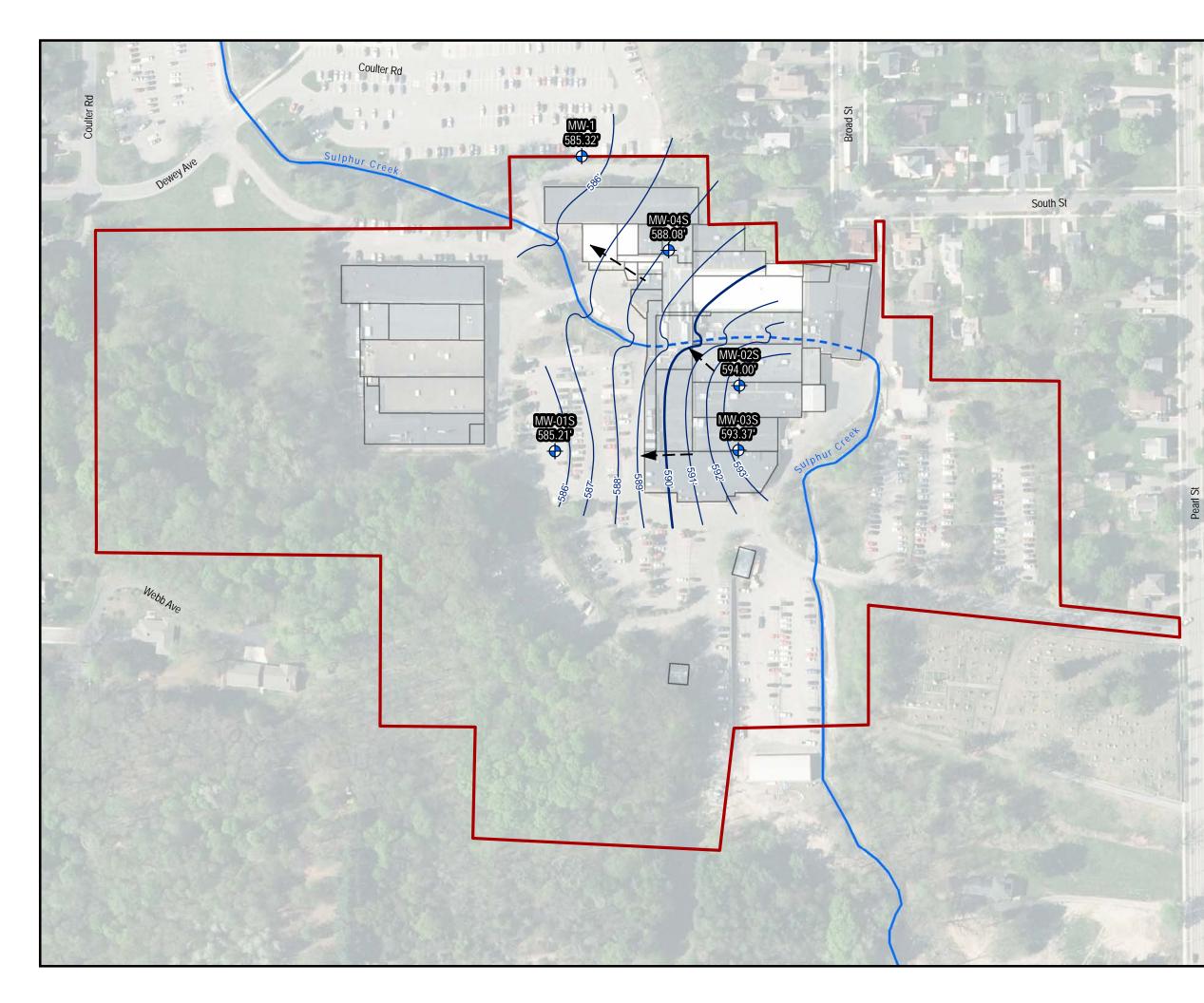
ERN

Clifton Springs, NY



P	Kendalts	Hibbard Ave	State Boot
	Cliffon Springs Can Can	ALL TRANS	
6		1	700 ft.

Figure 5: Interpolated Top of Bedrock





- Overburden Monitoring Well
- Groundwater Elevation Contour 5 ft.
- Groundwater Elevation Contour 1 ft.
- Property Parcel Boundary
- Facility Outline \square
- Surface Stream
- Inferred Stream Path
- Estimated Groundwater Flow Direction

- NOTES: Facility room outlines are approximate in location and converted from AutoCAD models.
- Groundwater elevations were measured on 11/21/2017 and are reported as feet above mean sea level.
- Aerial imagery was captured in 2015 by New York State.

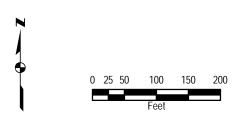
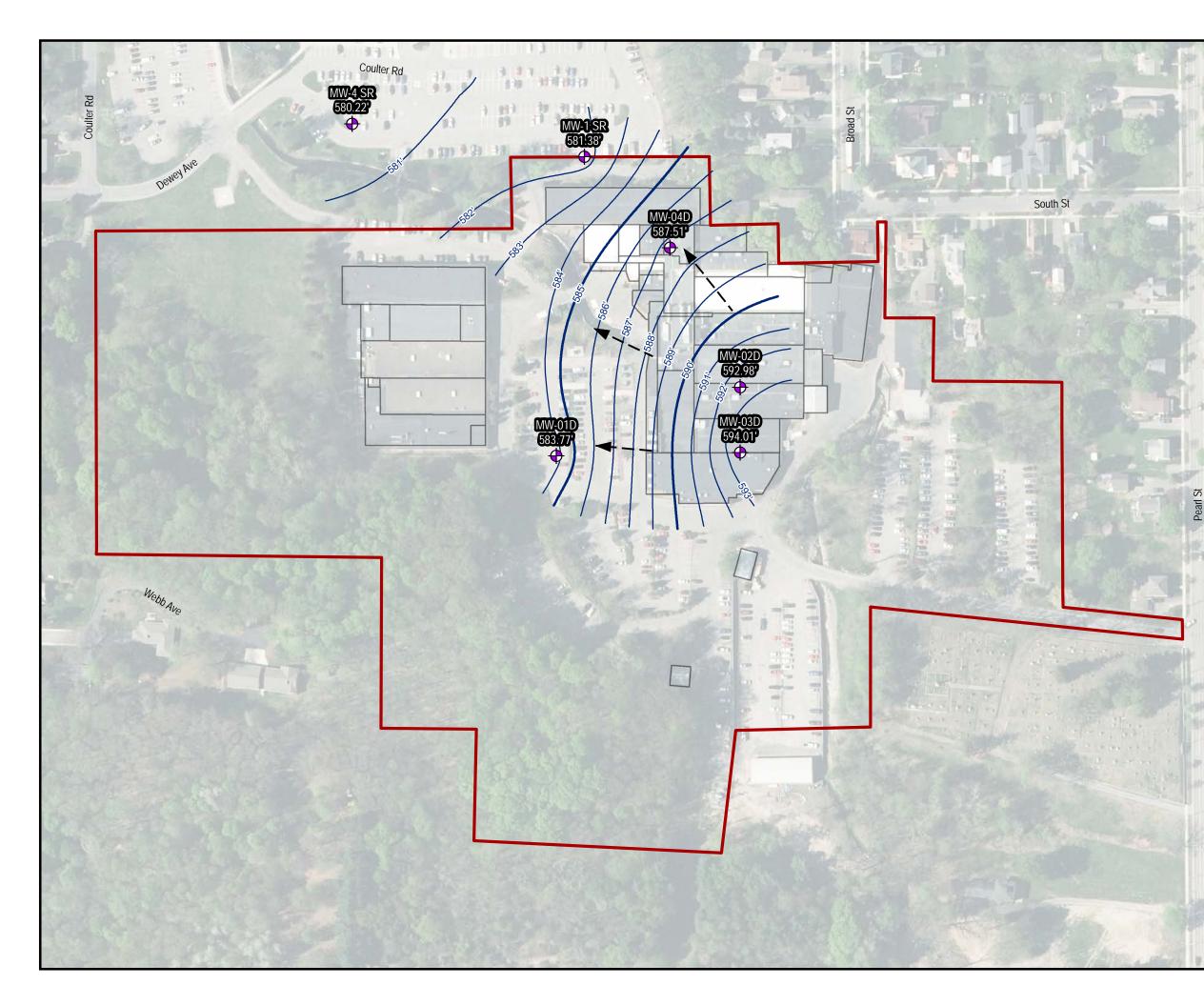


Figure 6: Overburden Groundwater Contours G.W. Lisk 2 South Street, Clifton Springs, NY





- Bedrock Monitoring Well
 - Groundwater Elevation Contour 5 ft.
- Groundwater Elevation Contour 1 ft.
- Property Parcel Boundary



- Facility Outline
- Estimated Groundwater Flow Direction

- NOTES: Facility room outlines are approximate in location and converted from AutoCAD models.
- Groundwater elevations were measured on 11/21/2017 and are reported as feet above mean sea level.
- Aerial imagery was captured in 2015 by New York State.

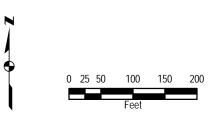
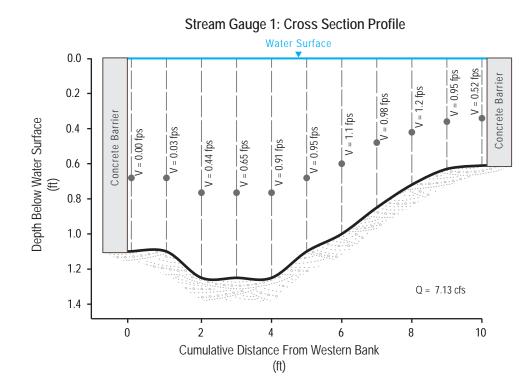
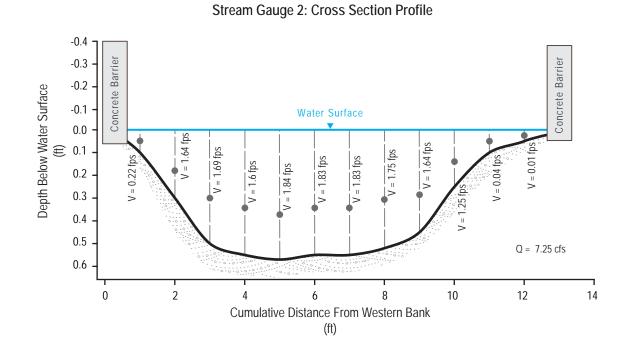
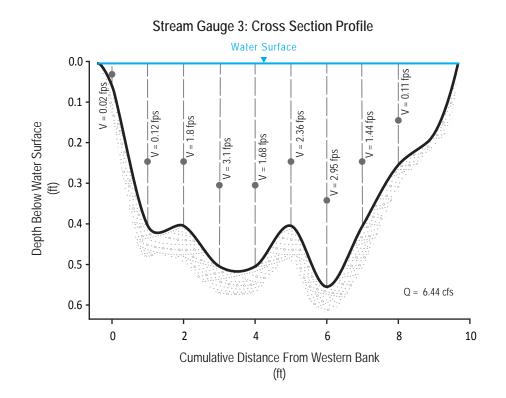
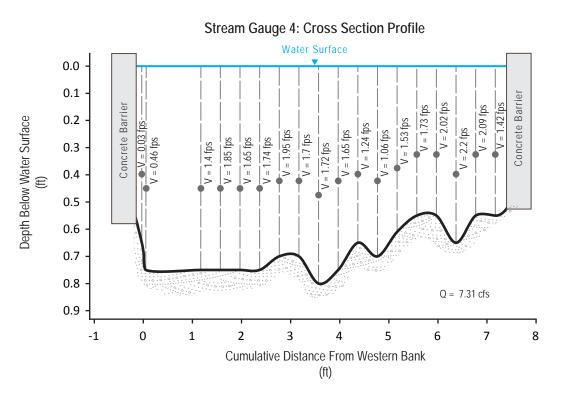


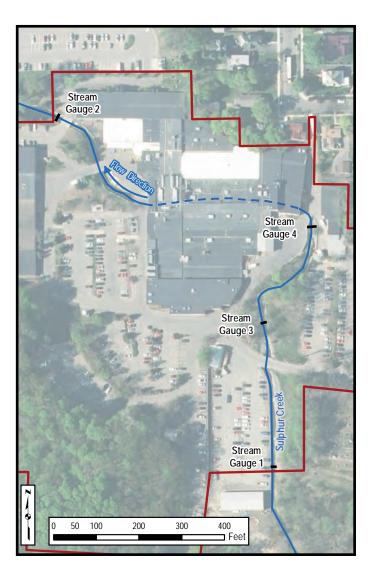
Figure 7: Shallow Bedrock Groundwater Potentiometric Contours Contours G.W. Lisk 2 South Street, Clifton Springs, NY ERM







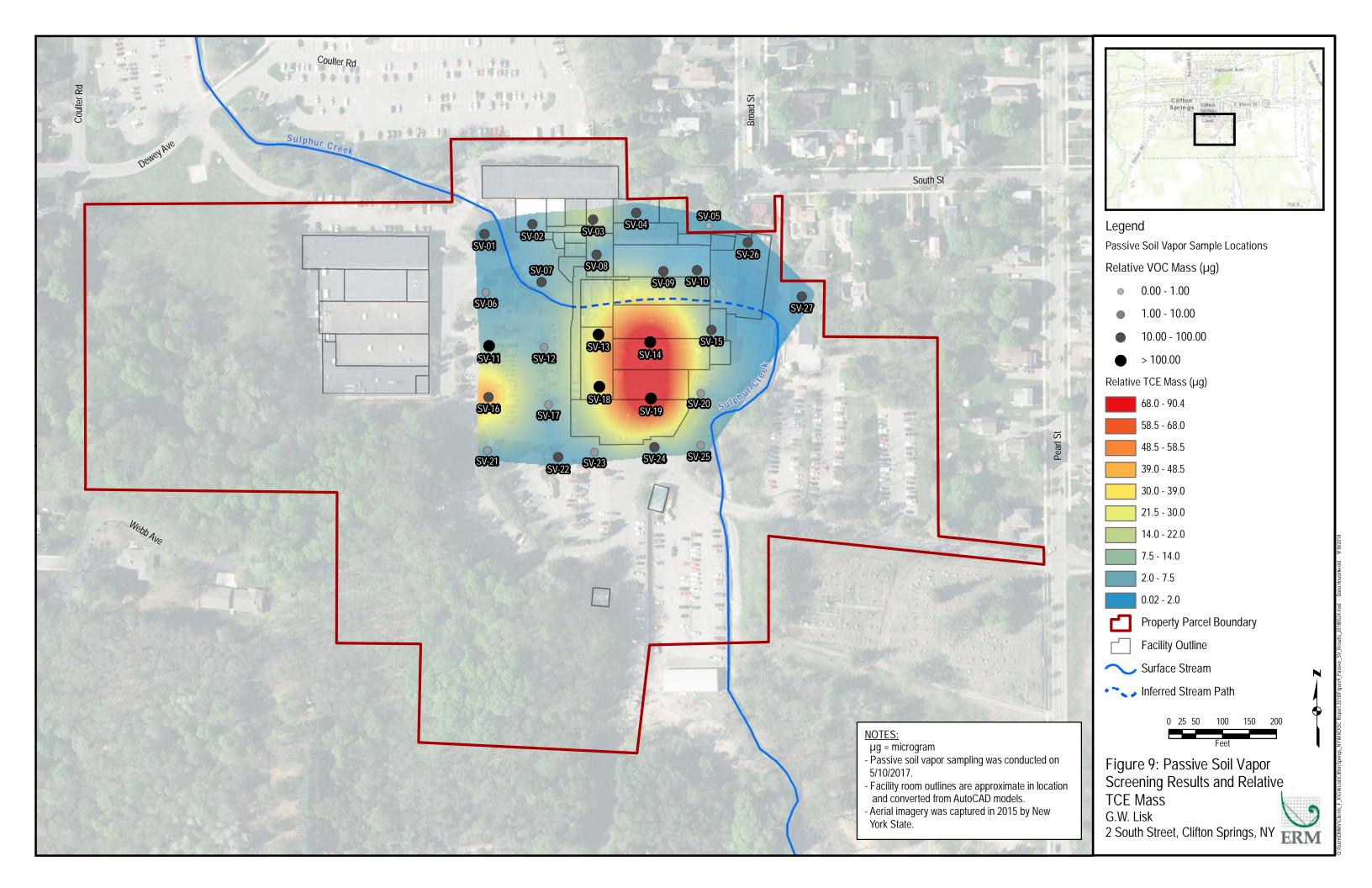


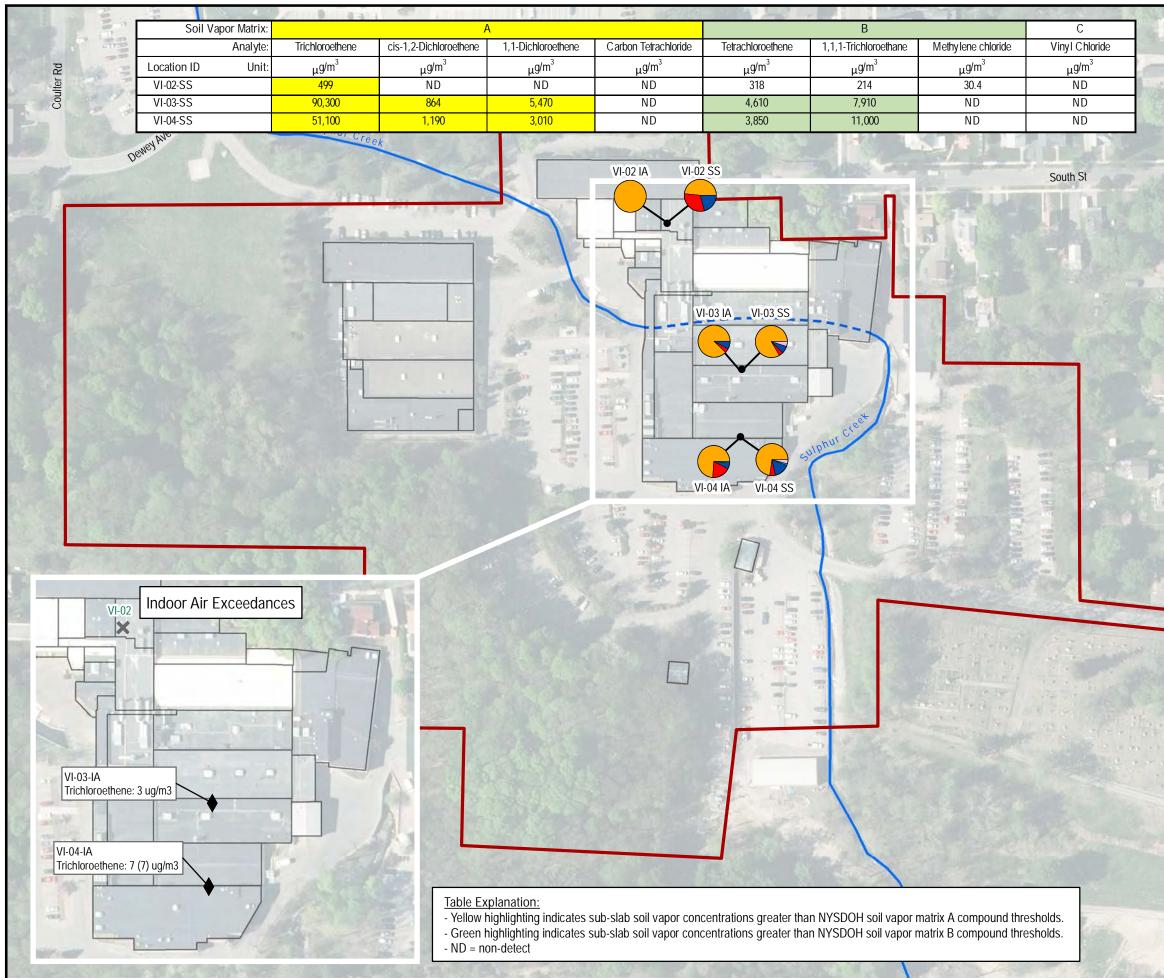


- Notes: V = flow velocity in feet per second (fps) Q = discharge in cubic feet per second (cfs)
- Streams were profiled on 5/10/2017
- Velocity measurements were collected at 60% depth

Figure 8: Sulphur Creek Cross Sections G.W. Lisk Company, Inc. Clifton Springs, NY















- Displayed VOC ratios are relative to the listed compounds only.
- Trichloroethene Tetrachloroethene
 - 1,1,1-TCA
 - cis-1,2 Dichloroethene
 - 1,1 Dichloroethene
 - Air Guidance Value Exceedance
- X No Exceedance
- Collocated Sample Point
- Property Parcel Boundary
- Facility Outline
- 🔪 Surface Stream
- Inferred Stream Path

NOTES:

- $\overline{IA} = Indoor air sample$
- SS = Sub-slab sample
- VOC = Volatile Organic Compound
- COC = Compound of Concern
- μg/m3 = microgram per cubic meter - Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery was captured in 2015 by New York State.

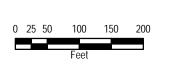
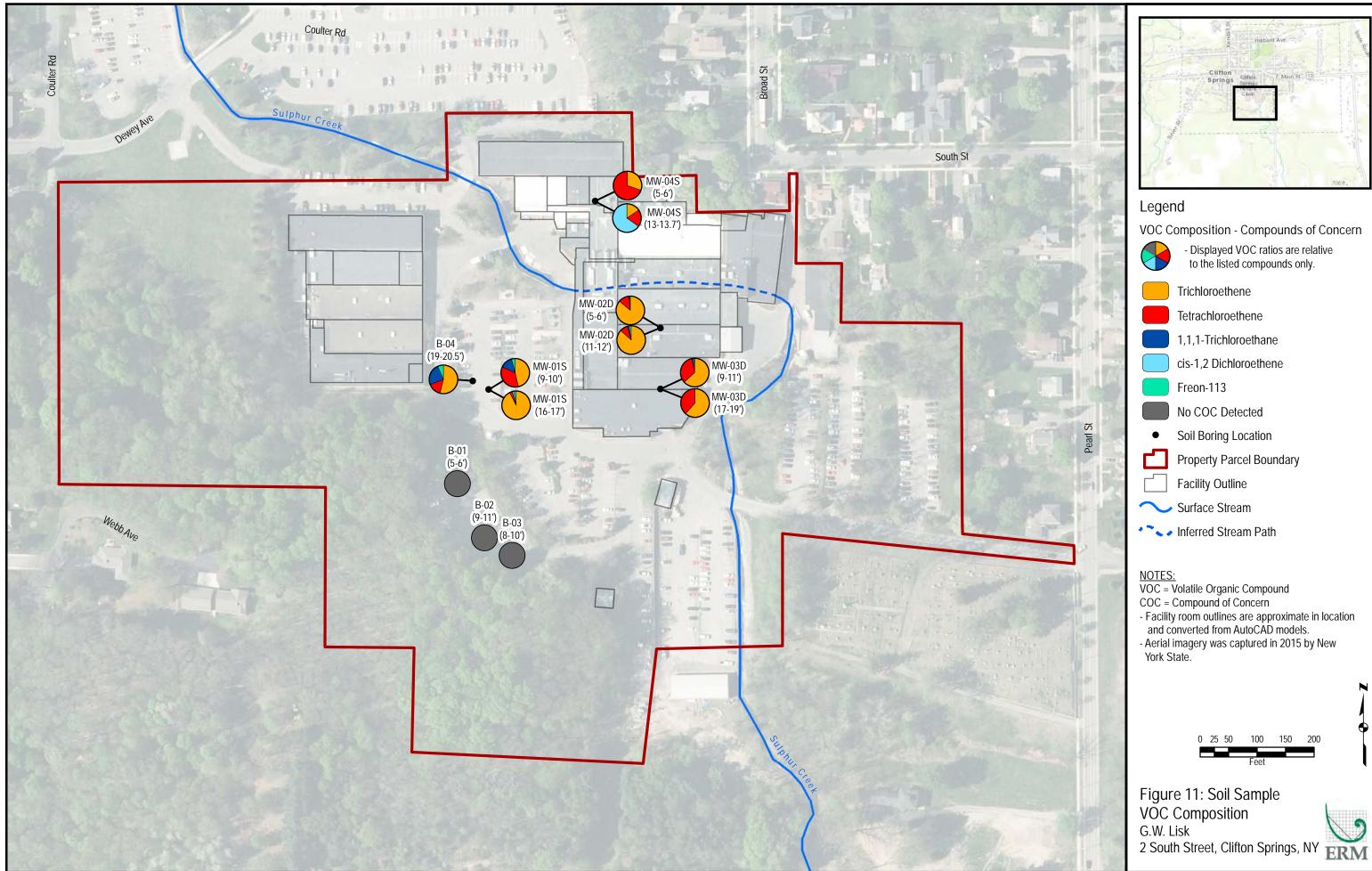
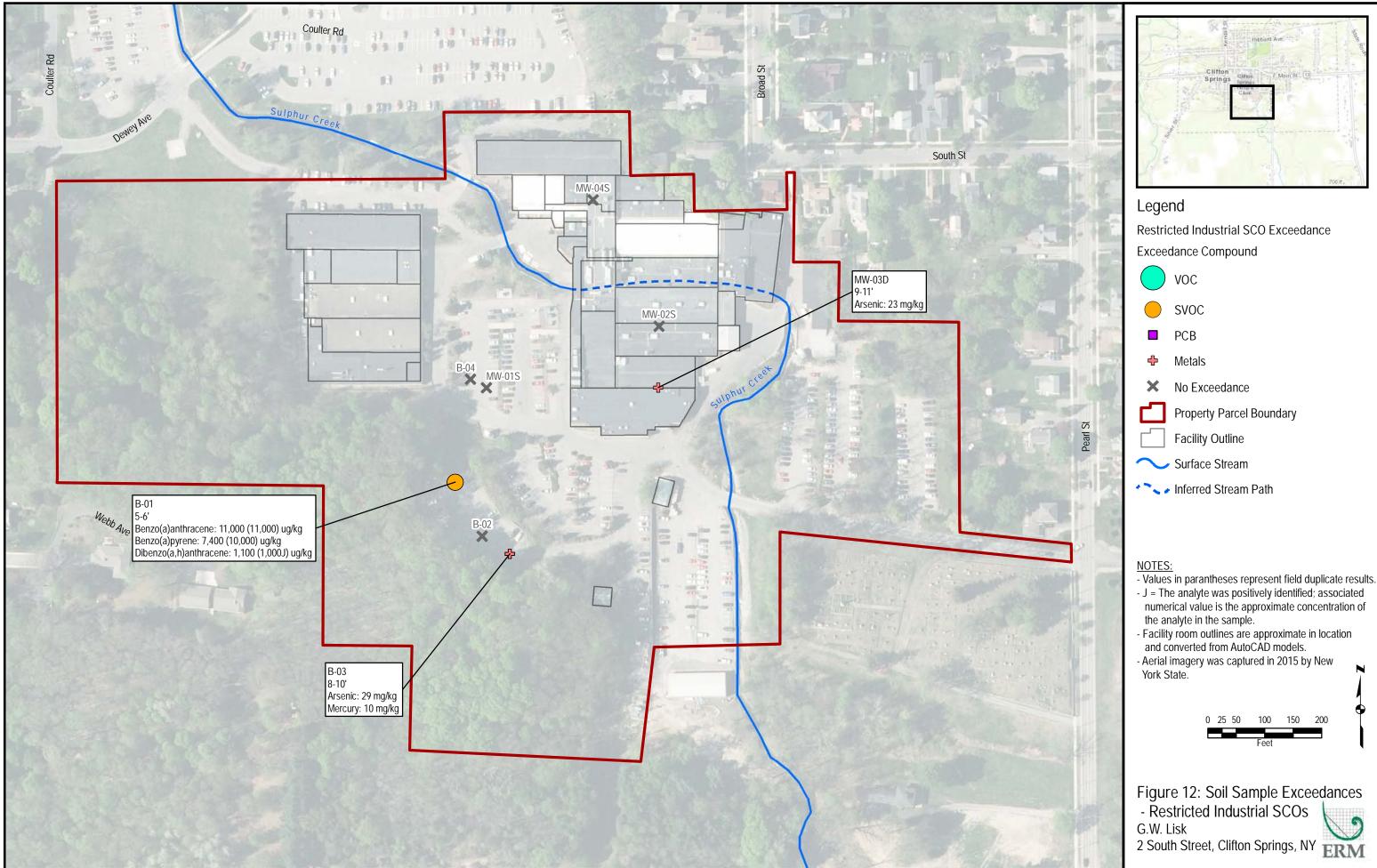
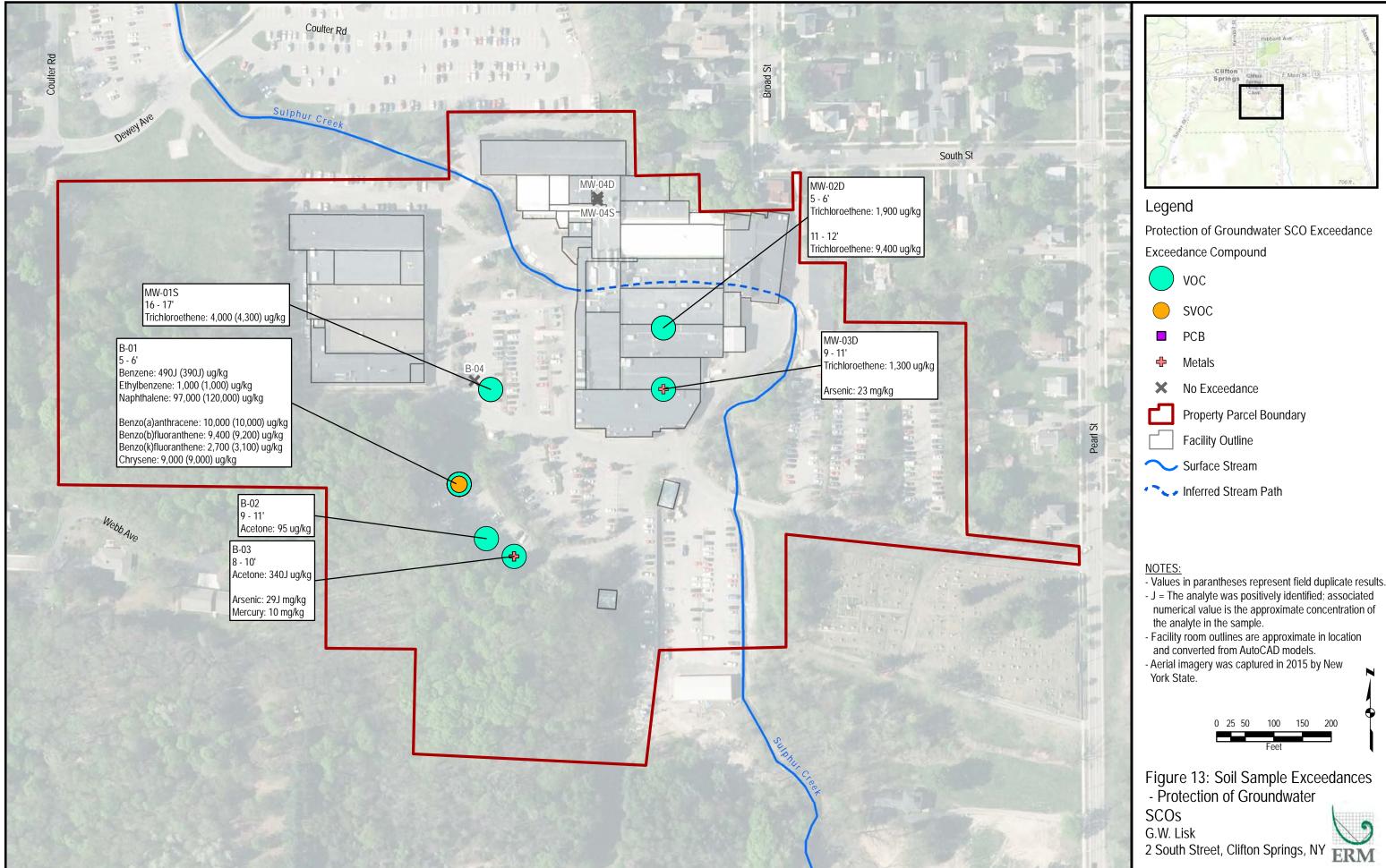


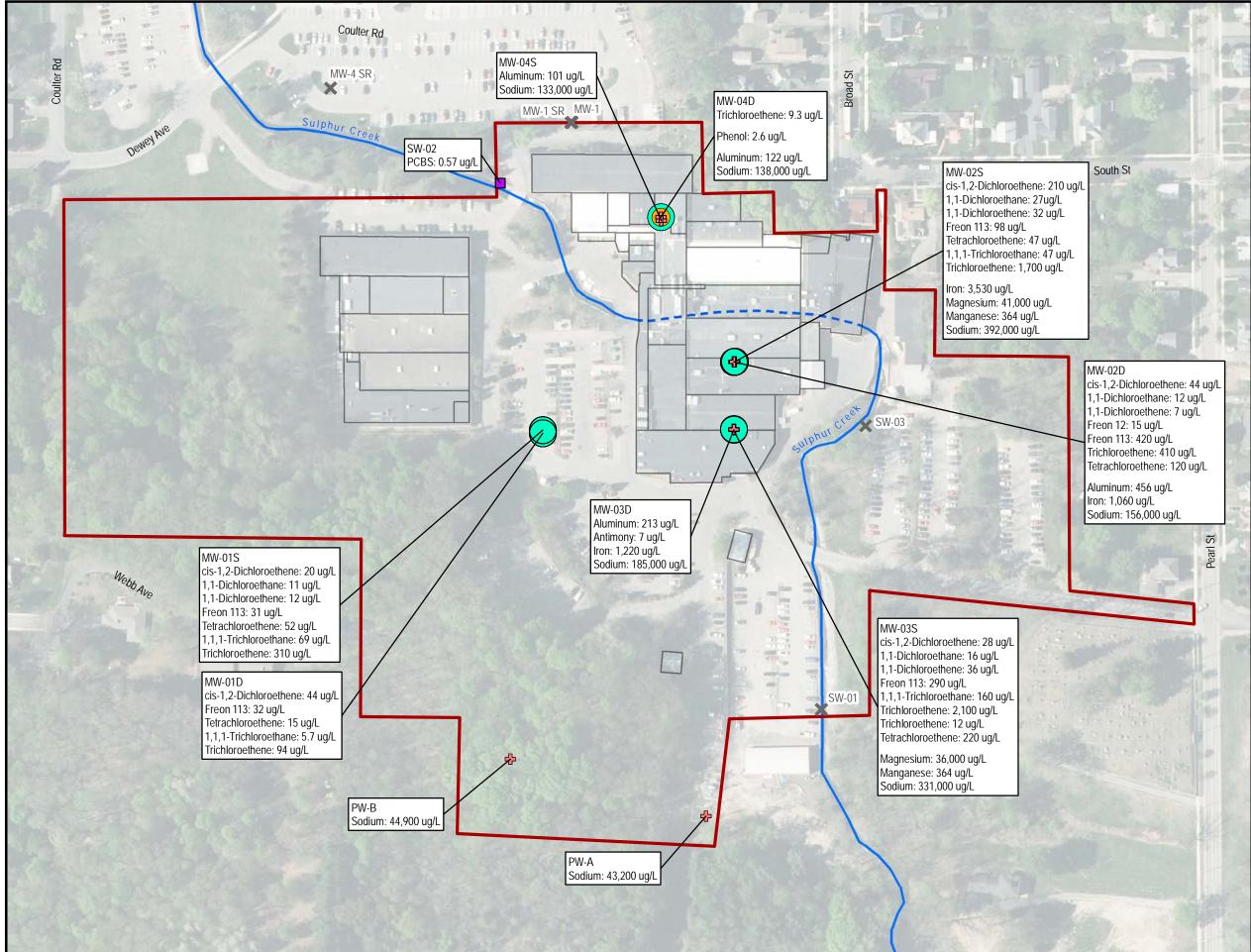
Figure 10: Sub-Slab Soil Vapor and Indoor Air VOC Composition G.W. Lisk 2 South Street, Clifton Springs, NY



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A.			706 #.









NYS GA or D Standard Exceedance Exceedance Compound





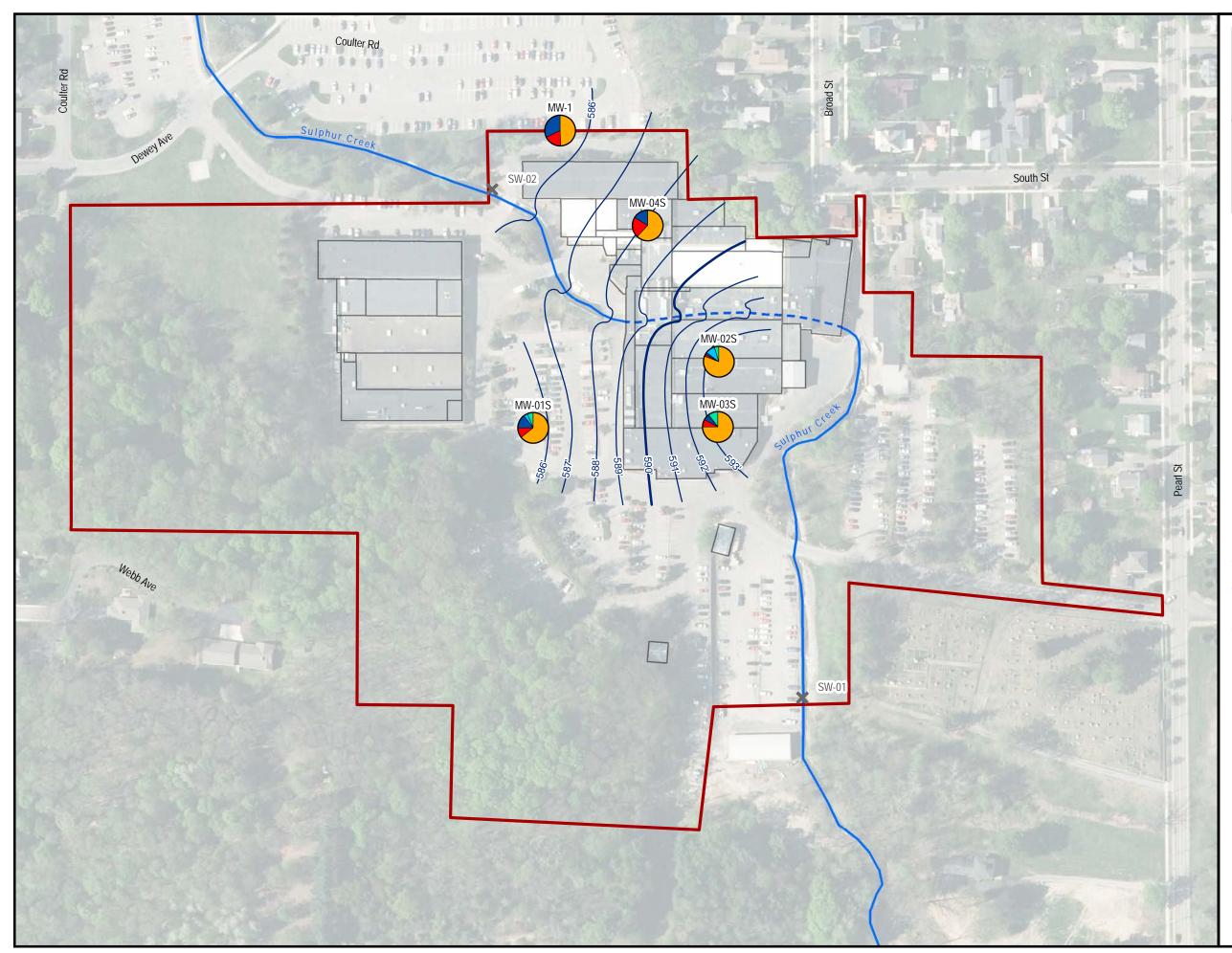
- PCBs
- Metals ÷
- X No Exceedance
- Property Parcel Boundary
- Facility Outline
- Inferred Stream Path

NOTES:

- Groundwater results were compared to NYS Class GA standards.
- Surface water results were compared to NYS Class D standards.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery was captured in 2015 by New York State.



Figure 14: Groundwater and Surface Water Samples that Exceed Class GA or D Standards G.W. Lisk 2 South Street, Clifton Springs, NY ERM





VOC Composition -Compounds of Concern - Displayed VOC ratios are relative to the listed compounds only.



- Trichloroethene
- Tetrachloroethene
- 1,1,1-Trichloroethane
- cis-1,2 Dichloroethene
- Freon-113
- X Non-Detect
- Property Parcel Boundary
- Facility Outline
- Surface Stream
- Inferred Stream Path
- Overburden Groundwater Elevation Contour - 5 ft.
- Overburden Groundwater Elevation Contour - 1 ft.

- <u>NOTES:</u> VOC = Volatile Organic Compound Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery was captured in 2015 by New York State.

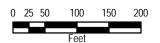
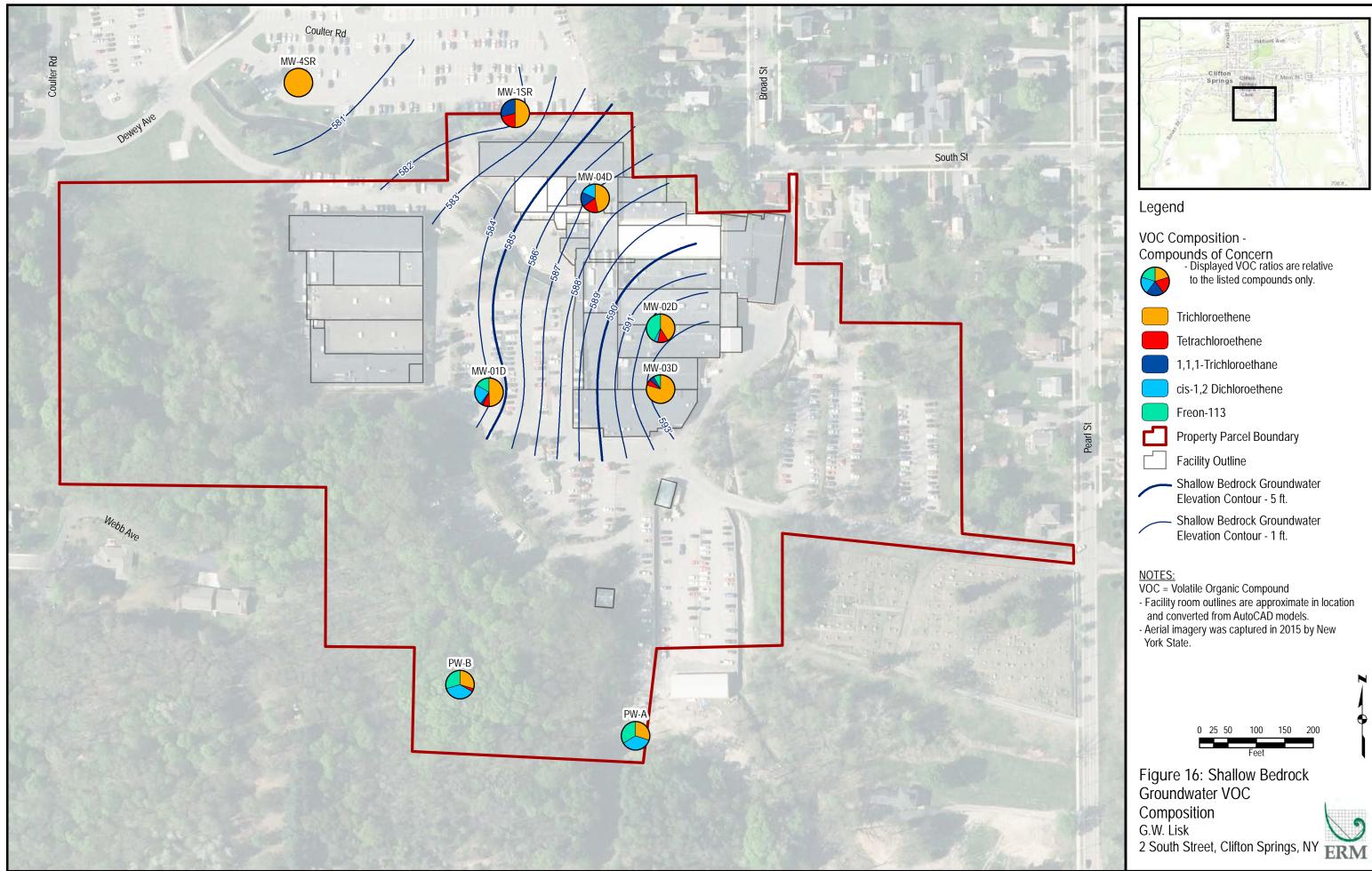


Figure 15: Overburden Groundwater VOC Composition G.W. Lisk 2 South Street, Clifton Springs, NY ERM



Tables

Table 1Summary of Monitoring Well ConstructionG.W Lisk Facility2 South Street, Clifton Springs, New York

Well ID	Casing Diameter (inches)	Total Depth (feet)	Screen Top Depth (feet bgs)	Surface Elevation (feet ASL)	TOC Elevation (feet ASL)	Screen Top Elevation (feet ASL)	Screen Bottom Elevation (feet ASL)	Depth to Rock (feet)
MW-01S	2	22.0	17.0	606.43	606.02	589.0	584.0	
MW-01D	5	45.0	25.0	606.45	606.2	581.2	561.2	23.0
MW-02S	2	20.0	8.0	607.37	606.9	598.9	586.9	
MW-02D	5	30.5	20.5	607.37	607.22	586.7	576.7	19.5
MW-03S	2	17.0	8.0	607.26	607.01	599.0	590.0	
MW-03D	5	29.0	22.0	607.25	606.95	585.0	578.0	21.0
MW-04S	2	13.4	8.3	598.99	598.6	590.3	585.2	
MW-04D	5	23.5	14.0	598.94	598.5	584.5	575.0	13.3

Notes and Abbreviations:

-- = Bedrock not encountered.

ASL = above mean sea level.

bgs = below ground surface.

All wells installed in 2017.

Table 2 Table 2 Summary of Ambient Air, Indoor Air and Sub-Slab Soil Gas Data GW Lisk Clifton Springs Facility 2 South Street, Clifton Springs, New York

Analyte	Unit	Location ID: Sample Date: Sample Type:	GWL-AA 10-May-17 N	VI-01 - IA 10-May-17 N	VI-01 - SS 10-May-17 N	VI-02 - IA 10-May-17 N	VI-02 - SS 10-May-17 N	VI-03 - IA 10-May-17 N	VI-03 - SS 10-May-17 N	VI-04 - IA 10-May-17 N	VI-04 - SS 10-May-17 N	VI-04 - IA 10-May-17 FD	VI-05 - IA 10-May-17 N	VI-05 - SS 10-May-17 N
		Air Guideline Value	.4	.4	.4	.1	.,		.1	.1		10	.4	.1
Ambient Air		An Outcome Value												
Volatile Organic Compounds (VOCs)														
Acetone	µg/m3	NS	6.03	158	618	96.4	4,920	23.5	725	85	5,580	90.7	11.4	556
Allyl chloride	µg/m3	NS	0.626 U	0.626 U	3.13 U	0.626 U	6.26 U	0.626 U	146 U	0.626 U	127 U	0.626 U	0.626 U	3.13 U
Benzene	μg/m3	NS	0.639 U	0.639 U	8.53	0.764	25.3	0.639 U	149 U	2.24	130 U	2.26	0.639 U	66.4
Benzyl chloride	µg/m3	NS	1.04 U	1.04 U	5.18 U	1.04 U	10.4 U	1.04 U	242 U	1.04 U	210 U	1.04 U	1.04 U	5.18 U
Bromodichloromethane	µg/m3	NS	1.34 U	1.34 U	6.70 U	1.34 U	13.4 U	1.34 U	313 U	1.34 U	272 U	1.34 U	1.34 U	6.70 U
Bromoform	μg/m3	NS	2.07 U	2.07 U	10.3 U	2.07 U	20.7 U	2.07 U	483 U	2.07 U	420 LI	2.07 U	2.07 U	10.3 U
Bromomethane	μg/m3	NS	0.777 U 1.47 U	0.777 U 1.75	3.88 U 7.37 U	0.777 U 2.28	7.77 U 74	0.777 U 2.13	181 U 345 U	0.777 U 9.88	158 U 301 U	0.777 LI 9.47	0.777 U 1.47 U	3.88 U 28.4
2-Butanone 1.3-Butadiene	μg/m3 μg/m3	NS NS	0.442 U	0.442 U	2.21 U	0.442 U	4.42 U	0.442 U	103 U	0.442 U	89.8 U	0.442 U	0.442 U	6.95
Carbon disulfide	µg/m3	NS	0.623 U	0.623 U	3.11 U	23.1	21.3	1.1	145 11	1.08	126 U	1.12	0.623 U	23.4
Carbon tetrachloride	µg/m3	NS	0.346	0.403	6.29 U	0.39	12.6 U	0.409	29411	0.447	255 U	0.484	0.384	6.29 U
Chlorobenzene	$\mu g/m3$	NS	0.921 U	0.921 U	4.61 U	0.921 U	9.21 U	0.921 U	215 U	0.921 U	187 U	0.921 U	0.921 U	4.61 U
Chloroethane	µg/m3	NS	0.528 U	0.528 U	2.64 U	0.528 U	5.28 U	0.528 U	123 U	0.528 U	107 U	0.528 U	0.528 U	2.64 U
Chloromethane	µg/m3	NS	1.21	1.33	2.07 U	1.27	4.13 U	1.19	96.4 U	1.16	83.8 U	1.26	1.14	2.75
Chloroform	µg/m3	NS	0.977 U	0.977 U	4.88 U	0.977 U	9.77 U	0.977 U	242	0.977 U	198 U	0.977 U	0.977 U	4.88 U
cis-1,2-Dichloroethene	µg/m3	NS	0.079 U	0.079	3.96 U	0.079 U	7.93 U	0.131	864	0.119	1,190	0.111	0.079 LI	3.96 U
cis-1,3-Dichloropropene	µg/m3	NS	0.908 U	0.908 U	4.54 U	0.908 U	9.08 U	0.908 U	212 U	0.908 U	184 U	0.908 U	0.908 U	4.54 U
Cyclohexane	µg/m3	NS	0.688 U	0.688 U	15.4	0.688 U	185	0.688 U	161 U	0.688 U	140 U	0.688 U	0.688 U	100
Dibromochloromethane	µg/m3	NS	1.70 U	1.70 U	8.52 U	1.70 U	17.0 U	1.70 U	398 U	1.70 U	346 U	1.70 U	1.70 U	8.52 U
1,2-Dichlorobenzene	µg/m3	NS	1.20 U	1.20 U	6.01 U	1.20 U	12.0 U	1.20 U	281 U	1.20 U	244 U	1.20 U	1.20 U	6.01 U
1,3-Dichlorobenzene	µg/m3	NS	1.20 U	1.20 U	6.01 U	1.20 U 1.20 U	12.0 U 12.0 U	1.20 U	281 U 281 U	1.20 U	244 U	1.20 U	1.20 U	6.01 U
1,4-Dichlorobenzene	μg/m3	NS	1.20 U	1.20 U	6.01 U			1.20 U		1.20 U 0.809 U	244 U	1.20 U	1.20 U	6.01 U
1,2-Dichloroethane 1.1-Dichloroethane	μg/m3 μg/m3	NS NS	0.809 U 0.809 U	0.809 U 0.809 U	4.05 U 4.05 U	0.809 U 0.809 U	8.09 U 8.09 U	0.809 U 0.809 U	189 U 882	0.809 U 0.809 U	164 U 334	0.809 U 0.809 U	0.809 U 0.809 U	4.05 U 4.05 U
1,1-Dichloroethane 1.1-Dichloroethene	μg/m3 μg/m3	N5 NS	0.809 U 0.079 U	0.809 U 0.079 U	4.05 U 3.96 U	0.809 U 0.079 U	8.09 U 7.93 U	0.809 U 0.079 U	5.470	0.809 U	3.010	0.809 []	0.809 U 0.079 U	4.05 U 3.96 U
1,1-Dichloropropane	μg/m3	NS	0.924 U	0.924 U	4.62 U	0.924 U	9.24 U	0.924 U	216 U	0.924 U	188 U	0.924 U	0.924 U	4.62 U
Ethanol	µg/m3	NS	9.42 U	34.1	245	28.6	748	42	2.200 U	168	1.920 U	194	54.1	754
Ethyl acetate	ug/m3	NS	1.80 U	1.80 U	9.01 U	1.80 U	18.0 U	1.80 U	422 U	1.80 U	368 U	1.80 U	1.80 U	9.01 U
Ethylbenzene	µg/m3	NS	0.869 U	20.5	14.2	0.869 U	8.69 U	1.53	203 U	5.95	176 U	5.43	0.869 U	6.52
Ethylene dibromide	µg/m3	NS	1.54 U	1.54 U	7.69 U	1.54 U	15.4 U	1.54 U	359 U	1.54 U	312 U	1.54 U	1.54 U	7.69 U
4-Ethyltoluene	µg/m3	NS	0.983 U	0.983 U	4.92 U	1.77	9.83 U	1.68	230 U	1.86	200 U	1.69	0.983 U	4.92 U
Freon 11	µg/m3	NS	1.35	11.4	6.97	1.3	11.2 U	5.1	262 U	9.78	228 U	10	1.9	5.62 U
Freon 12	µg/m3	NS	2.13	1.93	12.7	1.86	9.89 U	2.13	354	2.46	870	2.36	2.52	4.94 U
Freon 113	µg/m3	NS	1.53 U	1.56	1,120	1.53 U	88.9	2.02	53,500	3.86	205,000	3.76	1.53 U	7.66 U
Freon 114	µg/m3	NS	1.40 U	1.40 U	6.99 U	1.40 U	14.0 U	1.40 U	326 U	1.40 U	284 U	1.40 U	1.40 U	6.99 U
Heptane	µg/m3	NS	0.820 U	0.820 U	44.3	0.820 U	561	0.820 U	191 U	0.820 LI	166 U	0.820 U	0.820 U	184
n-Hexane	µg/m3	NS	0.705 U	0.705 U	66.6	0.705 U	578	0.909	165 U	0.705 U	212	0.705 LI	0.705 LI	259
2-Hexanone	μg/m3	NS NS	0.820 U	0.820 U 349	4.10 U 62.7	0.820 U 102	8.20 U 398	0.820 U 300	191 U 288 U	0.820 U 376	166 U 403	0.820 LI 410	0.820 LI 12.5	4.10 U 58.7
Isopropyl alcohol 4-Methyl-2-pentanone	μg/m3 μg/m3	N5 NS	2.05 U	2.05 U	10.2.11	2.05 U	20.5.11	2 05 11	288 U 479 I I	16.5	403	17.6	2.05 U	10.2.11
4-Methyl-2-pentanone Methyl tert-butyl ether	µg/m3	NS	0.721 U	0.721 U	3.61 U	0.721 U	7.21 U	0.721 11	479 U 168 U	0.721 U	418 U 146 U	0.721 U	0.721 U	3.61 U
Methyl tert-butyl etter	μg/m3	60	1.74 U	20	11.9	2.39	30.4	11.9	406 U	19	354 U	20.2	6.74	8.69 U
o-Xylene	ug/m3	NS	0.869 U	11.8	8.12	1.61	8.69 U	2.1	203 U	9,69	176 U	8.9	0.869 LI	9,56
Styrene	$\mu g/m3$	NS	0.852 U	63.9	43	0.852 U	8.52 U	0.852 U	199 U	0.852 U	173 U	0.852 U	0.852 U	4.26 U
tert-Butyl alcohol	$\mu g/m3$	NS	1.52 U	1.52 U	7.58 U	1.52 U	162	1.52 U	355 U	1.52 U	309 U	1.52 U	1.52 U	24.1
Tetrachloroethene	µg/m3	30	0.136 U	0.448	6.78 U	0.136 U	318	0.549	4,640	1.81	3,850	1.78	0.136 U	6.78 U
Tetrahydrofuran	µg/m3	NS	1.47 U	1.47 U	7.37 U	1.47 U	14.7 U	1.47 U	345 U	1.47 U	301 U	1.47 U	1.47 U	7.37 U
Toluene	µg/m3	NS	0.754 U	0.754 U	11.2	9.27	60.7	1.81	176 U	2.59	153 U	2.44	1.82	113
trans-1,2-Dichloroethene	µg/m3	NS	0.793 U	110	60.3	0.793 U	7.93 U	43.6	185 U	51.5	161 U	50.4	0.793 U	3.96 U
trans-1,3-Dichloropropene	µg/m3	NS	0.908 U	0.908 U	4.54 U	0.908 U	9.08 U	0.908 U	212 U	0.908 U	184 U	0.908 U	0.908 U	4.54 U
1,1,1-Trichloroethane	μg/m3	NS	0.109 U	0.3	5.46 U	0.109 U	214	0.24	7,910	0.589	11,000	0.622	0.109 U	5.46 U
1,1,2,2-Tetrachloroethane	μg/m3	NS	1.37 U	1.37 U	6.87 U	1.37 U	13.7 U	1.37 U	321 U	1.37 U	279 U	1.37 U	1.37 U	6.87 U
1.1.2-Trichloroethane	ug/m3	NS	1.09 U	1.09 U	5.46 U	1.09 U	10.9 U	1.09 U	255 U	1.09 U	222 U	1.09 U	1.09 U	5.46 U
1,3,5-Trimethylbenzene	μg/m3	NS	0.983 U	0.983 U	4.92 U	5.01	9.83 U	3.99	230 U	4.62	200 U	4.27	1.32	5.31
2,2,4-Trimethylpentane	µg/m3	NS	0.934 U 1.48 U	0.934 U 1.48 U	4.67 U 7.42 U	1.15 1.48 U	9.34 U 14.8 U	1.05 1.48 U	218 U 347 U	1.08 1.48 U	190 U 301 U	1.06 1.48 U	0.934 U 1.48 U	4.67 U 7.42 U
1,2,4-Trichlorobenzene	μg/m3	NS	1.48 U 0.983 U	1.48 U 0.983 U	7.42 U 4.92 U	1.48 U 11.3	14.8 U 9.83 U	1.48 U 9.68	347 U 230 U	1.48 U 11.1	301 U 200 U	1.48 U 10.5	1.48 U 3.32	7.42 U 7.57
1,2,4-Trimethylbenzene Trichloroethene	μg/m3 μg/m3	NS	0.983 U 0.107 U	0.983 LI 0.306	4.92 U 5.37 U	0.161	9.83 LI 499	9.68	230 U 90,300	7.2	200 LI 51.100	7.42	0.118	39.8
Vinvl bromide	μg/m3 μg/m3	2 NS	0.107 U 0.874 U	0.874 U	5.37 U 4.37 U	0.874 U	8.74 U	0.874 U	204 U	0.874 U	178 U	0.874 U	0.874 U	4.37 U
Vinyl chloride	µg/m3	NS	0.051 U	0.051 U	2.56 U	0.051 U	5.11 U	0.051 U	119 U	0.051 U	104 U	0.051 U	0.051 U	2.56 U

ERM

 Lowence, m/p
 Low mode
 Low mode

Table 3 Summary of Soil Analytical Data GW Lisk Clifton Springs Facility 2 South Street, Clifton Springs, New York

Analyte	Unit	NY-375-CP51- UNRESTRICTED USE	NY-375-CP51- PROTECT GROUND WATER	Location ID: Sample Date: Sample Type: Sample Depth: NY-375-CP51- RESTRICTED INDUSTRIAL	B-01 11-May-17 N 5 - 6 ft	B-01 11-May-17 FD 5 - 6 ft	B-01 12-May-17 N 5 - 6 ft	B-01 12-May-17 FD 5 - 6 ft	B-02 12-May-17 N 9 - 11 ft	B-03 12-May-17 N 8 - 10 ft	B-04 17-Jul-17 N 19 - 20.5 ft	MW-01S 18-Jul-17 N 9 - 10 ft	MW-01S 19-Jul-17 N 16 - 17 ft	MW-01S 19-Jul-17 FD 16 - 17 ft	MW-02D 23-Sep-17 N 5 - 6 ft	MW-02D 23-Sep-17 N 11 - 12 ft	MW-03D 30-Sep-17 N 9 - 11 ft	MW-03D 30-Sep-17 N 17 - 19 ft	MW-04S 25-Jul-17 N 5 - 6 ft	MW-04S 25-Jul-17 N 13 - 13.7 ft
Volatile Organic Compounds (VOCs) Acenaphthene	µg/kg	20,000	98.000	1.000.000	9,180		1	1								1	1	1	1	
Acetone	μg/kg	50	50	1,000,000	5,600 U	9,400 U	-	-	95	340 I	16 U	8.2 U	580 U	660 U	- 560 U	- 980 U	- 510 U	490 U	3.4 J	3.9 J
Benzene	µg/kg	60	60	89,000	490 J	390 J	-	-	5.5	0.54 J	1.6 U	0.82 U	58 U	66 U	56 U	98 U	51 U	49 U	0.86 U	1.1 U
Bromodichloromethane	µg/kg	NS	NS	NS	560 U	940 U	-	-	0.80 U	0.94 U	1.6 U	0.82 U	58 U	66 U	56 U	98 U	51 U	49 U	0.86 U	1.1 U
Bromoform	µg/kg	NS	NS	NS	2,200 U	3,800 U	-	-	3.2 U	3.8 U	6.4 UJ	3.3 U	230 U	260 U	220 U	390 U	200 U	200 U	3.4 U	4.2 U
Bromomethane	µg/kg	NS NS	NS 300	NS 1,000,000	1,100 U 5,600 U	1,900 U 9,400 U	-	-	1.6 U 18	1.9 U 78 I	3.2 U 16 U	1.6 U 8.2 U	120 U 580 U	130 U 660 U	110 U 560 U	200 U 980 U	100 U 510 U	98 U 490 U	1.7 U 8.6 U	2.1 U 11 U
2-Butanone Carbon disulfide	μg/kg μg/kg	NS	2,700	1,000,000 NS	5.600 U	9,400 U	-	-	8.0 U	3.6 J	16 UI	8.2 UI	580 U	660 U	560 U	980 U	510 U	490 U	8.6 U	11 U
Carbon tetrachloride	µg/kg	760	760	44,000	560 U	940 U	-	-	0.80 U	0.94 U	1.6 U	0.82 U	58 U	66 U	56 U	98 U	51 U	49 U	0.86 U	1.1 U
Chlorobenzene	µg/kg	1,100	1,100	1,000,000	560 U	940 U	-	-	0.80 U	0.94 UJ	1.6 U	0.82 U	58 U	66 U	56 U	98 U	51 U	49 U	0.86 U	1.1 U
Chlorobromomethane	µg/kg	NS	NS	NS	2,800 U	4,700 U	-	-	4.0 U	4.7 U	8.0 U	4.1 U	290 U	330 U	280 U	490 U	250 U	240 U	4.3 U	5.3 U
Chloroethane	µg/kg	NS NS	NS NS	NS NS	1,100 U 2.800 U	1,900 U 4,700 U	-	-	1.6 U 4.0 U	1.9 U 4.7 U	3.2 U 8.0 U	1.6 U 4.1 U	120 U 290 U	130 U 330 U	110 U 280 U	200 U 490 U	100 U 250 U	98 U 240 U	1.7 U 4.3 U	2.1 U 5.3 U
Chloroform	μg/kg μg/kg	370	370	700,000	2,800 U 840 U	1.400 11	-	-	4.0 U	4.7 U 1.4 U	2.4 U	4.1 U 1.2 U	230 U 87 U	98.11	280 U	450 U 150 U	230 U 76 U	240 U 73 U	4.3 U	1.6 U
cis-1,2-Dichloroethene	µg/kg	250	250	1,000,000	560 U	940 U	-	-	0.80 U	0.94 U	1.6 U	0.82 U	76	76	56 U	52 J	51 U	49 U	2.6	1.1 U
cis-1,3-Dichloropropene	µg/kg	NS	300	NS	560 U	940 U	-	-	0.80 U	0.94 UJ	1.6 UJ	0.82 U	58 U	66 U	56 U	98 U	51 U	49 U	0.86 U	1.1 U
Cyclohexane	µg/kg	NS	NS	NS	11,000 U	19,000 U	-	-	16 U	1.2 J	32 U	16 U	1,200 U	1,300 U	1,100 U	2,000 U	1,000 U	150 J	17 U	21 U
Dibromochloromethane	µg/kg	NS	NS	NS	560 U	940 U	-	-	0.80 U	0.94 U	1.6 U	0.82 U	58 U	66 U	56 U	98 U	51 U	49 U	0.86 U	1.1 U
1,2-Dibromo-3-chloropropane 1,2-Dichlorobenzene	µg/kg	NS 1,100	NS 1,100	NS 1,000,000	2,800 U 2,800 U	4,700 U 4,700 U	-	-	4.0 U 4.0 U	4.7 U 4.7 UJ	8.0 UJ 8.0 UJ	4.1 U 4.1 U	290 U 290 U	330 U 330 U	280 U 280 U	490 U 490 U	250 U 250 U	240 U 240 U	4.3 U 4.3 U	5.3 U 5.3 U
1,2-Dichlorobenzene 1,3-Dichlorobenzene	μg/kg μg/kg	2,400	2,400	560,000	2,800 U 2.800 U	4,700 U 4,700 U		-	4.0 U 4.0 U	4.7 UJ 4.7 UJ	8.0 UJ 8.0 UJ	4.1 U 4.1 U	290 U 290 U	330 U 330 U	280 U 280 U	490 U 490 U	250 U 250 U	240 U 240 U	4.3 U 4.3 U	5.3 U 5.3 U
1,4-Dichlorobenzene	μg/kg	1,800	1,800	250,000	2,800 U	4,700 U	-	-	4.0 U	4.7 UJ	8.0 UJ	4.1 U	290 U	330 U	280 U	490 U	250 U	240 U	4.3 U	5.3 U
1,2-Dichloroethane	µg/kg	20	20	60,000	560 U	940 U	-	-	0.80 U	0.94 U	1.6 U	0.82 U	58 U	66 U	56 U	98 U	51 U	49 U	0.86 U	1.1 U
1,1-Dichloroethane	µg/kg	270	270	480,000	840 U	1,400 U	-	-	1.2 U	1.4 U	2.4 U	1.2 U	55 J	42 J	85 U	46 J	76 U	73 U	1.3 U	1.6 U
1,1-Dichloroethene	µg/kg	330	330	1,000,000	560 U	940 U	-	-	0.80 U	0.94 U	1.6 U	0.82 U	50 J	43 J	56 U	68 J	51 U	49 U	0.86 U	1.1 U
1,2-Dichloropropane 1,4-Dioxane	µg/kg	NS 100	NS 100	NS 250,000	1,900 U 22.000 U	3,300 U 38,000 U	-	-	2.8 U 32 U	3.3 U 38 U	5.6 U 64 U	2.8 U 33 U	200 U 2.300 U	230 U 2.600 U	200 U 2.200 U	340 U 3.900 U	180 U 2,000 U	170 U 2.000 U	3.0 U 34 U	3.7 U 42 U
Ethylbenzene	μg/kg μg/kg	1,000	1,000	780,000	1,100	1,300		-	0.97	0.18 J	1.6 U	0.82 U	2,500 U 58 U	2,600 U 66 U	2,200 U 56 U	98 U	2,000 U 51 U	49 U	0.86 U	42 U 1.1 U
Ethylene dibromide	μg/kg	NS	NS	NS	2,200 U	3,800 U	-	-	3.2 U	3.8 U	6.4 U	3.3 U	230 U	260 U	220 U	390 U	200 U	200 U	3.4 U	4.2 U
Freon 11	µg/kg	NS	NS	NS	2,800 UJ	4,700 UJ	-	-	4.0 U	4.7 U	8.0 U	4.1 U	290 U	330 U	280 U	490 U	250 U	240 U	4.3 U	5.3 U
Freon 12	µg/kg	NS	NS	NS	5,600 U	9,400 U	-	-	8.0 U	9.4 U	16 U	8.2 U	580 U	660 U	560 U	980 U	510 U	490 U	8.6 U	11 U
Freon 113	µg/kg	NS	6,000	NS	11,000 U	19,000 U	-	-	16 U	19 U	1.3 J	0.68 J	120 J	1,300 U	1,100 U	250 J	1,000 U	980 U	17 U	21 U
2-Hexanone	µg/kg	NS	NS 2,300	NS	5,600 U	9,400 U	-	-	8.0 U	9.4 U	16 UJ	8.2 U	580 U	660 U	560 U	980 U	510 U	490 U	8.6 U	11 U
Isopropylbenzene (Cumene) 4-Isopropyltoluene	μg/kg μg/kg	NS NS	2,300	NS NS	200 J 160 J	260 J 210 J	-	-	0.20 J 0.80 U	0.94 UJ 0.94 UJ	1.6 U	0.82 U	58 U	66 U	56 U 56 U	98 U 98 U	51 U	49 U	0.86 U	1.1 U
Methyl acetate	μg/kg μg/kg	NS	10,000 NS	NS	11,000 U	19,000 U	-	-	16 U	19 U	- 32 U	- 16 U	- 1.200 U	1,300 U	1,100 U	2,000 U	1,000 U	980 U	17 U	- 21 U
4-Methyl-2-pentanone	µg/kg	NS	NS	NS	5,600 U	9,400 U	-	-	8.0 U	9.4 U	16 U	8.2 U	580 U	660 U	560 U	980 U	510 U	490 U	8.6 U	11 U
Methyl tert-butyl ether	µg/kg	930	930	1,000,000	1,100 U	1,900 U	-	-	1.6 U	1.9 U	3.2 U	1.6 UJ	120 U	130 U	110 U	200 U	100 U	98 U	1.7 U	2.1 U
Methylcyclohexane	µg/kg	NS	NS	NS	180 J	3,800 U	-	-	0.57 J	1.9 J	0.48 J	3.3 U	35 J	260 U	220 U	390 U	200 U	320	3.4 U	0.36 J
Methylene chloride	µg/kg	50	50	1,000,000	5,600 U	9,400 U	-	-	8.0 U	9.4 U	16 U	8.2 U	580 U	660 U	560 U	980 U	510 U	490 U	8.6 U	11 U
Naphthalene n-Butylbenzene	μg/kg μg/kg	12,000 12,000	12,000 12,000	1,000,000	97,000 560 U	120,000 940 U	-	-	52 0.80 U	1.5 J 0.94 UJ	-	-	-	-	280 U 56 U	490 U 98 U	-	-	-	-
n-Propylbenzene	μg/kg	3,900	3,900	1,000,000	560 U	940 U	-	-	0.80 U	0.94 UJ	-	-	-	-	56 U	98 U	-	-	-	-
sec-Butylbenzene	µg/kg	11,000	11,000	1,000,000	560 U	940 U	-	-	0.80 U	0.94 ÚJ	-	-	-	-	56 U	98 U	-	-	-	-
o-Xylene	µg/kg	260	1,600	1,000,000	620 J	770 J		-	3.0	0.36 J	3.2 U	1.6 U	120 U	130 U	110 U	200 U	100 U	98 U	1.7 U	2.1 U
Styrene	µg/kg	NS	NS	NS	1,100 U	1,900 U	-	-	1.6 U	1.9 UJ	3.2 UJ	1.6 U	120 U	130 U	110 U	200 U	100 U	98 U	1.7 U	2.1 U
tert-Butylbenzene Tetrachloroethene	μg/kg μg/kg	5,900 1,300	5,900 1,300	1,000,000 300,000	2,800 U 560 U	4,700 U 940 U	-	-	4.0 U 0.80 U	4.7 UJ 0.94 UI	3.1	- 5.6	- 130	- 320	280 U 270	490 U 980	- 690	- 20 J	- 0.77 J	- 1.2
Toluene	μg/kg μg/kg	700	700	1,000,000	410 J	350 I	-	-	0.28 J	1.4	2.4 U	1.2 U	130 87 U	98 U	85 U	980 150 U	76 U	20 J 73 U	1.3 U	0.28 J
trans-1,2-Dichloroethene	µg/kg	190	190	1,000,000	840 U	1,400 U	-	-	1.2 U	1.4 U	2.4 U	1.2 U	87 U	98 U	85 U	150 U	76 U	73 U	1.3 U	1.6 U
trans-1,3-Dichloropropene	µg/kg	NS	NS	NS	560 U	940 U	-	-	0.80 U	0.94 UJ	1.6 U	0.82 U	58 U	66 U	56 U	98 U	51 U	49 U	0.86 U	1.1 U
1,1,1-Trichloroethane	µg/kg	680	680	1,000,000	560 U	940 U	-	-	0.80 U	0.94 U	5.1	2.2	20 J	82	42 J	220	65	49 U	0.86 U	1.1 U
1,1,2,2-Tetrachloroethane	µg/kg	NS	600	NS	560 U	940 U	-	-	0.80 U	0.94 U	1.6 U	0.82 U	58 U	66 U	56 U	98 U	51 U	49 U	0.86 U	1.1 U
1,1,2-Trichloroethane 1,3,5-Trimethylbenzene	μg/kg μg/kg	NS 8,400	NS 8,400	NS 380,000	840 U 690 J	1,400 U 920 J	-	-	1.2 U 0.99 J	1.4 U 0.32 J	2.4 U	1.2 U	87 U	98 U	85 U 280 U	150 U 490 U	76 U	73 U	1.3 U	1.6 U
1,3,5-1 rimetnyibenzene 1,2,3-Trichlorobenzene	μg/kg μg/kg	8,400 NS	8,400 NS	380,000 NS	2,800 U	920 J 4,700 U	-	-	4.0 U	0.32 J 4.7 UJ	- 8.0 UJ	- 4.1 U	- 290 U	- 330 U	280 U 280 U	490 U 490 U	- 250 U	- 240 U	- 4.3 U	- 5.3 U
1,2,4-Trichlorobenzene	μg/kg	NS	3,400	NS	2,800 U	4,700 U	-	-	4.0 U	4.7 UJ	8.0 UJ	4.1 U	290 U	330 U	280 U	490 U	250 U	240 U	4.3 U	5.3 U
1,2,4-Trimethylbenzene	µg/kg	3,600	3,600	380,000	1,600 J	2,200 J	-	-	1.4 J	0.48 J	-	-	-	-	280 U	490 U	-	-	-	-
Trichloroethene	µg/kg	470	470	400,000	560 U	940 U	-	-	0.80 U	0.94 U	11	7.4	4,000	4,300	1,900	9,400	1,300	32 J	0.61 J	0.52 J
Vinyl chloride	µg/kg	20	20	27,000	1,100 U	1,900 U	-	-	1.6 U	1.9 U	3.2 U	1.6 U	120 U	130 U	110 U	200 U	100 U	98 U	1.7 U	2.1 U
Xylenes, m/p Total TICs (Calculated)	μg/kg μg/kg	NS NS	NS NS	NS NS	740 J 107,000	890 J 133,000	-	-	2.4 40.3	0.90 J 42.4	3.2 U	1.6 U	120 U	130 U	110 U	200 U 312	100 U	98 U 5,260	1.7 U 11.0	2.1 U 14.0
Notes and Abbreviations: = Not analyzed NS = No Standard µg/kg = micrograms per kilogram mg/kg = miligrams per kilogram ft = feet Results shown in bold font indicate a compound was dete N = Field Sample FD = Field Sample FD = Field Sample J = The analyte was positively identified; associated numee U = Compound not detected at concentrations above the la U = Lompound not detected at concentrations above the laboratoric All analyses performed by Alpha Woods Hole Laboratoric Exceedance of NY:375-CP51-RDSTRICTED ID Exceedance of NY:375-CP51-RDSTRICTED ID	rical value iboratory r ition limit : s. USE F GROUN	is the approximate con eporting detection limi is a quantitative estima DWATER	centration of the analyti it, the laboratory reporti		shown.															

Table 3 Summary of Soil Analytical Data GW Lisk Clifton Springs Facility 2 South Street, Clifton Springs, New York

Analyte	Unit	NY-375-CP51- UNRESTRICTED USE	NY-375-CP51- PROTECT GROUND WATER	Location ID: Sample Date: Sample Type: Sample Depth: NY-375-CP51- RESTRICTED INDUSTRIAL	B-01 11-May-17 N 5 - 6 ft	B-01 11-May-17 FD 5 - 6 ft	B-01 12-May-17 N 5 - 6 ft	B-01 12-May-17 FD 5 - 6 ft	B-02 12-May-17 N 9 - 11 ft	B-03 12-May-17 N 8 - 10 ft	B-04 17-Jul-17 N 19 - 20.5 ft	MW-01S 18-Jul-17 N 9 - 10 ft	MW-01S 19-Jul-17 N 16 - 17 ft	MW-01S 19-Jul-17 FD 16 - 17 ft	MW-02D 23-Sep-17 N 5 - 6 ft	MW-02D 23-Sep-17 N 11 - 12 ft	MW-03D 30-Sep-17 N 9 - 11 ft	MW-03D 30-Sep-17 N 17 - 19 ft	MW-04S 25-Jul-17 N 5 - 6 ft	MW-04S 25-Jul-17 N 13 - 13.7 ft
Semi-Volatile Organic Compounds (SVOCs)			00.000		1	1		10.000	100	1	1					1	1	1		X
Acenaphthene Acenaphthylene	µg/kg	20,000 100,000	98,000	1,000,000	-	-	18,000 4.800	19,000	190 290	-	-	-	-	-	-	-	-	-	140 U 140 U	160 U 160 U
Acetophenone	μg/kg μg/kg	NS	NS	NS	-	-	190 U	1.900 U	190 U	-	-	-	-		-	-	-	-	180 U	200 U
Anthracene	µg/kg	100,000	1,000,000	1,000,000	-	-	11,000	13,000	460	-	-	-	-	-	-	-	-	-	100 U	120 U
Atrazine	µg/kg	NS	NS	NS	-	-	150 U	1,500 U	150 U	-	-	-	-	-	-	-	-	-	140 U	160 U
Benzaldehyde	µg/kg	NS	NS	NS	-	-	250 U	2,500 U	250 U	-	-	-	-	-	-	-	-	-	230 U	270 U
Benzo(a)anthracene	µg/kg	1,000	1,000	11,000	•	-	11,000	11,000	980	-	-	-	-	-	-	-	-	-	130	34 J
Benzo(a)pyrene Benzo(b)fluoranthene	μg/kg μg/kg	1,000 1,000	22,000 1,700	1,100 11,000		-	7,400 9,400	10,000 9,200	930 1,000	-	-	-	-	-	-	-	-	-	130 J 180	160 U 120 U
Benzo(g,h,i)perylene	μg/kg	100,000	1,000,000	1,000,000	-	-	4,100	4,300	550	-	-	-	-	-	-	-	-	-	72 J	160 U
Benzo(k)fluoranthene	µg/kg	800	1,700	110,000	-	-	2,700	3,100	360	-	-	-	-	-	-	-	-	-	59 J	120 U
Benzyl butyl phthalate	µg/kg	NS	122,000	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
Biphenyl	µg/kg	NS NS	NS NS	NS NS	-	-	2,000 210 U	2,000 J 2,100 U	44 J 200 U	-	-	-	-	-	-	-	-	-	400 U	460 U 220 U
Bis(2-chloroethoxy)methane Bis(2-ethylhexyl)phthalate	μg/kg μg/kg	NS	435,000	NS	-	-	210 U 190 U	2,100 U 1,900 U	200 U 190 U	-	-	-	-	-	-	-	-	-	190 U 150 J	220 U 200 U
4-Bromophenyl phenyl ether	μg/kg	NS	400,000 NS	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
Caprolactam	µg/kg	NS	NS	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
Carbazole	µg/kg	NS	NS	NS	-	-	690 J	650 J	150 J	-	-	-	-	-	-	-	-	-	180 U	200 U
4-Chloro-3-methylphenol	µg/kg	NS	NS	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
2-Chloronaphthalene	µg/kg	NS	NS	NS	-	-	190 U 190 U	1,900 U 1,900 U	190 U 190 U	-	-	-	-	-	-	-	-	-	180 U 180 U	200 U 200 U
2-Chlorophenol 4-Chlorophenyl phenyl ether	μg/kg μg/kg	NS NS	NS NS	NS NS	-	-	190 U 190 U	1,900 U 1,900 U	190 U 190 U	-	-	-	-	-	-	-	-	-	180 U 180 U	200 U 200 U
2,2-Oxybis(1-chloropropane)	μg/kg	NS	NS	NS	-	-	230 U	2,300 U	230 U	-	-	-	-	-	-	-	-	-	210 U	240 U
Chrysene	µg/kg	1,000	1,000	110,000	-	-	9,000	8,800	920	-	-	-	-		-	-	-	-	110	28 J
Dibenzo(a,h)anthracene	µg/kg	330	1,000,000	1,100	-	-	1,100	1,000 J	140	-	-	-	-	-	-	-	-	-	100 U	120 U
Dibenzofuran	µg/kg	NS	NS	1,000,000	-	-	3,900	4,500	150 J	-	-	-	-	-	-	-	-	-	180 U	200 U
Dibutyl phthalate 2,4-Dichlorophenol	μg/kg μg/kg	NS NS	8,100 400	NS NS	-	-	190 U 170 U	1,900 U 1,700 U	190 U 170 U	-	-	-	-	-	-	-	-	-	180 U 160 U	200 U 180 U
2,4-Dimethylphenol	μg/kg	NS	NS	NS	-	-	92 J	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
3,3'-Dichlorobenzidine	µg/kg	NS	NS	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
Dichloroethyl ether	µg/kg	NS	NS	NS	-	-	170 U	1,700 U	170 U	-	-	-	-	-	-	-	-	-	160 U	180 U
Diethyl phthalate	µg/kg	NS	7,100	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
Dimethyl phthalate Dinitro-o-cresol	μg/kg μg/kg	NS NS	27,000 NS	NS NS	-	-	190 U 500 U	1,900 U 5,000 U	190 U 490 U	-	-	-	-	-	-	-	-	-	180 U 460 U	200 U 530 U
2,4-Dinitrophenol	μg/kg μg/kg	NS	200	NS	-	-	920 U	9,300 U	490 U 910 U		-	-	-		-	-	-	-	400 U 840 U	970 U
2,4-Dinitrotoluene	µg/kg	NS	NS	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
2,6-Dinitrotoluene	µg/kg	NS	1,000	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
Di-n-octyl phthalate	µg/kg	NS	120,000	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
Fluoranthene Fluorene	µg/kg	100,000 30,000	1,000,000 386,000	1,000,000 1,000,000	-	-	22,000 13,000	22,000 14,000	2,000 410	-	-	-	-	-	-	-	-	-	190 180 U	76 J 200 U
Hexachlorobenzene	μg/kg μg/kg	30,000 NS	1,400	12,000	-	-	13,000 120 U	14,000 1,200 U	410 110 U	-	-	-	-	-	-	-	-	-	100 U	200 U 120 U
Hexachlorobutadiene	µg/kg	NS	NS	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
Hexachlorocyclopentadiene	µg/kg	NS	NS	NS	-	-	550 U	5,500 U	540 U	-	-	-	-	-	-	-	-	-	500 U	580 U
Hexachloroethane	µg/kg	NS	NS	NS	-	-	150 U	1,500 U	150 U	-	-	-	-	-	-	-	-	-	140 U	160 U
Indeno(1,2,3-cd)pyrene Isophorone	μg/kg μg/kg	500 NS	8,200 4,400	11,000 NS	-	-	4,700 170 U	4,100 1,700 U	550 170 U	-	-	-	-	-	-	-	-	-	91 J 160 U	160 U 180 U
m-Cresol	μg/kg	NS	4,400 NS	1,000,000	-	-	220 J	310 J	66 J		-	-	-	-	-	-	-	-	250 U	290 U
2-Methylnaphthalene	µg/kg	NS	36,400	NS	-	-	14,000	13,000	270	-	-	-	-	-	-	-	-	-	210 U	240 U
Naphthalene	µg/kg	12,000	12,000	1,000,000	-	-	36,000	37,000	800	-	-	-	-	-	-	-	-	-	180 U	200 U
2-Nitroaniline	µg/kg	NS	400	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
3-Nitroaniline Nitrobenzene	μg/kg μg/kg	NS NS	500 170	NS 140,000	-	-	190 U 170 U	1,900 U 1,700 U	190 U 170 U	-	-	-	-	-	-	-	-	-	180 U 160 U	200 U 180 U
2-Nitrophenol	μg/kg μg/kg	NS	300	140,000 NS	-	-	420 U	4,200 U	410 U	-	-	-	-		-	-	-	-	380 U	440 U
4-Nitrophenol	µg/kg	NS	100	NS	-	-	270 U	2,700 U	260 U	-	-	-	-	-	-	-	-	-	240 U	280 U
n-Nitrosodi-n-propylamine	µg/kg	NS	NS	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
n-Nitrosodiphenylamine	µg/kg	NS	NS	NS	-	-	150 U	1,500 U	150 U	-	-	-	-	-	-	-	-	-	140 U	160 U
o-Cresol p-Chloroaniline	μg/kg μg/kg	NS NS	NS 220	1,000,000 NS	-	-	86 J 190 U	1,900 U 1,900 U	190 U 190 U	-	-	-	-	-	-	-	-	-	180 U 180 U	200 U 200 U
Pentachlorophenol	μg/kg μg/kg	800	800	55,000	-	-	150 U	1,500 U	150 U	-	-	-	-	-	-	-	-	-	140 U	160 U
Phenanthrene	µg/kg	100,000	1,000,000	1,000,000	-	-	41,000	45,000	2,000	-	-	-	-		-	-	-	-	63 J	58 J
Phenol	µg/kg	330	330	1,000,000	-	-	160 J	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
p-Nitroaniline	µg/kg	NS 100.000	NS 1.000.000	NS 1.000.000	-	-	190 U 22 000	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
Pyrene 1,2,4,5-Tetrachlorobenzene	μg/kg μg/kg	100,000 NS	1,000,000 NS	1,000,000 NS	-	-	22,000 190 U	24,000 1,900 U	2,000 190 U	-	-	-	-	-	-	-	-	-	170 180 U	61 J 200 U
2,3,4,6-Tetrachlorophenol	μg/kg	NS	NS	NS	-	-	190 U	1,900 U	190 U	-	-	-	-		-	-	-	-	180 U	200 U
2,4,5-Trichlorophenol	µg/kg	NS	100	NS	-	-	190 U	1,900 U	190 U	-	-	-	-	-	-	-	-	-	180 U	200 U
2,4,6-Trichlorophenol	µg/kg	NS	NS	NS	-	-	120 U	1,200 U	110 U	-	-	-	-	-	-	-	-	-	100 U	120 U
Total TICs (Calculated) Notes and Abbreviations: = Not analyzed	µg/kg	NS	NS	NS	-	-	61,200	112,000	6,280	-	-	-	-	-	-	-	-	-	357	-
	ical value i boratory re tion limit i 5. GROUNI USE	is the approximate con eporting detection limi s a quantitative estima DWATER	centration of the analyt t, the laboratory reporti		hown.															

Table 3 Summary of Soil Analytical Data GW Lisk Clifton Springs Facility 2 South Street, Clifton Springs, New York

Analyte	Unit	NY-375-CP51- UNRESTRICTED USE	NY-375-CP51- PROTECT GROUND WATER	Location ID: Sample Date: Sample Type: Sample Depth: NY-375-CP51- RESTRICTED INDUSTRIAL	B-01 11-May-17 N 5 - 6 ft	B-01 11-May-17 FD 5 - 6 ft	B-01 12-May-17 N 5 - 6 ft	B-01 12-May-17 FD 5 - 6 ft	B-02 12-May-17 N 9 - 11 ft	B-03 12-May-17 N 8 - 10 ft	B-04 17-Jul-17 N 19 - 20.5 ft	MW-01S 18-Jul-17 N 9 - 10 ft	MW-01S 19-Jul-17 N 16 - 17 ft	MW-01S 19-Jul-17 FD 16 - 17 ft	MW-02D 23-Sep-17 N 5 - 6 ft	MW-02D 23-Sep-17 N 11 - 12 ft	MW-03D 30-Sep-17 N 9 - 11 ft	MW-03D 30-Sep-17 N 17 - 19 ft	MW-04S 25-Jul-17 N 5 - 6 ft	MW-04S 25-Jul-17 N 13 - 13.7 ft
Polychlorinated Biphenyls (PCB)	-				-															
Aroclor 1016	µg/kg	NS	NS	NS	37.3 U	37.2 U	-	-	37.5 U	37.3 U	-	-	-	-	35.5 U	35.3 U	33.8 U	35.9 U	34.6 U	40.3 U
Aroclor 1221	µg/kg	NS	NS	NS	37.3 U	37.2 U	-	-	37.5 U	37.3 U	-	-	-	-	35.5 U	35.3 U	33.8 U	35.9 U	34.6 U	40.3 U
Aroclor 1232	µg/kg	NS	NS	NS	37.3 U	37.2 U	-	-	37.5 U	37.3 U	-	-	-	-	35.5 U	35.3 U	33.8 U	35.9 U	34.6 U	40.3 U
Aroclor 1242	µg/kg	NS	NS	NS	37.3 U	37.2 U	-	-	37.5 U	37.3 U	-	-	-	-	35.5 U	35.3 U	33.8 U	35.9 U	34.6 U	40.3 U
Aroclor 1248	µg/kg	NS	NS	NS	37.3 U	37.2 U	-	-	37.5 U	37.3 U	-	-	-	-	35.5 U	35.3 U	33.8 U	35.9 U	34.6 U	40.3 U
Aroclor 1254	µg/kg	NS	NS	NS	37.3 U	37.2 U	-	-	37.5 U	37.3 U	-	-	-	-	35.5 U	35.3 U	33.8 U	35.9 U	34.6 U	40.3 U
Aroclor 1260	µg/kg	NS	NS	NS	37.3 U	37.2 U	-	-	37.5 U	37.3 U	-	-	-	-	35.5 U	35.3 U	33.8 U	35.9 U	34.6 U	40.3 U
Aroclor 1262	µg/kg	NS	NS	NS	37.3 U	37.2 U	-	-	37.5 U	37.3 U	-	-	-	-	35.5 U	35.3 U	33.8 U	35.9 U	34.6 U	40.3 U
Aroclor 1268	µg/kg	NS	NS	NS	37.3 U	37.2 U	-	-	37.5 U	37.3 U	-	-	-	-	35.5 U	35.3 U	33.8 U	35.9 U	34.6 U	40.3 U
Total PCBs	µg/kg	NS	NS	NS	37.3 U	37.2 U	-	-	37.5 U	37.3 U	-	-	-	-	35.5 U	35.3 U	33.8 U	35.9 U	34.6 U	40.3 U
Metals, Total	0	210	210	2.10			1													
Auminum	mg/kg	NS NS	NS NS	NS NS	2,800 4.3 U	3,300 4.5 U	-	-	4,700 0.64 J	3,200 1.2 J	-	-	-	-	4,350 4.17 U	1,600 4.15 U	2,600 4.14 U	2,130 4.43 U	4,000 4.17 U	2,520 4.91 U
Antimony	mg/kg	13	NS 16	16		4.5 U 6.0	-	-					-			4.15 U 1.20	4.14 U 23.0			4.91 U
Arsenic Barium	mg/kg mg/kg	NS	16 NS	10.000	6.0 30	6.0	-	-	5.0 41	29 J 29	-	-	-	-	2.06	8.36	32.1	2.08	5.90 28.0	4.11 11.0
Barium Bervllium	mg/kg	7.2	47	2,700	0.19 I	0.21 J	-	-	41 0.23 I	0.15 J	-	-	-	-	39.7 0.133 I	8.36 0.415 U	32.1 0.108 I	7.96 0.071 I	28.0 0.183 I	0.137 I
Cadmium	mg/kg	2.5	7.5	60	1.5	1.8	-	-	0.23 J	1.1	-	-	-	-	0.155 J 0.450 J	0.415 U 0.316 J	0.108 J 0.489 J	0.505 J	0.185 J 0.450 J	0.137 J
Calcium	mg/kg	2.5 NS	7.5 NS	NS	34,000	40,000	-	-	27,000	24,000	-	-	-	-	0.450 J 50,100	148,000	108,000	179,000	36,000	30,300
Chromium	mg/kg	30	NS	6.800	6.2	7.3	-	-	7.0	39 J	-	-	-	-	7.28	2.88	4.52	3.70	9.44	4.85
Cobalt	mg/kg	NS	NS	NS	3.0	2.8	-		4.4	3.7	-	-	-	-	4.25	2.79	5.64	5.30	3.95	6.12
Copper	mg/kg	50	1,720	10.000	16	16	-	-	14	11	-	-	_	-	10.2	5.71	8.80	10.7	11.5	14.4
Cyanide CN-	mg/kg	NS	NS	10,000	1.2 J	0.92 J	-	-	2.2 U	2.2 U	-	-	-	-	1.1 U	1.0 U	0.96 U	1.0 U	0.41 J	1.2 U
Iron	mg/kg	NS	NS	NS	6,200	7,100	-	-	11.000	8.300 I	-	-	-	-	9,590	4,380	9,360	4,970	9,180	11.000
Lead	mg/kg	63	450	3,900	37	33	-	-	31	200	-	-	-	-	4.73	2.41 J	3.98 J	3.48 J	14.3	5.32
Magnesium	mg/kg	NS	NS	NS	9,900	8,400	-	-	7.700	9,600 I	-	-	-	-	14.600	11,200	13,900	12,600	7.470	8.670
Manganese	mg/kg	NS	NS	NS	200	230	-	-	620	330	-	-	-	-	264	214	421	310	343	338
Mercury	mg/kg	0.18	0.73	5.7	0.45	0.48	-	-	0.13	10	-	-	-	-	0.01 J	0.07 U	0.02 J	0.02 J	0.28	0.02 J
Nickel	mg/kg	30	130	10,000	8.4	9.0	-	-	10	8.4	-	-	-	-	10.2	5.96	10.0	11.7	9.61	17.9
Potassium	mg/kg	NS	NS	NS	320	360	-	-	460	330	-	-	-	-	589	275	530	464	349	354
Selenium	mg/kg	3.9	4	6,800	0.58 J	0.79 J	-	-	1.8 U	0.26 J	-	-	-	-	1.67 U	1.66 U	1.66 U	1.77 U	1.67 U	1.96 U
Silver	mg/kg	2	8.3	6,800	0.86 U	0.25 J	-	-	0.88 U	0.89 U	-	-	-	-	0.834 U	0.831 U	0.829 U	0.887 U	0.834 U	0.982 U
Sodium	mg/kg	NS	NS	NS	350	560	-	-	360	880	-	-	-	-	89.2 J	124 J	157 J	189	70.4 J	98.3 J
Thallium	mg/kg	NS	NS	NS	1.7 U	1.8 U	-	-	1.8 U	1.8 U	-	-	-	-	1.67 U	1.66 U	1.66 U	1.77 U	1.67 U	0.452 J
Vanadium	mg/kg	NS	NS	NS	8.5	9.5	-	-	10	8.9	-	-	-	-	10.3	5.26	7.98	5.85	9.46	7.63
Zinc Notes and Abbreviations:	mg/kg	109	2,480	10,000	76	66	-	-	65	130	-	-	-	-	37.7	51.9	25.1	73.1	44.7	47.9
= Not analyzed NS = No Standard µg/kg = micrograms per kilogram mg/kg = miligrams per kilogram ft = feet Results shown in bold font indicate a compound was detec N = Field asmple FD = Field Duplicate J = The analyte was positively identified; associated numer U = Compound not detected at concentrations above the la U = Compound not detected at concentrations above the la U = Compound not detected at concentrations above the la U = Compound not detected at concentrations above the la U = Compound not Alpha Woods Hole Laboratoric Exceedance of NY-375-CP51-PROTECTION O Exceedance of NY-375-CP51-RESTRICTED IN	tical value iboratory r tion limit s. F GROUN USE	is the approximate cor reporting detection lim is a quantitative estima DWATER	centration of the analyte it, the laboratory reporti		hown.															

ERM

Table 4 Summary of Groundwater Analytical Data GW Lisk Clifton Springs Facility 2 South Street, Clifton Springs, New York

		Location ID		MW-01S	MW-02D	MW-02S	MW-03D	MW-03S	MW-04D	MW-04S	MW-1	MW-1 SR	MW-4 SR	PW-A	PW-B
A Tt	TT**	Sample Date		20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	09-May-17	08-May-17
Analyte	Unit	Sample Type	e: N	N	N	N	N	N	N	N	N	N	N	N	N
Volatile Organic Compounds (VOCs)		NY-TOGS 1.1.1-GW	7												L
Acetone	μg/L	50	5.0 U	12 U	18 J	100 U	10	100 U	13	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	μg/L	1	0.50 U	1.2 U	0.65 J	10 U	0.50 U	10 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	μg/L	50	0.50 U	1.2 U	2.0 U	10 U	0.50 U	10 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	μg/L	50	2.0 U	5.0 U	8.0 U	40 U	2.0 U	40 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bromomethane	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	1.1 J	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2-Butanone	µg/L	5	5.0 U	12 U	20 U	100 U	5.0 U	100 U	5.0 Ū	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	μg/L	5	5.0 U	12 U	20 U	100 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	μg/L	5	0.50 U	1.2 U	2.0 U	10 U	0.50 U	10 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Chlorobromomethane	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Chloroethane	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Chloromethane	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	1.0 J	2.5 U	2.5 U	2.5 U	0.74 J	2.5 U	2.5 U
Chloroform	μg/L		2.5 U	6.2 U	5.2 J	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
cis-1,2-Dichloroethene	μg/L ug/I	5	44 0.50 U	20 1.2 U	44 2.0 U	210 10 U	2.5 U 0.50 U	28 J 10 U	3.6 0.50 U	2.5 U 0.50 U	2.5 U 0.50 U	2.5 U 0.50 U	2.5 U 0.50 U	4.1 0.50 U	4 0.50 U
cis-1,3-Dichloropropene Cyclohexane	μg/L μg/L	5 NS	10 U	25 U	40 U	200 U	10 U	200 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	μg/L μg/L	50	0.50 U	1.2 U	2.0 U	10 U	0.50 U	10 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-chloropropane	μg/L μg/L	0.04	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2-Dichlorobenzene	μg/L μg/L	3	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,3-Dichlorobenzene	μg/L μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,4-Dichlorobenzene	μg/L	3	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2-Dichloroethane	μg/L	0.6	0.50 U	1.2 U	2.0 U	10 U	0.50 U	10 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	μg/L	5	3.5	11	12	27 J	2.5 U	16 J	2.7	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,1-Dichloroethene	µg/L	5	2.5	12	7	32	0.19 J	36	0.32 J	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	μg/L	1	1.0 U	2.5 U	4.0 U	20 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Ethylene dibromide	μg/L	1	2.0 U	5.0 U	8.0 U	40 U	2.0 U	40 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Freon 11	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Freon 12	μg/L	5	1.7 J	12 U	15 J	100 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Freon 113	μg/L	5	32	31	420	98	1.2 J	290	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	3.8	3.2
2-Hexanone	μg/L	50	5.0 U	12 U	20 U	100 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene (Cumene)	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U 2.5 U	2.5 U 2.5 U
4-Isopropyltoluene Methyl acetate	μg/L μg/L	5 NS	2.0 U	5.0 U	8.0 U	40 U	2.0 U	40 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.5 U 2.0 U
4-Methyl-2-pentanone	μg/L μg/L	5	5.0 U	12 U	20 U	100 U	5.0 U	100 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert-butyl ether	μg/L μg/L	10	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Methylceclohexane	μg/L μg/L	NS	0.99]	3.5 J	5.4 J	18 J	0.46 J	22 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Naphthalene	μg/L	10												2.5 U	2.5 U
n-Butylbenzene	μg/L	5												2.5 U	2.5 U
n-Propylbenzene	μg/L	5												2.5 U	2.5 U
sec-Butylbenzene	μg/L	5												2.5 U	2.5 U
o-Xylene	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Styrene	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
tert-Butylbenzene	μg/L	5												2.5 U	2.5 U
Tetrachloroethene	μg/L	5	15	52	120	47	0.95	220	3.6	1.3	0.56	1.1	0.50 U	0.50 U	0.40 J
Toluene	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
trans-1,2-Dichloroethene	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
trans-1,3-Dichloropropene 1,1,1-Trichloroethane	μg/L	0.4	0.50 U 5.7	1.2 U 69	2.0 U 4.0 J	10 U 47 J	0.50 U 0.90 J	10 U 160	0.50 U 3.3	0.50 U 0.96 J	0.50 U 0.98 J	0.50 U 1.5 J	0.50 U 2.5 U	0.50 U 2.5 U	0.50 U 2.5 U
1,1,1-1 richloroethane	μg/L μg/L	5	0.50 U	1.2 U	2.0 U	47 J 10 U	0.50 U	160 10 U	0.50 U	0.96 J 0.50 U	0.98 J 0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Trichloroethane	/1	1	1 5 11	3.8 U	6.0.11	30 U	1 5 11	20.11	1 5 11	4 5 1 1	1 5 11	1.5 U	1 5 11	1.5 U	1 5 11
1,3,5-Trimethylbenzene	μg/L μg/L	5	1.5 U	5.8 U	6.0 U		1.5 U	30 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	2.5 U	2.5 U
1,2,3-Trichlorobenzene	μg/L μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,4-Trichlorobenzene	μg/L μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2,4-Trimethylbenzene	μg/L μg/L	5												2.5 U	2.5 U
Trichloroethene	μg/L	5	94	310	410	1,700	12	2,100	9.3	3.7	1.5	2.6	0.19 J	3.4	3.2
Vinvl chloride	μg/L	2	0.12 J	2.5 U	0.32 J	20 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	1.0/ =														2.5 U
Xylenes, m/p	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
	μg/L	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.0 U

Table 4 Summary of Groundwater Analytical Data GW Lisk Clifton Springs Facility 2 South Street, Clifton Springs, New York

		Location ID:	MW-01D	MW-01S	MW-02D	MW-02S	MW-03D	MW-03S	MW-04D	MW-04S	MW-1	MW-1 SR	MW-4 SR	PW-A	PW-B
		Sample Date:	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	09-May-17	08-May-17						
Analyte	Unit	Sample Type:	N	N	N	N	N	N	N	N	N	N	Ν	N	N
		NY-TOGS 1.1.1-GW													
Semi-Volatile Organic Compounds (SVOCs)	Ļ	111100011111011			ł	ł		Į.	Į.		Į.	Ļ	4	ł	4
Acenaphthene	μg/1	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Acenaphthylene	μg/1	5	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Acetophenone	μg/1	NS	1.36	620 U	2.59	3.64	0.155 U	0.429	0.170 U	0.161 U	0.156 U	0.160 U	0.158 U	0.153 U	0.153 U
Anthracene	μg/1	50							2.0 U	2.0 U					
Atrazine	μg/1	7.5							5.0 U	5.0 U					
Benzo(a)anthracene	μg/1	0.002 0.002							0.10 U 0.10 U	0.10 U 0.10 U					
Benzo(a)pyrene Benzo(b)fluoranthene	μg/1 μg/1	0.002							0.10 U	0.10 U					
Benzo(g,h,i)pervlene	μg/1 μg/1	NS							0.10 U	0.10 U					
Benzo(k)fluoranthene	μg/1	0.002							0.10 U	0.10 U					
Benzyl butyl phthalate	μg/1	NS							5.0 U	5.0 U					
Bis(2-chloroethoxy)methane	μg/1	5							5.0 U	5.0 U					
Bis(2-ethylhexyl)phthalate	μg/1	5							3.0 U	3.0 U					
4-Bromophenyl phenyl ether	μg/1	NS							0.10 U	0.10 U					
Carbazole	μg/1	NS							2.0 U	2.0 U					
4-Chloro-3-methylphenol	μg/1	NS							5.0 U	5.0 U					
p-Chloroaniline	μg/1	5							5.0 U	5.0 U					
2-Chloronaphthalene	μg/1	5							5.0 U	5.0 U					
2-Chlorophenol	μg/1	5							5.0 U	5.0 U					
4-Chlorophenyl phenyl ether	μg/1	50 NS							0.10 U 1.6 J	0.10 U 5.0 U					
m-Cresol Chrysene	μg/1 μg/1	0.002							0.10 U	0.10 U					
Dibenzo(a,h)anthracene	μg/1 μg/1	NS							0.10 U	0.10 U					
Dibenzofuran	μg/1 μg/1	NS							2.0 U	2.0 U					
Dibutyl phthalate	μg/1	50							5.0 U	5.0 U					
1,2-Dichlorobenzene	μg/1	3	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,3-Dichlorobenzene	μg/1	5							5.0 U	5.0 U					
1,4-Dichlorobenzene	µg/1	3	2.5 U	6.2 U	10 U	50 U	2.5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
3,3'-Dichlorobenzidine	μg/1	NS							10 U	10 U					
Dichloroethyl ether	μg/1	1							2.0 U	2.0 U					
2,4-Dichlorophenol	μg/1	10							0.20 U	0.20 U					
Diethyl phthalate	μg/1	50							5.0 U	5.0 U					
2,4-Dimethylphenol	μg/1	NS							2.0 U	2.0 U					
Dimethyl phthalate	μg/1	50 NG							5.0 U 10 U	5.0 U 10 U					
Dinitro-o-cresol 2,4-Dinitrophenol	μg/1 μg/1	NS 4.7							0.10 U	0.10 U					
2,4-Dinitrotoluene	μg/1 μg/1	5							5.0 U	5.0 U					
2,6-Dinitrotoluene	μg/1 μg/1	NS							10 U	10 U					
Di-n-octyl phthalate	μg/1 μg/1	50							5.0 U	5.0 U					
Fluoranthene	μg/1	50							0.10 U	0.10 U					
Fluorene	μg/1	50							0.10 U	0.10 U					
Hexachlorobenzene	μg/1	5							0.80 U	0.80 U					
Hexachlorobutadiene	μg/1	0.5							0.50 U	0.50 U					
Hexachlorocyclopentadiene	μg/1	5							20 U	20 U					
Hexachloroethane	μg/1	5							0.80 U	0.80 U					
Indeno(1,2,3-cd)pyrene	μg/1	0.002							0.10 U	0.10 U					
Isophorone	μg/1	50							5.0 U	5.0 U					
2-Methylnaphthalene	μg/1	NS 10							2.0 U	2.0 U					2511
Naphthalene 2-Nitroaniline	μg/1 μg/1	10 NS							0.10 U 2.0 U	0.10 U 2.0 U				2.5 U	2.5 U
3-Nitroaniline	μg/1 μg/1	20							0.10 U	0.10 U					
p-Nitroaniline	μg/1 μg/1	5							5.0 U	5.0 U					
Nitrobenzene	μg/1 μg/1	0.4							2.0 U	2.0 U					
2-Nitrophenol	μg/1	NS							2.0 U	2.0 U					
4-Nitrophenol	μg/1	NS							10 U	10 U					
n-Nitrosodiphenylamine	μg/1	50							2.0 U	2.0 U					
n-Nitrosodi-n-propylamine	μg/1	NS							5.0 U	5.0 U					
2,2-Oxybis(1-chloropropane)	μg/1	10							20 U	20 U					
Pentachlorophenol	μg/1	1							0.80 U	0.80 U					
Phenanthrene	μg/1	50							0.02 J	0.10 U					
Phenol	μg/1	1							2.6 J	5.0 U					
Pyrene 1.24 T i ll l	μg/1	50							0.10 U	0.10 U					
1,2,4-Trichlorobenzene	μg/1	NS							5.0 U	5.0 U					
2,4,5-Trichlorophenol	μg/1	5							5.0 U	5.0 U					

Table 4 Summary of Groundwater Analytical Data GW Lisk Clifton Springs Facility 2 South Street, Clifton Springs, New York

		Location ID:	MW-01D	MW-01S	MW-02D	MW-025	MW-03D	MW-03S	MW-04D	MW-04S	MW-1	MW-1 SR	MW-4 SR	PW-A	PW-B
		Sample Date:		20-Nov-17	09-May-17	08-May-17									
Analyte	Unit	Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N
		NY-TOGS 1.1.1-GW													
Polychlorinated Biphenyl (PCB)				-	-	-	-							-	-
Aroclor 1016	μg/L				0.083 U										
Aroclor 1221	μg/L	NS			0.083 U										
Aroclor 1232	μg/L	NS			0.083 U										
Aroclor 1242	μg/L	NS			0.083 U										
Aroclor 1248	μg/L	NS			0.083 U										
Aroclor 1254	μg/L	NS			0.083 U										
Aroclor 1260	μg/L	NS			0.083 U										
Aroclor 1262	μg/L	NS			0.083 U										
Aroclor 1268	μg/L	NS			0.083 U										
Total PCBs	μg/L	0.09			0.083 U										
Metals, Total												T	T	T	r
Aluminum	mg/L	0.1			0.456	0.035 J	0.213	0.100 U	0.122	0.101				0.0100 U	0.0100 U
Antimony	mg/L	0.003			0.050 U	0.050 U	0.007 J	0.050 U	0.050 U	0.050 U				0.00400 U	0.00400 U
Arsenic	mg/L	0.025			0.005 U	0.002 J	0.005 U	0.005 U	0.003 J	0.005 U				0.00050 U	0.00050 U
Barium	mg/L	1			0.119	0.251	0.161	0.146	0.203	0.069				0.06101	0.0606
Beryllium	mg/L	0.003			0.005 U				0.00050 U	0.00050 U					
Cadmium	mg/L	0.005			0.005 U				0.00020 U	0.00020 U					
Calcium	mg/L	NS			159	158	92	146	55.3	112				106	108
Chromium	mg/L	0.05			0.010 U	0.002 J				0.00100 U	0.00100 U				
Cobalt	mg/L	0.005			0.020 U	0.002 J	0.020 U	0.020 U	0.020 U	0.020 U				0.00050 U	0.00050 U
Copper	mg/L	0.2			0.010 U	0.010 U	0.003 J	0.010 U	0.002 J	0.010 U				0.00421	0.01515
Cyanide	mg/L	0.4			0.00050 U				0.00050 U	0.00050 U					
Iron	mg/L	0.3			1.06	3.53	1.22	0.013 J	0.117	0.176				0.0500 U	0.0500 U
Lead	mg/L	0.025			0.010 U	0.003 J	0.003 J	0.003 J	0.010 U	0.003 J				0.00050 U	0.00218
Magnesium	mg/L	35			0.378	41	1.05	36	2.02	24.2				20.8	21.5
Manganese	mg/L	0.3			0.012	0.364	0.012	0.029	0.006 J	0.02				0.00058 J	0.00100 U
Mercury	mg/L	0.0007			0.00020 U				0.00006 J	0.00020 U					
Nickel	mg/L	0.1			0.025 U	0.004 J	0.002 J	0.002 J	0.006 J	0.025 U				0.00150 J	0.00689
Potassium	mg/L	NS			15.1	6.63	13.4	5.99	21	5.98				2.63	2.69
Selenium	mg/L	0.01			0.010 U				0.00500 U	0.00500 U					
Silver	mg/L	0.05			0.007 U				0.00040 U	0.00040 U					
Sodium	mg/L	20			156	392	185	331	138	133				43.2	44.9
Thallium	mg/L	0.0005			0.020 U				0.00050 U	0.00050 U					
Vanadium	mg/L	0.014			0.010 U				0.00500 U	0.00500 U					
Zinc	mg/L	2			0.050 U	0.050 U	0.050 U	0.005 J	0.050 U	0.006 J				0.00935 J	0.00526 J
Per- and Polyfluoroalkyl Substances (PFAS)															
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ng/l	NS	2.08 U	2.08 U	2.08 U	2.08 U	1.72 U	1.72 U	1.92 U	1.72 U	1.72 U	2.00 U	1.72 UJ	2.01 U	1.93 U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ng/l	NS	2.08 U	2.08 U	2.08 U	2.08 U	1.72 U	1.72 U	1.92 U	1.72 U	1.72 U	2.00 U	1.72 U	2.01 U	1.93 U
Perfluorobutanesulfonic Acid (PFBS)	ng/l	NS	2.08 U	1.21 J	0.808 J	2.08 U	2.49	0.683 J	4.89	5.88	2.09	2.2	0.703 J	2.01 U	1.93 U
Perfluorodecanoic Acid (PFDA)	ng/l	NS	2.08 U	2.08 U	2.08 U	2.08 U	0.248 J	1.72 U	1.92 U	1.72 U	1.72 U	2.00 U	1.72 U	2.01 U	1.93 U
Perfluorododecanoic Acid (PFDoA)	ng/l	NS	2.08 U	2.08 U	0.333 J	2.08 U	1.72 U	1.72 U	1.92 U	1.72 U	1.72 U	2.00 U	1.72 U	2.01 U	1.93 U
Perfluoroheptanoic Acid (PFHpA)	ng/l	NS	2.08 U	1.35 J	0.433 J	2.08 U	1.48 J	0.500 J	0.769 J	0.310 J	2.45	1.57 J	0.355 J	2.01 U	1.93 U
Perfluorohexane Sulfonic Acid (PFHxS)	ng/l	NS	2.08 U	0.767 J	2.08 Ú	2.08 U	0.762 J	1.72 Ú	1.47 J	1.23 J	0.603 J	0.340 J	0.452 J	2.01 U	1.93 U
Perfluorohexanoic Acid (PFHxA)	ng/1	NS	2.08 U	1.77 J	0.529 J	2.08 U	1.91	1.36 J	1.84 J	0.621 J	8.36	4.86	0.493 J	2.01 U	1.93 U
Perfluorononanoic Acid (PFNA)	ng/l	NS	2.08 U	2.08 Û	2.08 Ú	2.08 U	0.634 J	1.72 Û	1.92 Ŭ	1.72 Ú	1.72 U	2.00 U	1.72 Ú	2.01 U	1.93 U
Perfluorooctanesulfonic Acid (PFOS)	ng/l	NS	0.312 J	2.08 U	0.238 J	2.08 U	3.13 J	1.72 U	1.92 J	1.43 J	0.324 J	0.324 J	0.448 J	2.01 U	1.93 U
Perfluorooctanoic Acid (PFOA)	ng/1	NS	2.08 Ú	3.16 U	2.08 Ú	2.08 U	5.31 J	1.72 U	3.32 Ú	1.72 Ú	3.19 Ú	2.68 Ú	1.72 Ú	2.01 U	1.93 U
Perfluorotetradecanoic Acid (PFTA)	ng/l	NS	2.08 U	2.08 U	2.08 U	2.08 U	1.72 Ú	1.72 U	1.92 U	1.72 U	1.72 U	2.00 U	1.72 U	2.01 U	1.93 U
Perfluorotridecanoic Acid (PFTrDA)	ng/1	NS	2.08 U	2.08 U	2.08 U	2.08 U	1.72 U	1.72 U	1.92 U	1.72 U	1.72 U	2.00 U	1.72 U	2.01 U	1.93 U
Perfluoroundecanoic Acid (PFUnA)	ng/1	NS	2.08 U	2.08 U	2.08 U	2.08 U	1.72 U	1.72 U	1.92 U	1.72 U	1.72 U	2.00 U	1.72 U	2.01 U	1.93 U

Notes and Abbreviations:

-- = Not analyzed NS = No Standard

NS = No Standard μg/L = micrograms per liter μg/l = micrograms per liter mg/L = milligrams per liter ng/l = nanogram per liter Results shown in bold font indicate a compound was detected above the laboratory reporting detection limit. N = Field sample FD = Field Duplicate J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample. U = Compound not detected at concentrations above the laboratory reporting detection limit, the laboratory reporting detection limit is shown. UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate. All analyses performed by Alpha Woods Hole Laboratories. Exceedance of NY-TOGS 1.1.1-GW

Table 5 Summary of Surface Water Analytical Data GW Lisk Clifton Springs Facility 2 South Street, Clifton Springs, New York

			SW-01	SW-01	SW-02	SW-02	SW-02	SW-02	SW-03
		NY-TOGS 1.1.1-	10-May-17	18-Jul-17	10-May-17	10-May-17	18-Jul-17	18-Jul-17	27-Jun-17
Analyte	Unit	SW_WILDLIFE PROTECTION	N	N	N	FD	N	FD	N
Volatile Organic Compounds (VOCs)									
Acetone	μg/L	NS	5.0 U		5.0 U	5.0 U			
Benzene	μg/L	NS	0.50 U		0.50 U	0.50 U			
Bromodichloromethane	μg/L	NS	0.50 U		0.50 U	0.50 U			
Bromoform	μg/L	NS	2.0 U		2.0 U	2.0 U			
Bromomethane	μg/L	NS	2.5 U		2.5 U	2.5 U			
2-Butanone	μg/L	NS	5.0 U		5.0 U	5.0 U			
Carbon disulfide	μg/L	NS	5.0 U		5.0 U	5.0 U			
Carbon tetrachloride	μg/L	NS	0.50 U		0.50 U	0.50 U			
Chlorobenzene	μg/L	NS	2.5 U		2.5 U	2.5 U			
Chlorobromomethane	µg/L	NS	2.5 U		2.5 U	2.5 U			
Chloroethane	μg/L	NS	2.5 U		2.5 U	2.5 U			
Chloromethane	μg/L	NS	2.5 U		2.5 U	2.5 U			
Chloroform	μg/L	NS	2.5 U		2.5 U	2.5 U			
cis-1,2-Dichloroethene	µg/L	NS	2.5 U		2.5 U	2.5 U			
cis-1,3-Dichloropropene	μg/L	NS	0.50 U		0.50 U	0.50 U			
Cyclohexane	µg/L	NS	10 U		10 U 0.50 U	10 U 0.50 U			
Dibromochloromethane	μg/L	NS	0.50 U						
1,2-Dibromo-3-chloropropane	μg/L	NS	2.5 U		2.5 U 2.5 U	2.5 U 2.5 U			
1,2-Dichlorobenzene 1,3-Dichlorobenzene	µg/L	NS NS	2.5 U 2.5 U		2.5 U 2.5 U	2.5 U 2.5 U			
1,3-Dichlorobenzene	μg/L	NS	2.5 U 2.5 U		2.5 U 2.5 U	2.5 U 2.5 U			
	μg/L	NS	0.50 U		0.50 U	0.50 U			
1,2-Dichloroethane 1,1-Dichloroethane	μg/L	NS	2.5 U		2.5 U	2.5 U			
1,1-Dichloroethane	μg/L μg/L	NS	0.50 U		0.50 U	0.50 U			
		NS	1.0 U		1.0 U	1.0 U			
1,2-Dichloropropane Ethylbenzene	µg/L	NS	2.5 U		2.5 U	2.5 U			
Ethylene dibromide	μg/L μg/L	NS	2.0 U		2.0 U	2.0 U			
Freon 11	μg/L μg/L	NS	2.5 U		2.5 U	2.5 U			
Freon 12	μg/L μg/L	NS	5.0 U		5.0 U	5.0 U			
Freon 113	μg/L μg/L	NS	2.5 U		2.5 U	2.5 U			
2-Hexanone	μg/L μg/L	NS	5.0 U		5.0 U	5.0 U			
Isopropylbenzene (Cumene)	μg/L μg/L	NS	2.5 U		2.5 U	2.5 U			
4-Isopropyltoluene	μg/L μg/L	NS	2.5 U		2.5 U	2.5 U			
Methyl acetate	μg/L μg/L	NS	2.0 U		2.0 U	2.0 U			
4-Methyl-2-pentanone	μg/L μg/L	NS	5.0 U		5.0 U	5.0 U			
Methyl tert-butyl ether	μg/L μg/L	NS	2.5 U		2.5 U	2.5 U			
Methylcyclohexane	μg/L	NS	10 U		10 U	10 U			
Methylene chloride	μg/L μg/L	NS	2.5 U		2.5 U	2.5 U			
Naphthalene	μg/L μg/L	NS	2.5 U		2.5 U	2.5 U			
n-Butylbenzene	μg/L μg/L	NS	2.5 U		2.5 U	2.5 U			
n-Propylbenzene	μg/L	NS	2.5 U		2.5 U	2.5 U			
sec-Butylbenzene	μg/L	NS	2.5 U		2.5 U	2.5 U			
o-Xylene	μg/L	NS	2.5 U		2.5 U	2.5 U			
Styrene	μg/L	NS	2.5 U		2.5 U	2.5 U			
tert-Butylbenzene	μg/L	NS	2.5 U		2.5 U	2.5 U			
Tetrachloroethene	μg/L	NS	0.50 U		0.50 U	0.50 U			
Toluene	μg/L	NS	2.5 U		2.5 U	2.5 U			
trans-1,2-Dichloroethene	μg/L	NS	2.5 U		2.5 U	2.5 U			
trans-1,3-Dichloropropene	μg/L	NS	0.50 U		0.50 U	0.50 U			
1,1,1-Trichloroethane	μg/L	NS	2.5 U		2.5 U	2.5 U			
1,1,2,2-Tetrachloroethane	μg/L	NS	0.50 U		0.50 U	0.50 U			
1,1,2-Trichloroethane	µg/L	NS	1.5 U		1.5 U	1.5 U			
1,3,5-Trimethylbenzene	µg/L	NS	2.5 U		2.5 U	2.5 U			
1,2,3-Trichlorobenzene	μg/L	NS	2.5 U		2.5 U	2.5 U			
1,2,4-Trichlorobenzene	μg/L	NS	2.5 U		2.5 U	2.5 U			
1,2,4-Trimethylbenzene	μg/L	NS	2.5 U		2.5 U	2.5 U			
Trichloroethene	μg/L	NS	0.50 U		0.50 U	0.50 U			
Vinyl chloride	µg/L	NS	1.0 U		1.0 U	1.0 U			
Xylenes, m/p	µg/L	NS	2.5 U		2.5 U	2.5 U			
	ng/l	NS	155 U		153 U	158 U			

Notes and Abbreviations:

-- = Not analyzed NS = No Standard

 $\mu g/L =$ micrograms per liter $\mu g/l =$ micrograms per liter mg/L = milligrams per liter

ng/l = nanogram per liter ng/l = nanogram per liter Results shown in bold font indicate a compound was detected above the laboratory reporting detection limit. N = Field sample FD = Field Duplicate

U = Compound not detected at concentrations above the laboratory reporting detection limit, the laboratory reporting detection limit is shown.
 U] = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.
 All analyses performed by Alpha Woods Hole Laboratories.
 NY-TOGS 1.1.1-SW_WILDFIRE PROTECTION

Table 5 Summary of Surface Water Analytical Data GW Lisk Clifton Springs Facility 2 South Street, Clifton Springs, New York

			SW-01	SW-01	SW-02	SW-02	SW-02	SW-02	SW-03
		NY-TOGS 1.1.1-	10-May-17	18-Jul-17	10-May-17	10-May-17	18-Jul-17	18-Jul-17	27-Jun-17
Analyte	Unit	SW_WILDLIFE	N	N	N	FD	N	FD	N
		PROTECTION							
Semi-Volatile Organic Compounds (SVOCs)				1			1	1	1
Acenaphthene	µg/L	NS NS	0.10 U 0.20 U		0.10 U 0.20 U	0.10 U 0.20 U			
Acenaphthylene Acetophenone	μg/L μg/L	NS	5.0 U		5.0 U	5.0 U			
Anthracene	μg/L	NS	0.20 U		0.20 U	0.20 U			
Atrazine	μg/L	NS	10 U		10 U	10 U			
Benzaldehyde	μg/L	NS	5.0 U		5.0 U	5.0 U			
Benzo(a)anthracene	μg/L	NS	0.20 U		0.20 U	0.20 U			
Benzo(a)pyrene	μg/L	NS NS	0.20 U 0.20 U		0.20 U 0.20 U	0.20 U 0.20 U			
Benzo(b)fluoranthene Benzo(g,h,i)perylene	μg/L μg/L	NS	0.20 U		0.20 U	0.20 U			
Benzo(k)fluoranthene	μg/L	NS	0.20 U		0.20 U	0.20 U			
Benzyl butyl phthalate	μg/L	NS	5.0 U		5.0 U	5.0 U			
Biphenyl	μg/L	NS	2.0 U		2.0 U	2.0 U			
Bis(2-chloroethoxy)methane	μg/L	NS	5.0 U		5.0 U	5.0 U			
Bis(2-ethylhexyl)phthalate	µg/L	NS	3.5		5.4	5			
4-Bromophenyl phenyl ether Caprolactam	μg/L μg/L	NS NS	2.0 U 10 U		2.0 U 10 U	2.0 U 10 U			
Carbazole	μg/L μg/L	NS	2.0 U		2.0 U	2.0 U			
p-Chloroaniline	μg/L	NS	5.0 U		5.0 U	5.0 U			
4-Chloro-3-methylphenol	μg/L	NS	2.0 U		2.0 U	2.0 U			
2-Chloronaphthalene	µg/L	NS	0.20 U		0.20 U	0.20 U			
2-Chlorophenol	μg/L	NS	2.0 U		2.0 U	2.0 U			
o-Cresol m-Cresol	μg/L μg/I	NS NS	5.0 U 5.0 U		5.0 U 5.0 U	5.0 U 5.0 U			
4-Chlorophenyl phenyl ether	μg/L μg/L	NS	2.0 U		2.0 U	2.0 U			
Chrysene	μg/L	NS	0.20 U		0.20 U	0.20 U			
Dibenzo(a,h)anthracene	µg/L	NS	0.20 U		0.20 U	0.20 U			
Dibenzofuran	μg/L	NS	2.0 U		2.0 U	2.0 U			
Dibutyl phthalate	μg/L	NS	5.0 U		5.0 U	5.0 U			
3,3'-Dichlorobenzidine Dichloroethyl ether	µg/L	NS NS	5.0 UJ 2.0 U		5.0 U 2.0 U	5.0 U 2.0 U			
2,4-Dichlorophenol	μg/L μg/L	NS	5.0 U		5.0 U	5.0 U			
2,4-Dimethylphenol	μg/L	NS	5.0 U		5.0 U	5.0 U			
Diethyl phthalate	μg/L	NS	5.0 U		5.0 U	5.0 U			
Dimethyl phthalate	μg/L	NS	5.0 U		5.0 U	5.0 U			
Dinitro-o-cresol	μg/L	NS	10 U		10 U	10 U			
2,4-Dinitrophenol	µg/L	NS	20 U 5.0 U		20 U 5.0 U	20 U 5.0 U			
2,4-Dinitrotoluene 2,6-Dinitrotoluene	μg/L μg/L	NS NS	5.0 U		5.0 U	5.0 U			
Di-n-octyl phthalate	μg/L	NS	5.0 U		5.0 U	5.0 U			
Fluoranthene	μg/L	NS	0.20 U		0.20 U	0.20 U			
Fluorene	μg/L	NS	0.20 U		0.20 U	0.20 U			
Hexachlorobenzene	μg/L	NS	0.80 U		0.80 U	0.80 U			
Hexachlorobutadiene	µg/L	NS	0.50 U		0.50 U	0.50 U			
Hexachlorocyclopentadiene Hexachloroethane	μg/L μg/L	NS NS	20 U 0.80 U		20 U 0.80 U	20 U 0.80 U			
Indeno(1,2,3-cd)pyrene	μg/L μg/L	NS	0.20 U		0.20 U	0.20 U			
Isophorone	μg/L μg/L	NS	5.0 U		5.0 U	5.0 U			
2-Methylnaphthalene	μg/L	NS	0.20 U		0.20 U	0.20 U			
2-Nitroaniline	μg/L	NS	5.0 U		5.0 U	5.0 U			
3-Nitroaniline	μg/L	NS	5.0 U		5.0 U	5.0 U			
p-Nitroaniline	μg/L	NS	5.0 U		5.0 U	5.0 U			
Nitrobenzene 2-Nitrophenol	μg/L μg/L	NS NS	2.0 U 10 U		2.0 U 10 U	2.0 U 10 U			
4-Nitrophenol	μg/L μg/L	NS	10 U		10 U	10 U			
n-Nitrosodi-n-propylamine	μg/L	NS	5.0 U		5.0 U	5.0 U			
n-Nitrosodiphenylamine	μg/L	NS	2.0 U		2.0 U	2.0 U			
2,2-Oxybis(1-chloropropane)	µg/L	NS	2.0 U		2.0 U	2.0 U			
Pentachlorophenol	μg/L	NS	0.80 U		0.80 U	0.80 U			
Phenanthrene Phenol	μg/L μg/L	NS NS	0.20 U 5.0 U		0.20 U 5.0 U	0.20 U 5.0 U			
Pyrene	μg/L μg/L	NS	0.20 U		0.20 U	0.20 U			
1,2,4,5-Tetrachlorobenzene	μg/L μg/L	NS	10 U		10 U	10 U			
2,3,4,6-Tetrachlorophenol	μg/L	NS	5.0 U		5.0 U	5.0 U			
2,4,5-Trichlorophenol	μg/L	NS	5.0 U		5.0 U	5.0 U			
2,4,6-Trichlorophenol	μg/L	NS	5.0 U		5.0 U	5.0 U			

Notes and Abbreviations:

--- = Not analyzed NS = No Standard $\mu g/L$ = micrograms per liter $\mu g/1$ = micrograms per liter

mg/L = milligrams per liter

mg/1 = manogram per literResults shown in bold font indicate a compound was detected above the laboratory reporting detection limit. N = Field sample

FD = Field Duplicate

 FD = Field Dupicate

 U = Compound not detected at concentrations above the laboratory reporting detection limit, the laboratory reporting detection limit is shown.

 UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

 All analyses performed by Alpha Woods Hole Laboratories.

 NY-TOGS 1.1.1-SW_WILDFIRE PROTECTION

Table 5 Summary of Surface Water Analytical Data *GW Lisk Clifton Springs Facility* 2 South Street, Clifton Springs, New York

			SW-01	SW-01	SW-02	SW-02	SW-02	SW-02	SW-03
		NY-TOGS 1.1.1-	10-May-17	18-Jul-17	10-May-17	10-May-17	18-Jul-17	18-Jul-17	27-Jun-17
Analyte	Unit	SW WILDLIFE	Ň	N	N	FD	Ň	FD	N
Analyte	om	PROTECTION							
Polychlorinated Biphenyl (PCB)									
Aroclor 1016	μg/L	NS	0.083 U		0.083 U	0.083 U			0.083 U
Aroclor 1221	$\mu g/L$	NS	0.083 U		0.083 U	0.083 U			0.083 U
Aroclor 1221 Aroclor 1232	$\mu g/L$	NS	0.083 U		0.083 U	0.083 U			0.083 U
Aroclor 1242	$\mu g/L$	NS	0.083 U		0.083 U	0.083 U			0.083 U
Aroclor 1248	$\mu g/L$	NS	0.083 U		0.083 U	0.083 U			0.083 U
Aroclor 1254	$\mu g/L$	NS	0.083 U		0.083 U	0.083 U			0.083 U
Aroclor 1260	$\mu g/L$	NS	0.083 U		0.57	0.194			0.083 U
Aroclor 1262	$\mu g/L$	NS	0.083 U		0.083 U	0.083 U			0.083 U
Aroclor 1268	$\mu g/L$	NS	0.083 U		0.083 U	0.083 U			0.083 U
Total PCBs	$\mu g/L$	0.00012	0.083 U		0.57	0.194			0.083 U
Aetals, Total	μ <u>5</u> / υ	0.00012	0.000 a		0.07	0,171			0.000 U
Aluminum	mg/L	NS	0.0261 U		0.0193 U	0.0204 U			
Antimony	mg/L mg/L	NS	0.00400 U		0.00400 U	0.00400 U			
Arsenic	mg/L mg/L	NS	0.000400 Cl		0.00039 J	0.00054			
Barium	mg/L mg/L	NS	0.06442		0.06078	0.0604			
Bervllium	mg/L mg/L	NS	0.00050 U		0.00050 U	0.00050 U			
Cadmium	mg/L mg/L	NS	0.00020 U		0.00030 U	0.00020 U			
Calcium	mg/L mg/L	NS	92.8		91.4	93.5			
Chromium	mg/L mg/L	NS	0.00100 U		0.00100 U	0.00100 U			
Cobalt	mg/L mg/L	NS	0.00050 U		0.00050 U	0.00050 U			
Copper	mg/L mg/L	NS	0.00159		0.00050 L1	0.00050 U 0.0014			
**	0.	NS	0.250 U		0.00139 0.005 U	0.0014 0.003 J			
Cyanide	mg/L	NS	0.250 u	363.5		,	360.4		
Hardness Iron	mg/L	NS	0.0558	363.5	0.0562	0.0542	360.4	358	
	mg/L	NS	0.00358 0.00100 U		0.00100 U	0.00100 U			
Lead	mg/L	NS	18.2		17.4	18			
Magnesium	mg/L	NS	0.01432		0.01383	0.0139			
Manganese	mg/L	0.000026	0.001432 0.00020 U		0.00383	0.0039 0.00020 U			
Mercury	mg/L								
Nickel	mg/L	NS	0.00098 J 2.89		0.00097 J	0.00104 J			
Potassium	mg/L	NS			2.71	2.83			
Selenium	mg/L	NS	0.00500 U		0.00500 U	0.00500 U			
Silver	mg/L	NS	0.00040 U		0.00040 U	0.00040 U			
Sodium	mg/L	NS	32		40.2	40.9			
Thallium	mg/L	NS	0.00050 U		0.00050 U	0.00050 U			
Vanadium	mg/L	NS	0.00500 U		0.00500 U	0.00500 U			
Zinc (PEA c)	mg/L	NS	0.00342 J		0.01000 U	0.01000 U			
er- and Polyfluoroalkyl Substances (PFAS)		210	4 00 14		4.04.14	4.00.17			r
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFO	ng/l	NS	1.98 U		1.94 U	1.92 U			
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMe		NS	1.98 U		1.94 U	1.92 U			
Perfluorobutanesulfonic Acid (PFBS)	ng/l	NS	1.98 U		1.94 U	1.92 U			
Perfluorodecanoic Acid (PFDA)	ng/l	NS	1.98 U		1.94 U	1.92 U			
Perfluorododecanoic Acid (PFDoA)	ng/l	NS	1.98 U		1.94 U	1.92 U			
Perfluoroheptanoic Acid (PFHpA)	ng/l	NS	1.98 U		1.94 U	1.92 U			
Perfluorohexane Sulfonic Acid (PFHxS)	ng/l	NS	1.98 U		1.94 U	1.92 U			
Perfluorohexanoic Acid (PFHxA)	ng/l	NS	1.98 U		1.94 U	1.92 U			
Perfluorononanoic Acid (PFNA)	ng/l	NS	1.98 U		1.94 U	1.92 U			
Perfluorooctanesulfonic Acid (PFOS)	ng/l	NS	1.98 U		1.94 U	1.92 U			
Perfluorooctanoic Acid (PFOA)	ng/l	NS	1.98 U		1.94 U	1.92 U			
Perfluorotetradecanoic Acid (PFTA)	ng/l	NS	1.98 U		1.94 U	1.92 U			
		NS							

Notes and Abbreviations: -- = Not analyzed NS = No Standard

 $\mu g/L =$ micrograms per liter $\mu g/l =$ micrograms per liter

mg/L = milligrams per liter ng/L = nanogram per liter Results shown in bold font indicate a compound was detected above the laboratory reporting detection limit.

N = Field sample

 N = Freid sample

 FD = Field Supplicate

 U = Compound not detected at concentrations above the laboratory reporting detection limit, the laboratory reporting detection limit is shown.

 UJ = Analyte was analyzed for, but not detected. The detection limit is a quantitative estimate.

 All analyses performed by Alpha Woods Hole Laboratories.

 NY-TOGS 1.1.1-SW_WILDLIFE PROTECTION

Table 6Summary of TCLP Waste Characterization Results for Investigation-Derived WastesG.W. Lisk Clifton Springs Facility2 South Street, Clifton Springs, New York

			Sample ID:	DM-WC-01(11212017)	PW-WC-01(11212017)	SC-WC-01(11212017)
		S	ample Date:	21-Nov-17	21-Nov-17	21-Nov-17
			Matrix:	Drilling Mud	Purge Water	Soil Cuttings
Analyte	CAS No.	TCLP RL	Units			
Solids, Total		-	Child	-	-	66.5
Cyanide, Reactive		250	mg/kg	< 1.0	< 1.0	< 10.
Sulfide, Reactive		500	mg/kg	< 1.0	< 1.0	< 10
Ignitability		-	0, 0	-	-	NI
TCLP Metals by USEPA Method 6	010C/7470A					
Arsenic	7440-38-2	5	mg/l	< 1.00	< 1.00	< 1.00
Barium	7440-39-3	100	mg/l	0.127 J	< 0.500	0.415 J
Cadmium	7440-43-9	1	mg/l	< 0.100	< 0.100	< 0.100
Chromium	7440-47-3	5	mg/l	< 0.200	< 0.200	0.021 J
Lead	7439-92-1	5	mg/l	< 0.500	< 0.500	< 0.500
Mercury	7439-97-6	0.2	mg/l	0.0008 J	0.0007 J	0.0008 J
Selenium	7782-49-2	1	mg/l	< 0.500	< 0.500	0.044 J
Silver	7440-22-4	5	mg/l	< 0.100	< 0.100	< 0.100
TCLP Volatile Organic Compound	s (VOCs) by USEPA Met	hod 8260C				
Chloroform	67-66-3	6	mg/l	0.0034	0.0052	< 0.0075
Carbon tetrachloride	56-23-5	0.5	mg/l	< 0.0005	< 0.0005	< 0.005
Tetrachloroethene	127-18-4	0.7	mg/l	0.0027	0.0043	< 0.005
Chlorobenzene	108-90-7	100	mg/l	< 0.0005	< 0.0005	< 0.005
1,2-Dichloroethane	107-06-2	0.5	mg/l	< 0.0005	< 0.0005	< 0.005
Benzene	71-43-2	0.5	mg/l	0.00022 J	0.0004 J	< 0.005
Vinyl chloride	75-01-4	0.2	mg/l	< 0.001	< 0.001	< 0.01
1,1-Dichloroethene	75-35-4	0.7	mg/l	0.0012	0.0002 J	< 0.005
Trichloroethene	79-01-6	0.5	mg/l	0.12	0.025	0.015
1,4-Dichlorobenzene	106-46-7	7.5	mg/l	< 0.0025	< 0.0025	< 0.025
2-Butanone (MEK)	78-93-3	200	mg/l	0.0049 J	0.012	< 0.05
TCLP Herbicides by USEPA Metho	d 8151A					
2,4-D	94-75-7	10	mg/l	< 0.011	< 0.01	< 0.245
2,4,5-T	93-76-5	-	mg/l	< 0.0022	< 0.002	< 0.245
2,4,5-TP (Silvex)	93-72-1	1	mg/l	< 0.0022	< 0.002	< 0.245
TCLP Semi-Volatile Organic Com	oounds (SVOCs) by USE	PA Method 8	270D			
Hexachlorobenzene	118-74-1	0.13	mg/l	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	121-14-2	0.13	mg/l	< 0.025	< 0.025	< 0.025
Hexachlorobutadiene	87-68-3	0.5	mg/l	< 0.01	< 0.01	< 0.01
Hexachloroethane	67-72-1	3	mg/l	< 0.01	< 0.01	< 0.01
Nitrobenzene	98-95-3	2	mg/l	< 0.01	< 0.01	< 0.01
2,4,6-Trichlorophenol	88-06-2	2	mg/l	< 0.025	< 0.025	< 0.025
Pentachlorophenol	87-86-5	100	mg/l	< 0.05	< 0.05	< 0.05
2-Methylphenol	95-48-7	200	mg/l	< 0.025	< 0.025	< 0.025
3-Methylphenol/4-Methylphenol	108-39-4 / 106-44-5	200	mg/l	< 0.025	< 0.025	< 0.025
2,4,5-Trichlorophenol	95-95-4	400	mg/l	< 0.025	< 0.025	< 0.025
Pyridine	110-86-1	5	mg/l	< 0.018	< 0.018	< 0.018
TCLP Organochlorine Pesticides b	y USEPA Method 8081B					
Delta-BHC	319-68-8	-	mg/l	< 0.00002	< 0.00002	< 0.00235
Lindane	58-89-9	0.4	mg/l	< 0.00002	< 0.00002	< 0.00098
Alpha-BHC	319-84-6	-	mg/l	< 0.00002	< 0.00002	< 0.00098
Beta-BHC	31-85-7	-	mg/l	< 0.00002	< 0.00002	< 0.00235
Heptachlor	76-44-8	0.008	mg/l	< 0.00002	< 0.00002	< 0.00118
Aldrin	309-00-2	-	mg/l	< 0.00002	< 0.00002	< 0.00235
Heptachlor epoxide	76-44-8	0.008	mg/l	< 0.00002	< 0.00002	< 0.00441
Endrin	72-20-8	0.02	mg/l	< 0.00004	< 0.00004	< 0.00098
Endrin aldehyde	7421-93-4	-	mg/l	< 0.00004	< 0.00004	< 0.00294
Endrin ketone	53494-70-5	-	mg/l	< 0.00004	< 0.00004	< 0.00235
Dieldrin	60-57-1	-	mg/l	< 0.00004	< 0.00004	< 0.00147
4,4'-DDE	72-55-9	-	mg/l	< 0.00004	< 0.00004	< 0.00235
4,4'-DDD	72-54-8	-	mg/l	< 0.00004	< 0.00004	< 0.00235
4,4'-DDT	50-29-3	-	mg/l	0.000009 J	< 0.00004	< 0.00441
Endosulfan I	115-29-7	-	mg/l	< 0.00002	< 0.00002	< 0.00235
Endosulfan II	33213-65-9	-	mg/l	< 0.00004	< 0.00004	0.00314
Endosulfan sulfate	1031-07-8	-	mg/l	< 0.00004	< 0.00004	< 0.00098
Methoxychlor	72-43-5	10	mg/l	< 0.0002	< 0.0002	< 0.00441
Toxaphene	8001-35-2	0.5	mg/l	< 0.0002	< 0.0002	< 0.0441
de Chlandene	5103-71-9	-	mg/l	< 0.00002	< 0.00002	< 0.00294
cis-Chlordane						
trans-Chlordane	5103-74-2	-	mg/l	< 0.00002	< 0.00002	< 0.00294

Notes:

mg/L - milligram per liter

mg/kg - milligram per kilogram

NI - no ignition

J - Estimated value. The target analyte concentration is below the quantitation limi (RL), but above the Method Detection Limit (MDL)

TCLP - Toxicity characteristic leaching procedure

RL - regulatory limit

Table 7Summary of SC Results by Area of Potenital ConcernG.W Lisk Facility2 South Street, Clifton Springs, New York

AOPC	Description	Soil Samples	Groundwater	Air	AOPC Closed	Rationale					
1	Former Outfall 001	MW-04S	MW-04S	VI-02	No	No exceedances of applicable SCOs. One VOC and one SVOC exceedance in bedrock					
1	Tornier Outlan oor	10100-045	MW-04D	VI-05	140	groundwater.					
2	Former Outfall 006	MW-04S	MW-04S	VI-02	No	No exceedances of applicable SCOs. One VOC and one SVOC exceedance in bedrock					
2	Tornier Outlan 000	10100-045	MW-04D	V1-02	140	groundwater.					
3	Former Outfall 009	NS	NS	NS	Unknown	Unable to safely access B-05 location due to overhead and subsurface utilities					
		MW-02D	MW-02S								
4	Former Outfall 011	10100-0210	MW-02D	VI-02, VI-03	No	Some soil and groundwater exceedances of VOCs and metals.					
4		MW-03D	MW-03S	v1-02, v1-03		some som and groundwater exceedances of vocs and metals.					
		10100-0510	MW-03D								
5	Former Outfall 012	MW-1S	MW-01S	VI-01	No	No exceedances of applicable SCOs. Some VOC exceedances in groundwater.					
5		B-04	MW-01D	v1-01	INO	The exceedances of applicable SCOs. Some VOC exceedances in groundwater.					
	Southwestern Parking Lot	B-01									
6		B-02	B-02 NS		No	Some SVOC and metal exceedances in soil.					
		B-03									
7	Former Tank Area	MW-04S	MW-04S	VI-02	No	No exceedances of applicable SCOs. One VOC and one SVOC exceedance in bedrock					
/		10100-045	MW-04D	V1-02	INO	groundwater.					
8	Former TCE Degreaser with Sump	MW-04S	MW-04S	VI-02	No	No exceedances of applicable SCOs. One VOC and one SVOC exceedance in bedrock					
0		10100-045	MW-04D	v 1202		groundwater.					
9	Former Water Supply Wells	NS	PW-A	NS	Yes	No exceedances of applicable groundwater standards.					
ý	Torner Water Supply Wells	110	PW-B	110	165	The executives of appleable groundwater standards.					

Notes and Abbreviations:

NS = Not Sampled.

SCOs = 6 NYCRR Part 375 Industrial Soil Cleanup Objectives

SVOCs = semivolatile organic compounds

VOCs = volatile organic compounds

Appendix A Soil Boring Logs

Spinous, New York 132: Sile Characterization EN PROJECT # 0346372 DPRLING CONTRACTOR Faratt Wolf Synaucas, W OPRLING CONTRACTOR Faratt Wolf DPRLING CONTRACTOR Faratt Wolf OPRLING CONTRACTOR Faratt Wolf DPRLING CONTRACTOR Generation DPRLING CONTRACTOR Faratt Wolf DPRLING CONTRACTOR Generation DPRLING CONTRACTOR			6	5788 Widewaters Pkwy PROJECT: G.W. Lisk					BORING # B-01				
DRILLING CONTRACTOR Parratt Wolff Syracuse, NY DRILLING CONTRACTOR Parratt Wolff Syracuse, NY DRILLING FOREMAN L. Petch DATE: START 05/11/2017 DRILLING CONTRACTOR Direct Push Direct Push 05/11/2017 DRILLING CONTRACTOR Ecorporte 66100T FINISH 05/11/2017 HORIZONTAL DATUM (NAD 1983 StatePlane New York East (US Feet) BOREHOLE DEPTH 51ft NORTHING 1077848.39 STRATA DESCRIPTION 638.52 ft VERTICAL DATUM (NAVD 88 (US Feet)) ELEVATION 638.52 ft SAMPLING DATA GRAVELLY SAND (CP-SP) poorly graded, fine grained SAND, subangular, fine to medium grained GRAVEL; toose, trace att, not to most, grayish bown (1078 82) 0 GM SANDY SLT (MLS) fine grained SAND; soft, and it a brown (1078 42) 3 MLS 0.1 SANDY SLT (MLS) fine grained SAND; soft, and it a brown (1078 42) 5 MLS 0.1 0 4 SANDY SLT (MLS) fine grained SAND; soft, and it a brown (1078 42) 5 MLS 0.1 6 SANDY SLT (MLS) fine grained SAND; soft, and it abrown (1078 52) 5 MLS 0.1 6 SANDY SLT (MLS) fine grained SAND; medium dense, some fine to medi		CD.			ation								
Styracuse, NY DRILLING FOREMAN DRILLING CAUPINET OFFICE LOCATION DATE: START Syracuse, NY DATE: START DRILLING METHOD DRILLING COUPINET Geoprobe 66100T FINISH 05/11/2017 HORIZONTAL DATUM (NAD 1983 StatePlane New York East (US Feet)) NORTHING 1077848.39 BOREHOLE DEPTH 51 ft NORTHING 1077848.39 BOREHOLE DIAMETER 2 in VERTICAL DATUM (NAVD 88 (US Feet)) ELEVATION 638.52 ft BOREHOLE DAMETER 2 in VERTICAL DATUM (NAVD 88 (US Feet)) ELEVATION 638.52 ft Observations / Remarks U GRAVELLY SAND (CP-SP) poorly graded. fine gained SAND, subangular, fine to medium grained GRAVEL; boxe, trace att, dy to most, grayish brown (10YR 62) 0 GP-SP 0 0 1 GM 1 GM 0 0 0 0 2 SAMOY SILT (MLS) fine grained SAND; medium dense, life obtaine, some note, some readium gravel; most to wet, mediae, brown to dark brown (10YR 62) 3 0 0 0 4 SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subrown gravel; most to wet, mediae, brown (10YR 62) 4 MLS 0.1 0 4 SANDY SILT (MLS	ŀ	DRI		CONTRACTOR Parratt Wolff	FRM		RESENTA					C. Pavne	
DRILLING EQUIPMENT Direct Push Geoprobe 6610DT DATE: START 05/11/2017 DRILLING EQUIPMENT Geoprobe 6610DT FINSH 05/12/2017 HORZONTAL DATUM (NAD 193 StatePlane New York East (US Feet)) BOREHOLE DEPTH 51 ft NORTHING 1077848.39 BOREHOLE DEPTH 51 ft EASTING 672305.99 VERTICAL DATUM (NAVD 88 (US Feet)) ELEVATION 638.52 ft VERTICAL DATUM (NAVD 88 (US Feet)) ELEVATION 638.52 ft Observations / Remarks Image: Comparison of the provide GRAVEL: Loce, trace fill, dry modil, grayteh town (107R 50) Image: Comparison of the provide GRAVEL: Loce, trace fill, dry modil, grayteh town (107R 50) 0 SILTY GRAVEL (0M) subangular, fine to comase grained GRAVEL: Loce, trace file to medium gravel, modil, organish town (107R 40) 0 0 SAMDY SILT (NLS) fine grained SAMD, medium dense, store fine to medium gravel, modil to wet, modiler, town to dark torwn (107R 50) 3 0 0 SAMDY SILT (NLS) fine grained SAMD, medium dense, store fine to medium gravel, modil to wet, modiler, torwn to dark torwn (107R 52) 5 0 0 SAMDY SILT (NLS) fine grained SAMD, medium dense, store fine to medium subcound gravel, modil to wet, modiler, brown to dark torwn (107R 52) 5 0 0 SAMDY SILT (NLS) fine grained SAMD, medium dense, store fine to medium subcound gravel, modil to wet, modiler, brown (107R 52) 5 0 0 </td <td></td> <td></td> <td></td> <td>Syracuse, NY</td> <td></td> <td></td> <td></td> <td></td> <td colspan="5">•</td>				Syracuse, NY					•				
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6 SANDY SILT (MLS) fine grained SAND; medium dense, moist, grayish brown (10YR 5/2), 5 0.1 6 SANDY SILT (MLS) fine grained SAND; medium dense, moist, grayish brown (10YR 5/2), MLS 21.7 6 SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subangular 6		- 4	=	SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subround		- 4	+		\{ }			-	
6 SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subangular gravel, moist to dry, mottled, dark gray to light gray (10YR 5/1), organic-like odor, [some dark staining] MLS 21.7 -GWL-B-01(5-6) [(5-6ft)] GRAVELLY SAND (GP-SP) fine grained SAND; loose, some rock fragments, dry, dark gray 7 - - -	-		_	gravel, moist to wet, reddish brown (5YR 5/4)	-	-	MLS		}}		0.1	-	
6 SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subangular gravel, moist to dry, mottled, dark gray to light gray (10YR 5/1), organic-like odor, [some dark staining] MLS 21.7 -GWL-B-01(5-6) [(5-6ft)] GRAVELLY SAND (GP-SP) fine grained SAND; loose, some rock fragments, dry, dark gray 7 - - -			-			-			$\left \left\{ \right\} \right $			-	
6 SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subangular 6			_	SANDY SILT (MLS) fine grained SAND; medium dense, moist, grayish brown (10YR 5/2	2),	- 5						-	
SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subangular gravel, moist to dry, mottled, dark gray to light gray (10YR 5/1), organic-like odor, [some dark staining] dark staining] GRAVELLY SAND (GP-SP) fine grained SAND: loose, some rock fragments, dry, dark gray			_	[light gray sand at top]	-	-	MLS				21.7	GWL-B-01(5-6) [(5-6ft)]	
SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subangular gravel, moist to dry, mottled, dark gray to light gray (10YR 5/1), organic-like odor, [some dark staining] dark staining] GRAVELLY SAND (GP-SP) fine grained SAND: loose, some rock fragments, dry, dark gray		6	_			- 6						-	
GRAVELLY SAND (GP-SP) fine grained SAND: loose, some rock fragments, dry, dark gray			_		-					99		F	
GRAVELLY SAND (GP-SP) fine grained SAND: loose, some rock fragments, dry, dark gray	-		-		-	_	MLS			38/3	3.1	-	
Big			-			- 7						-	
Image: Sandy Sill T (MLS) fine grained SAND; medium dense, trace wood, dry, reddish brown 7.5 MLS 0.4 8 (5YR 5/4), organic-like odor 8 MLS 3.4 630 SANDY SILT (MLS) fine grained SAND; medium dense, some rock fragments, dry to moist, dark reddish brown (5YR 2.5/2), organic-like odor 9 9 3.4 630 SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subround gravel, moist, brown (10YR 4/3), organic-like odor, [some dark staining, trace oxidation] 9 6.7 8 MLS 6.7 6.7 9 MLS 6.7	5/18		-		gray .		GP-SP	$^{\circ}$			0.4	-	
8 (5YR 5/4), organic-like odor 630 SANDY SILT (MLS) fine grained SAND; medium dense, some rock fragments, dry to moist, drx reddish brown (5YR 2.5/2), organic-like odor 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <td< td=""><td>DT 4/</td><td></td><td></td><td></td><td></td><td>_ 7.5</td><td>MLS</td><td></td><td></td><td></td><td>0.4</td><td>-</td></td<>	DT 4/					_ 7.5	MLS				0.4	-	
G30 SANDY SILT (MLS) fine grained SAND; medium dense, some rock fragments, dry to moist, dark reddish brown (5YR 2.5/2), organic-like odor MLS 8 3.4 G30 SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subround gravel, moist, brown (10YR 4/3), organic-like odor, [some dark staining, trace oxidation] MLS 8 6.7 REMARKS: Image: Direct push geoprobe sample	TE.GI	- 8	-			- 8	+						
Image: state of the state	APLA.		630-	SANDY SILT (MLS) fine grained SAND; medium dense, some rock fragments, dry to me	oist,	_	MLS				3.4	-	
Image: Solution of the grained SAND; medium dense, some fine to medium subround gravel, moist, brown (10YR 4/3), organic-like odor, [some dark staining, trace oxidation] 9	ATE		_	dark reddish brown (5YR 2.5/2), organic-like odor		_				8	-	-	
gravel, moist, brown (10YR 4/3), organic-like odor, [some dark staining, trace oxidation] MLS 6.7 REMARKS: Image: Direct push geoprobe sample Image: Direct push geoprobe sample	DAT		=	SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subround		- 9	+			48/4		-	
REMARKS: Image: Direct push geoprobe sample	ERN		_	gravel, moist, brown (10YR 4/3), organic-like odor, [some dark staining, trace oxidation]	-	_	MLS				6.7	-	
Mand Auger Direct push geoprobe sample	C.GPJ		_		-	-						_	
Bigg Image: Direct push geoprobe sample	SK S(REM	1ARK	S:									
Image	3W LI	$\Box \Sigma$											
BORING	900												
	SING L												
	BOF												

		6	5788 Widewaters Pkwy G.W. Lisk		- 11			BORING # B-01					
	N	Ų	Syracuse, New York 13212 Site Characteriz P: 1-315-445-2554	ation				ERM PROJECT # 0346372					
	ER	M		SHEET 2 OF 6									
	DRI	LLIN	G CONTRACTOR Parratt Wolff Syracuse, NY	ERM REPRESENTATIVE J. Reynolds/ C.Payne OFFICE LOCATION Syracuse, NY							2		
			G FOREMAN L. Petch					Syracuse, NY 05/11/2017					
			G METHOD Direct Push G EQUIPMENT Geoprobe 6610DT	DATE: START 05/11/2017 FINISH 05/12/2017									
			NTAL DATUM (NAD 1983 StatePlane New York East (US Feet))	BOF		E DEPTH	1		51				
			RTHING 1077848.39	BOREHOLE DIAMETER 2 in									
		EAS	GTING 672305.99										
	VEF	RTICA	L DATUM (NAVD 88 (US Feet)) ELEVATION 638.52 ft					_					
										SAN	IPLING DATA		
		7					GRAPHIC LOG	ΡE		đ			
		ELEVATION					L C	SAMPLE TYPE	RECOVERY	(ppm) eV Lamp	Observations / Remarks		
	DEPTH	-A-	STRATA DESCRIPTION		рертн	S	ЧЧ∀	JPL	õ	(pp √e√			
	DEF	ELE			DEI	nscs	GR,	SAN	RE(PID (
	-		SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subangu		_						-		
	_		gravel, trace cobbles, some wood; moist to wet, gravish brown (10YR 5/2), organic-like odor, [trace oxidation]	•	_	MLS				3.5	-		
	_	_			- - 11 -				48/48		-		
	-	_	SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subangu	ular	-				48		_		
	_	_	gravel, some roots, moist, mottled, grayish brown (10YR 5/2), organic-like odor		-	MLS		2.2	-				
	- 12	_			- 12						-		
	_	_	SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subangu gravel moist mottled dark grav to reddish brown (SVR 3/2) organic-like odor	ular	_						-		
	gravel, moist, mottled, dark gray to reddish brown (5YR 3/2), organic-like odor					MLS				4.2	-		
						WILS					-		
	-	-			-						-		
	_	625 - -	CLAYEY SILT (MH) firm, trace fine to medium subangular gravel, moist, reddish brown	13 1	_ 13.5 - _	МН			~	0.2	-		
	— 14		(5YR 4/3), organic-like odor		- 14 -				48/48		_		
	-	_	SANDY SILT (MLS) fine grained SAND; medium dense, moist, mottled, reddish brown		-	MLS					-		
	-	=	(5YR 4/3), organic-like odor		- - 14.8 -	SP /-					-		
	_	=	SAND (SP) fine to medium grained SAND; medium dense, moist, reddish brown (5YR 4	4/3),	_ 14.9	MLS/					-		
	-		SANDY SILT (MLS) fine grained SAND; medium dense, some fine to coarse subangula	/	_ 15.5 -	SM					-		
	_	_	gravel, moist, reddish brown (5YR 4/3)	a	_	CL-ML					-		
	— 16 -	=	SILTY SAND (SM) fine grained SAND; dense, some wood, some fine to medium	_ [— 16 - —						-		
	_	_	subangular gravel, moist, reddish brown (5YR 4/3), [trace dark staining]		_	MLS					-		
	-	_	SILTY CLAY (CL-ML) low plasticity, dense, trace roots, dry to moist, light gray (10YR 7.	7/1)	- - 17 -					0	-		
18	_	_	SANDY SILT (MLS) fine grained SAND; loose, some fine to coarse subangular gravel,		- 17.3 -					0	-		
4/5/	_		moist to wet, dark brown (10YR 3/3), organic-like odor	_//	_	MLS					-		
.GDT	- 18	-	COBBLES		- 18 -				42/48		-		
LATE	_	-	$_{\rm V}^{\rm I}$ SANDY SILT (MLS) fine grained SAND; medium dense, trace clay, some fine to mediu	ım /	_				42		-		
TEMP	_	620-	subround gravel, moist, reddish brown (5YR 4/3)	/	_	MLS					-		
ATA 1	-	=	SANDY SILT (MLS) fine grained SAND; medium dense, some brick fragments, some	_	- - 19 -						-		
RM D	_	=	\wood, trace cobbles; moist, reddish brown (5YR 4/3), organic-like odor	_/_	19.3 -						-		
P) EI	_	_	COBBLES	/	_	MLS					-		
SC.GI	DEN	<i>M</i> ARK	SANDY SILT (MLS) fine grained SAND; medium dense, moist to wet, mottled, reddish										
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18		vi/AFXIN											
МÐ	$\left \right\rangle \right\rangle$	Hand	Auger Direct push geoprobe sample										
LOG													
RING													
BO													

	2	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554 Site Characteriz	ation						G # B-0 DJECT #	
ERM	M							ET 3		
DRILL	LING	S CONTRACTOR Parratt Wolff Syracuse, NY			ESENTA				Reynolds/	-
		G FOREMAN L. Petch		E: STAF	CATION			-	yracuse, N 5/11/2017	ΙΥ
		G METHOD Direct Push G EQUIPMENT Geoprobe 6610DT	DAI	FINIS					5/12/2017	
		ITAL DATUM (NAD 1983 StatePlane New York East (US Feet))	BOF			1			ft	
		RTHING 1077848.39			DIAME			2 i	in	
E	EAS	TING 672305.99								
VERT	ICA	L DATUM (NAVD 88 (US Feet)) ELEVATION 638.52 ft								
						(1)				IPLING DATA
DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS		SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
_		brown (5YR 4/3), organic-like odor, [some oxidation]		20 		.				-
-	_	COBBLES	_/	_	SM					-
-		SILTY SAND (SM) fine grained SAND; soft, some roots, moist, dark brown (10YR 3/3)		- - 21 -						-
-	-	SAND (SP) poorly graded, fine grained SAND; loose, trace silt, trace fine subangular		-	SP					-
-	_	gravel, moist, mottled, dark brown (10YR 3/3)		_ 21.5 -				ŝ		-
— 22	-	SAND (SP) fine grained SAND; loose, moist, pale brown (10YR 6/3)						45/48		_
-	_			-				•		-
-	_			-	SP					-
-	_			-						-
6	615-			_						-
- 24	-			- 24						-
-	_	SAND (SP) fine grained SAND; loose, moist, light brown (10YR 6/3)		-						-
-	_			-	SP					-
-	_	CAND (CM) well graded fine to medium grained CAND, loop, do to maint light have		- - 25 -		• • • • •			о	-
-	-	SAND (SW) well graded, fine to medium grained SAND; loose, dry to moist, light brown (10YR 6/3)		-						-
_				_			1	m		-
26	-							44/48		
_	_			_				N		-
-	-			-						-
_ ∞ _	_			-						-
4/5/1	_			_	SW					-
LOD 28	-			-						_
-ATE-				_						-
IGM - 6	610-			-						-
				-				42/48		-
MP -	-			-		• • • • • • • • • • • • • • • • • • •		4		-
	_			_						-
	٩RK	S:				` 。 `。			1	1
% [<u>{</u> {}} H	land	Auger Direct push geoprobe sample								
ING L										
BOR										

ſ		6	5788 Widewaters Pkwy G.W. Lisk				E	301	RING	6# B-0	1
	N	Ų	Syracuse, New York 13212 Site Characteriz P: 1-315-445-2554 Site Characteriz	ation						JECT #	0346372
	EK DRI		G CONTRACTOR Parratt Wolff	FRI		ESENTA			ET 4	OF 6 Reynolds/	/ C. Pavne
			Syracuse, NY			CATION				/racuse, N	•
			G FOREMAN L. Petch G METHOD Direct Push	DAT	E: STA	RT				5/11/2017	
			G EQUIPMENT Geoprobe 6610DT		FIN				05	5/12/2017	
	HO		NTAL DATUM (NAD 1983 StatePlane New York East (US Feet))						51		
			RTHING 1077848.39 STING 672305.99	BOI	KEHOLI	EDIAME	IER		2 i	n	
	VEF		L DATUM (NAVD 88 (US Feet)) ELEVATION 638.52 ft								
ľ										SAM	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
		_	SAND (SW) well graded, fine to medium grained SAND; loose, dry to moist, light brown	ı	_		• • • • • • • • • • • •				-
	-		(10YR 6/3)(Continued)		-						-
	-	_			-		•••••		42/48		-
	_	_			-	sw	•••••• ••••••		4		-
	-	_			_	300					-
	— 32 -	_			_						-
	-	_			_						-
	-	_			- - 33 -						
ŀ	_	_	SAND (SP) fine grained SAND; loose, moist, light brown (10YR 6/3)			SP	\sim 1				
	-	605-	GRAVELLY SAND (GP-SP) well graded, fine to medium grained SAND; subangular, fir	ne to	-		\circ				-
	- 34	_	medium grained GRAVEL; loose, moist, light brown (10YR 6/3)		_	GP-SP			48/48		
	-	_			-	GF-GF	$\sim \bigcirc \sim <$		ব		-
	-	_			_		\circ			_	-
	-	_	SAND (SP) well graded, fine to medium grained SAND; loose, moist, light brown (10YR	R 6/3)	- 35 - -		61.0			0	-
	-				-	SP					-
	- 36	_			- 36 -						-
	_	_	SAND (SP) well graded, fine to coarse grained SAND; loose, some fine subround grave moist, light brown (10YR 6/3)	el,	_						-
	-	_			_						-
	-	_			_	SP					-
4/5/18	-	_			_						
GDT	- 38	_			-				45/48		-
LATE.	- 30	=	SAND (SP) fine grained SAND; medium dense, trace chert, trace fine gravel, moist, rec	ddish	38 - 38.2 -	SP	//////		45/		-
LEMP	-	600-	\brown (5YR 4/3)		- - 38.6 -	CL					-
- ATA	-	_	CLAY (CL) low plasticity, stiff, moist, reddish brown (5YR 4/3) GRAVELLY SAND (GP-SP) fine to medium grained SAND; subrounded, fine to mediur	/ 	- - 39 -	GP-SP					-
ERM D	-	_	grained GRAVEL; medium dense, moist, reddish brown (5YR 4/3)	<u> </u>	- - 39.5 -	CL					-
GPJ F	-	_	CLAY (CL) low plasticity, dense, some fine sand lenses, dry to moist, mottled, reddish		_	SP					-
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18	REM	MARK	S:			·I					
SW LIS			· · · · · ·								
000	\sum	Hand	Auger Direct push geoprobe sample								
SING L											
BOF											

	5788 Widewaters Pkwy G.W. Lisk			во	RING	# B-0	1
	Syracuse, New York 13212 Site Characteriz P: 1-315-445-2554	ation				JECT #	0346372
ERM	NG CONTRACTOR Parratt Wolff				ET 5		C Davina
	Syracuse, NY	ERM REPR		VE		racuse, N	′ C.Payne Y
	NG FOREMAN L. Petch NG METHOD Direct Push	DATE: STA			-	/11/2017	
	NG EQUIPMENT Geoprobe 6610DT	FINI	SH		05	/12/2017	
	DNTAL DATUM (NAD 1983 StatePlane New York East (US Feet))	BOREHOLI			51		
	ORTHING 1077848.39 ASTING 672305.99	BOREHOLI	E DIAME I E	R	2 ii	ו	
	CAL DATUM (NAVD 88 (US Feet)) ELEVATION 638.52 ft						
						SAN	IPLING DATA
DEPTH ELEVATION	STRATA DESCRIPTION	DEPTH	USCS USCS	GRAPHIC LOG SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
_			GP-SP (-
	SAND (SP) fine to medium grained SAND; loose, moist, reddish brown (5YR 4/3)	40.7					-
-	GRAVELLY SAND (GP-SP) poorly graded, fine to medium grained SAND; subangular,		CL	////			-
	CLAY (CL) medium dense, moist, reddish brown (5YR 4/3)	/ F					-
-	SAND (SP) poorly graded, fine to medium grained SAND; loose, trace fine subround gr	ravel,	SP		84		-
— 42 -	wet, brown (10YR 4/3)	_			48/48		-
	-	-					-
-	SAND (SP) fine grained SAND; medium dense, trace fine subround gravel, wet, brown						-
- - 595	(10VP 4/3)	43.5 -	SP				-
_ 595	SANDY SILT (MLS) firm, wet, light brown (10YR 6/3)	43.8	MLS SP				-
— 44 -	SAND (SP) fine grained SAND; firm, wet, brown (10YR 4/3), [some dark discoloration]						-
	 SAND (SP) fine grained SAND; dense, moist to wet, light brown (10YR 6/3) 	_	SP				-
-		45 -				0	-
-	 SAND (SP) fine grained SAND; medium dense, some fine to medium subround gravel, moist to wet, light brown (10YR 6/3) 	_	SP				-
	-	-	J.		œ		-
— 46 -	GRAVELLY SAND (GP-SP) poorly graded, fine to medium grained SAND; subangular,	fine 46 -	0		15/48		-
	to coarse grained GRAVEL; medium dense, trace silt, moist, mottled, brown (10YR 4/3	i),		\mathcal{O}			-
-	_ [trace oxidation]	_	0				-
5/18	-	_		\mathcal{O}			-
	-	_	GP-SP	3.			-
9 – 48	-		0) (-
590	-	_		<u>}</u> °<			-
	-	49 -	0 () C	18/36		-
	GRAVELLY SILT (GM) dense, some fine sand, some fine to coarse subangular gravel some cobbles; wet, brown (10YR 4/3)		0.01		18		-
		_	GM Po				-
BORING LOG GW LISK SC. GPJ ERM DATA TEMPLATE.GDT 4//5/14	IKS:						1
	—						
ິຍ∐{{} Har	Direct push geoprobe sample						
RINGL							
BOF							

		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 Site Characteriz							6# B-0	
Ē	R	M	P: 1-315-445-2554						1 PRO ET 6	JECT # OF 6	0346372
			G CONTRACTOR Parratt Wolff Syracuse, NY G FOREMAN L. Petch	OFF	ICE LO	ESENTA CATION			Sy	Reynolds/ /racuse, N	
E	DRII	LLIN	G METHOD Direct Push G EQUIPMENT Geoprobe 6610DT	DAT	E: STAF FINIS					5/11/2017 5/12/2017	
			NTAL DATUM (NAD 1983 StatePlane New York East (US Feet))	BOF		DEPTH			51		
			RTHING 1077848.39	BOF	REHOLE	DIAME	TER		2 i	n	
ι.	/FR		STING 672305.99 AL DATUM (NAVD 88 (US Feet)) ELEVATION 638.52 ft								
										SAM	IPLING DATA
ЛЕРТН		ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
-		_	SILTY SAND (SM) fine grained SAND; dense, some fine to coarse subangular gravel,		50						-
-			some rock fragments, saturated, brown (10YR 4/3), [EOB @ 51ft.]		-	SM			18/36	0	-
_		=			- - 51 -						-
-		_			-						-
-	52	-			-						-
-		_			-						-
-		-			-						-
-		-			-						-
-		585—			-						-
_	54	-			-						-
-		_			-						-
_		-			_						-
_		-			_						-
-					_						-
-	56	-									
-		_			-						-
-		-			-						-
5/18		_			-						-
DT 4/		-			-						-
ATE.G	58	-			-						-
LEMPL		580-			-						-
		-			-						-
ERM		_			_						-
C.GPJ		_			-						-
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18		/ARK Hanc	Auger Direct push geoprobe sample								
SING LC											
BOF											

9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 Site Characteriz							G # B-0 DJECT #	
ERM								OF 3	
DRILLING	G CONTRACTOR Parratt Wolff Syracuse, NY			ESENTA				Reynolds/ /racuse, N	-
	G FOREMAN L. Petch G METHOD Direct Push	-	E: STA					5/11/2017	1
	G EQUIPMENT Geoprobe 6610DT		FINI	SH			05	5/12/2017	
	NTAL DATUM (NAD 1983 StatePlane New York East (US Feet))			E DEPTH			28		
	RTHING 1077753.3 STING 672353.35	BOF	REHOLE	E DIAME	TER		2 i	n	
	AL DATUM (NAVD 88 (US Feet)) ELEVATION 639.42 ft								
								SAN	IPLING DATA
DEPTH ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	[asphalt]		- 0.3 -			}}			-
	SANDY GRAVEL (GP-SP) fine grained SAND; subangular, fine to coarse grained GRAVEL; loose, trace silt, moist, reddish brown (5YR 4/3)	-	-	GP-SP	$^{\circ}$			0	-
_ =	SANDY SILT (MLS) fine grained SAND; medium dense, some clay, some roots, some	fine	- 1 -						-
	to medium subangular gravel; moist, dark reddish brown (5YR 3/3), organic-like odor	-	-	MLS				0.5	-
2		-	- 2						-
	SANDY SILT (MLS) fine grained SAND; loose, trace asphalt, some roots, some rock fragments; moist, reddish brown (5YR 4/3), organic-like odor	-	-	MLS		}}	60/60	0.2	-
		-	_	IVILS			60/	0.2	-
	SILT (ML) loose, some wood, some asphalt, moist, dark reddish brown (5YR 3/3),		- 3 -						-
	organic-like odor	-	-	ML		}}		1.8	-
- 4 =	CLAVEX SILT (CLML) modium dance, some fine and some fine to seeme subargulation	or	- 4 -						-
 - 635	CLAYEY SILT (CL-ML) medium dense, some fine sand, some fine to coarse subangula gravel, some cobbles	ai	-	CL-ML				0.9	-
		-	-						-
	GRAVELLY SAND (GP-SP) fine grained SAND; fine grained GRAVEL; medium dense,	,	- 5 -		°\'				-
	some silt, saturated, gray (10YR 5/1)	-	-	GP-SP				1.9	-
- 6 -	SANDY SILT (MLS) fine grained SAND; medium dense, some fine to coarse subangula	ar	- 6 -		° (\ °				-
[gravel, moist, gray (10YR 5/1), organic-like odor	-	_	MLS			36/36	2	-
			- 7				ĕ		-
	SANDY SILT (MLS) fine grained SAND; medium dense, trace clay, some fine to mediu subangular gravel, moist, gravish brown (10YR 5/2), organic-like odor	ım	-	MLS					-
	SANDY SILT (MLS) fine grained SAND; dense, some clay, some fine to medium	-	7.5	MLS				2.1	-
- 8 -	subangular gravel, moist, reddish brown (5YR 4/3), organic-like odor	-	- 8						
	SANDY SILT (MLS) fine to coarse grained SAND; medium dense, some clay, some fin	ie to	-						-
	medium subangular gravel, some wood; moist, mottled, grayish brown (10YR 5/2), organic-like odor, [some dark discloloration]	-	_	MLS			30/48		-
 - 630-		-	_				30		-
		-	-					2.9	—GWL-B-02(9-11) [(9-11ft)] - -
REMARK	íS:								
{ { Hanc	Auger Direct push geoprobe sample								

BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18

ſ		0	5788 Widewaters Pkwy G.W. Lisk				E	30	RING	6 # B-0	2
	N	Ų	Syracuse, New York 13212 Site Characteriz P: 1-315-445-2554	ation						JECT #	0346372
	ER	M	G CONTRACTOR Parratt Wolff						ET 2 (C Davina
			Syracuse, NY		/I REPR					racuse, N	/ C.Payne IY
			G FOREMAN L. Petch G METHOD Direct Push		E: STAF		•		-	/11/2017	
			G EQUIPMENT Geoprobe 6610DT		FINIS	SH			05	/12/2017	
ľ	HOF	RIZO	NTAL DATUM (NAD 1983 StatePlane New York East (US Feet))	BOF	REHOLE	E DEPTH	1		28	ft	
			RTHING 1077753.3	BOF	REHOLE	E DIAME	TER		2 ir	n	
			STING 672353.35								
ŀ	VER	CTIC/	AL DATUM (NAVD 88 (US Feet)) ELEVATION 639.42 ft					<u> </u>		SAM	IPLING DATA
							g	Щ			
		NO					GRAPHIC LOG	SAMPLE TYPE	Ϋ́	(ppm) eV Lamp	
	Ŧ	/ATI	STRATA DESCRIPTION		Ŧ	S	HH	РГШ	OVE	ppm eV L	Observations / Remarks
	рертн	ELEVATION			DEPTH	nscs	GRA	SAM	RECOVERY	PID (
	-		SILTY SAND (SM) fine grained SAND; medium dense, trace fine to coarse gravel, mois	st to					_		-
	-		wet, grayish brown (10YR 5/2), organic-like odor		_	SM				2.9	- GWL-B-02(9-11) [(9-11ft)]
ł	-	_			- - 11				30/48		-
	-	-	SILTY SAND (SM) fine grained SAND; medium dense, trace fine to coarse subangular						30		-
ŀ	-	_	gravel, some wood, trace cobbles; moist to wet, gravish brown (10YR 5/2), organic-like	odor	_	SM				2.6	-
	- 12	Ξ	SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium subangu	lar	_ 12 _						-
	-	_	gravel, some asphalt, some roots; dry to moist, dark brown (10YR 3/3), [some glass, so		_					0.6	-
ľ	-	_	wire debris, some wood]		_					0.0	-
	-	_			_	MLS					-
ł	-				_					2	-
	-	_			-				48		-
	- 14 -	_	SANDY SILT (MLS) fine grained SAND; medium dense, some fine subangular gravel, r	moist	— 14 -				47/48		-
	-	625-	to dry, mottled, grayish brown (10YR 5/2)		-	MLS				1.5	-
	-	=			- - 15 -						-
	-	_	SILTY SAND (SM) fine grained SAND; medium dense, trace fine to medium subangula gravel, dry to moist, light brown (10YR 6/3)	r	-	SM					-
	-	_	SANDY SILT (MLS) fine grained SAND; medium dense, trace clay, trace fine subangul	ar	_ 15.5 - _	MLS				1.4	-
ł	— 16 -	=	gravel, dry to moist, mottled, brown (10YR 4/3), [some oxidation]		16	0.0					
	-		SAND (SP) fine grained SAND; medium dense, trace silt, moist to dry, mottled, light bro	own	16.5	SP				1.1	-
	-	_	(10YR 6/3)		-	SP					-
8	-	_	SAND (SP) poorly graded, fine to medium grained SAND; medium dense, trace silt, mo	oist /	- 17 - -						-
4/5/1	-		to dry, grayish brown (10YR 5/2)		_	MLS				1.5	-
GDT	- 18	=	SANDY SILT (MLS) fine grained SAND; dense, some fine to medium subround gravel, moist, mottled, reddish brown (5YR 4/3), [some oxidation]	_	- 18				42/48		-
LATE	-	_	SAND (SP) fine grained SAND; medium dense, moist to dry, light brown (10YR 6/3)		_				42		-
TEMF	-	_			_	SP				0.8	-
ATA	-	-	SAND (SP) fine grained SAND; medium dense, moist to dry, light brown (10YR 6/3)		- 19						-
RM [-	620-			-	SP				0.1	-
GPJ E	-	-			_					0.1	-
K SC.	REN	/ARK	(S:			I	B				1
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18			_								
9 90		Hand	d Auger Direct push geoprobe sample								
NGL											
BORI											

		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 Site Characteriz	ation						6 # B-0	
	ER	M	P: 1-315-445-2554							OF 3	0340372
	DRI	LLIN	G CONTRACTOR Parratt Wolff Syracuse, NY		M REPRI					Reynolds/ /racuse, N	•
			G FOREMAN L. Petch G METHOD Direct Push		TE: STAF				-	5/11/2017	I
	DRI	LLING	G EQUIPMENT Geoprobe 6610DT		FINIS					5/12/2017	
	HOF		NTAL DATUM (NAD 1983 StatePlane New York East (US Feet)) RTHING 1077753.3		REHOLE REHOLE				28 2 i		
			STING 672353.35	201							
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 639.42 ft					-		6 414	
							Ŋ	ш			IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
_		_	SAND (SP) poorly graded, fine to medium grained SAND; medium dense, dry to moist,	light	20						-
E			brown (10YR 6/3)		_						-
-		_			_						-
F					_						-
-	- 22	_			-				36/48		-
_					-				e		-
E		_			_	SP					-
E		_				58					-
E		_			_						-
-	- 24	_			_					0	-
_		615-			_						-
_		_			_						-
_		_			-						-
E	- 26	_			_ 26				47/48		-
_	- 20	_	SAND (SP) well graded, fine to coarse grained SAND; medium dense, some fine to medium subround gravel, dry to moist, light brown to gray (10YR 5/2), [EOB @ 28ft]						47,		-
-		_			-						-
- ∞ -		_			_	SP					-
F 4/5/1					_						-
TE.GD	- 28	-			28						-
MPLA		_									-
ATA TE		-			- -						-
RM D/		_ 610_			-						-
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18		_			-						-
SK SC.	REN	/ARK	(S:								
GW LI:	$\overline{\mathbf{X}}$	Hand	Auger Direct push geoprobe sample								
5 LOG											
SORING											
шL											

DRILLING DRILLING DRILLING HORIZOI NOF EAS	G CONTRACTOR Parratt Wolff Syracuse, NY G FOREMAN L. Petch G METHOD Direct Push G EQUIPMENT Geoprobe 6610DT NTAL DATUM (NAD 1983 StatePlane New York East (US Feet) RTHING 1077722.3 STING 672401.76 AL DATUM (NAVD 88 (US Feet)) ELEVATION 637.70 ft	OFF DAT) BOF	TICE LO E: STA FINI REHOL		1	Sy 05 05	Reynolds, /racuse, N 5/11/2017 5/11/2017 ft in	•
DEPTH ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LOG	SAMPLE TYPE RECOVERY	PID (ppm) 11.7 eV Lamp	IPLING DATA Observations / Remark
- 2 - - - 635-	[asphalt] SANDY GRAVEL (GP-SP) fine grained SAND; angular, fine to coarse grained GRAV loose, trace silt, dry to moist, grayish brown (10YR 5/2) CLAYEY SILT (CL-ML) medium dense, some roots, trace asphalt, some fine to coars subangular gravel; moist, reddish brown (5YR 4/3) CLAYEY SILT (CL-ML) non plastic, medium dense, some roots, trace asphalt, little of subround gravel; moist, reddish brown (5YR 4/3)	se oarse	- 0.3 · · · · · · · · · · · · · · · · · · ·	GP-SP CL-ML CL-ML		60/60	0.4	
- 4 = - - - - - -	SILTY SAND (MLS) fine grained SAND; medium dense, trace fine to medium subrou gravel, trace roots, moist to wet, reddish brown (5YR 4/3) SANDY SILT (SM) fine grained SAND; medium dense, some fine to medium subrou gravel, moist to wet, reddish brown (5YR 4/3) SANDY SILT (MLS) fine grained SAND; dense, some fine to coarse subangular gravel	nd .	- - - - - - - - - - - - - - - - - - -	MLS SM			0	- - - - - - - -
- 6 - - - - - - - -	trace roots, moist, dark gray (10YR 4/1) SANDY SILT (MLS) fine grained SAND; medium dense, some fine to coarse subang gravel, moist to wet, mottled, brown (10YR 4/3) SILTY SAND (SM) fine grained SAND; medium dense, some fine to coarse subangu gravel, wet, mottled, brown to dark brown (10YR 3/3), [trace oxidation]		6 6 6 7 7	MLS MLS SM		25/36	0.4	- - - - - - - - - -
630 - 8 = - - - - - -	SANDY SILT (MLS) fine grained SAND; medium dense, trace organics, some fine to coarse subangular gravel, moist to wet, mottled, grayish brown to dark brown (10YR		- - - - - - - - - - - -	MLS		46/48	1.2	- - - - - - - - - - - - - - - - - - -

		5	5788 Widewaters Pkwy Svracuse, New York 13214 Site Characteriz	ation			E	30	RING	i# B-0	3
E	R	M	Syracuse, New York 13214 Site Characteriz P: 1-315-445-2554	ation					1 PRO ET 2 (JECT # 0 DF 3	0346372
Di	RIL RIL	LIN(G CONTRACTOR Parratt Wolff Syracuse, NY G FOREMAN L. Petch G METHOD Direct Push G EQUIPMENT Geoprobe 6610DT	OFF					Sy 05/	Reynolds/ racuse, N /11/2017 /11/2017	′ C.Payne Y
		NOF EAS	NTAL DATUM (NAD 1983 StatePlane New York East (US Feet)) RTHING 1077722.3 STING 672401.76 AL DATUM (NAVD 88 (US Feet)) ELEVATION 637.70 ft			E DEPTH E DIAME ⁻			24 2 ir		
										SAM	IPLING DATA
DEPTH		ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
		-	SILTY SAND (SM) fine grained SAND; medium dense, some fine to medium subangula gravel, some cobbles, moist, reddish brown (5YR 4/3) SAND (SP) fine grained SAND; medium dense, trace organics, moist to wet, light brow (10YR 6/3), [trace oxidation]		- - _ 10.7 -	SM			46/48	0.9	-
-	12	-	GRAVELLY SAND (GP-SP) fine grained SAND; subrounded, fine to medium grained		- - - - 12 -	SP	ر ر		4	0.3	-
-		- 625- =	GRAVEL: rooked (of sol) mic grained Grave, subsolutee, mic to medium grained GRAVEL; medium dense, trace silt, moist to wet, light brown (10YR 6/3) SILTY SAND (SM) fine grained SAND; medium dense, some fine to medium subround		- - - - 13 -	GP-SP				1.1	-
-	14	=	gravel, some clay, moist to wet, light brown (10YR 6/3) GRAVELLY SAND (GP-SP) fine grained SAND; coarse grained GRAVEL; loose, moist \brown (10YR 4/3)		- - 13.5 - _ 13.7 - - 14 -	SM GP-SP SP			43/48	0.9	- - - -
-		-	SAND (SP) fine grained SAND; dense, trace silt, moist, mottled, brown (10YR 4/3) SANDY SILT (MLS) fine grained SAND; dense, trace fine gravel, moist, mottled, light b (10YR 6/3)	rown	14.5 - 	MLS			7	0.5	-
-	16		SAND (SP) fine grained SAND; medium dense, trace silt, moist, light brown (10YR 6/3) SAND (SP) fine grained SAND; medium dense, dry to moist, light brown (10YR 6/3)	,	- - - - 16	SP				0.3	-
		-			- - -					0.8	-
ATE.GDT 4/5/18	18	- 620 -			- - - 	SP			43/48	0.3	-
GPJ ERM DATA TEMPLA					-					0	-
		– ARK Hanc	S:			· • • •					

ſ		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 Site Characteriz							6# B-0	
	ER	M	P: 1-315-445-2554	Lation					1 PRC	OJECT # OF 3	0346372
			G CONTRACTOR Parratt Wolff Syracuse, NY G FOREMAN L. Petch		M REPR					Reynolds/ /racuse, N	
	DRI	LLIN	G METHOD Direct Push G EQUIPMENT Geoprobe 6610DT	DA	TE: STAF FINIS					5/11/2017 5/11/2017	
ł	HOF		NTAL DATUM (NAD 1983 StatePlane New York East (US Feet))		REHOLE				24	ft	
			RTHING 1077722.3 STING 672401.76	BO	REHOLE	DIAME	TER		2 i	n	
	VEF		L DATUM (NAVD 88 (US Feet)) ELEVATION 637.70 ft								
							DC	Щ			IPLING DATA
_	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-		SANDY SILT (MLS) fine grained SAND; dense, some clay, some fine to medium		20.3	SP					-
	-	_	subangular gravel, moist, reddish brown (5YR 4/3)		-	MLS					-
	-	-			_						-
	-		SAND (SP) fine grained SAND; medium dense, moist, light brown (10YR 6/3), [EOB @ 24ft.]	0	21.5				48		-
	- 22 -	-	,		_				47/48	0	-
	-	- 615-			_	SP					-
	-	-			_						-
	-	_			_						-
	— 24 -	-			24 _ _						-
	-	_			_						-
	-	-			_						-
	-	_			-						-
	- 26	-									-
	-	-			-						-
	-	-			_						-
4/5/18	-	_ 610—			_						-
re.gdt	- — 28	-			_						-
MPLA	-	-			_						-
ATA TE	-	_			_						-
ERM D	-	-									-
SC.GPJ	- DE:	44.5	20.		-						_
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18	REN	MARK	5:								
MĐ ĐC	$\left \right\rangle \right\rangle$	Hand	Auger Direct push geoprobe sample								
SING LC											
BOF											

ERM	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554	DJECT: G.W. Lisł Site Characteri					ERI		G # B-0 DJECT # OF 3	
DRILLING	G CONTRACTOR Parratt Wolf Syracuse, N G FOREMAN R. Trask G METHOD Direct Push G EQUIPMENT Geoprobe 6	Y	OF	M REPRI FICE LO TE: STAF FINIS	CATIC RT		ĪVE	Sy 07	Reynolds/ /racuse, N 7/17/2017 7/17/2017	′ T. Daniluk Y
NOF EAS	NTAL DATUM (NAD 1983 StatePla RTHING 1078028.61 TING 672332.97 L DATUM (NAVD 88 (US Feet))			REHOLE REHOLE			ER	20 2 i).5 ft in	
									SAMPLI	NG DATA
DEPTH ELEVATION	STRATA DESC	RIPTION	DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	SPT	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remark
	[asphalt]	_	0.3 -			}}				-
- – - – _ 605– - –	GRAVELLY SAND (GP-SP) poorly graded, f rounded, fine to coarse grained GRAVEL; loc GRAVELLY SAND (GP-SP) fine grained SA	ose, dry, brown (10YR 4/3) ND; subrounded, fine to medium	1	GP-SP					0.5	-
	grained GRAVEL; loose, trace silt, dry to mo	ist, brown (10YR 4/3)		GP-SP		}}			0.8	-
2	GRAVELLY SAND (GP-SP) fine grained SAI grained GRAVEL; loose, some silt, some col to moist, brown (10YR 4/3)	-	- 2	GP-SP				60/60	0.1	-
	SILTY SAND (SM) fine grained SAND; loose gravel, dry to moist, light brown (10YR 6/3)	e, trace fine to medium subround	3 -	SM						-
- 4 -	SILTY SAND (SM) fine grained SAND; loose medium subround gravel, dry to moist, brown		- 4	SM						
- 6 ⁶⁰⁰ -	GRAVELLY SAND (GP-SP) poorly graded, f to medium grained GRAVEL; loose, dry, brow		- 5	GP-SP				24/36	0	- - - - - - - - -
 		-	0						0.1	-
- 8 -	SILTY SAND (SM) fine grained SAND; loose gravel, dry, reddish brown (5YR 4/3)	e, some fine to medium subangular	- 8 -	SM		\bigvee	5 22	24	0.2	- - - -
 	GRAVELLY SAND (GP-SP) fine grained SAI grained GRAVEL; loose, dry to moist, brown	-	9 -	GP-SP		\mathbb{N}	22 15 15	15/24	0.1	
REMARK	<u></u>	lit Spoon						1	1	1

		•	PROJECT: 5788 Widewaters Pkwy G.W. Lis					во	RING	6# B-0)4
	N	Į	Syracuse, New York 13212 Site Characte P: 1-315-445-2554	rizatio	ו					JECT #	0346372
		M	G CONTRACTOR Parratt Wolff	FF	RM REPR	FSEN	τΔΤ		EET 2		/ T. Daniluk
			Syracuse, NY		FICE LO					racuse, N	
			G FOREMAN R. Trask G METHOD Direct Push	DA	ATE: STAF	RT				/17/2017	
			G EQUIPMENT Geoprobe 6610DT		FINIS					/17/2017	
	HOP		NTAL DATUM (NAD 1983 StatePlane New York East (US Feet RTHING 1078028.61)REHOLE)REHOLE			FR	20 2 i	.5 ft n	
			STING 672332.97								
	VER	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 605.93 ft				i				
						U	ш				NG DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION	DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	SPT	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
_		<u> </u>	GRAVELLY SAND (GP-SP) fine grained SAND; subangular, fine to medium				ŝ	0	2	₽ ←	
E		-	grained GRAVEL; loose, some silt, moist, brown (10YR 4/3)	-	GP-SP	$\sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i$	\mathbb{N}				
E		- 595-		- - 11		$^{\circ}$	¥.	4 5	9/24		_
F		_	GRAVELLY SAND (GP-SP) fine grained SAND; subrounded, fine to medium grained GRAVEL; loose, some silt, moist, brown (10YR 4/3)	-			$\left \right $	3 3	õ		-
-		-		_	GP-SP		$ \rangle$				-
-	- 12	-	SANDY SILT (MLS) fine grained SAND; firm, trace clay, some fine subangular	— 12 -			\neg				-
Ē		-	gravel, moist, reddish brown (5YR 4/3)	-			\mathbb{N}	5			-
-				_	MLS		X	12 17	6/24		-
F		_		_			\mathbb{N}	20	Ű		-
-		-		_			$ \rangle$				-
F	- 14	_	SANDY SILT (MLS) fine grained SAND; firm, trace coarse subangular, wet,	— 14 —							-
-		-	grayish brown (10YR 5/2)	_	MLS		\mathbb{N}	10			-
F			SILTY SAND (SM) fine grained SAND; firm, wet, gravish brown (10YR 5/2)	- - 15	-		X	40 40	2/24	0	-
-		_	SILTESAND (Sivi) line grained SAND, linn, wel, grayish blown (10TR 5/2)	- - 15.5	SM		\mathbb{N}	38	-		-
-		- 590-	SILTY SAND (SM) fine grained SAND; firm, some fine to coarse angular gravel, wet, brown (10YR 4/3)	_	SM		$ \rangle$				-
F	- 16	-	SILTY SAND (SM) fine grained SAND; soft, saturated, brown (10YR 4/3)	— 16 —							-
F		_		-	SM		\mathbb{N}	15			
-		-	SANDY SILT (MLS) fine grained SAND; firm, wet, brown (10YR 4/3)	- 17	MLS		XI	18 18	24/24		
4/5/18		=	SAND (SP) poorly graded, fine to medium grained SAND; firm, wet, brown	- 17.2 - 17.5	SP		\mathbb{N}	24			
GDT	- 18	_	\(10YR 4/3)	- 18	MLS						-
LATE	10	-	SANDY SILT (MLS) fine grained SAND; firm, wet, brown (10YR 4/3)	_							-
TEMP		_	CLAY (CL) stiff, trace fine sand, moist, grayish brown (10YR 5/2)	_			VI	9	+		_
DATA				-	CL		X	10 20	24/24		
ERM		-		_			$ \rangle $	38			B-4(19-20.5) [(19-20.5ft)]
C.GPJ		_	SAND (SP) fine to medium grained SAND: soft, trace silt, trace coarse	- 19.8	SP	[[]]]]]	$\langle \rangle$				-
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18	REN	/AR	KS:								
GWL	}}	Hand	d Auger Split Spoon								
G LOG											
30RIN											
ш											

		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554 Site Character		ition						6 # B-0	
	ER	M	9	-						EET 3		
	DRI DRI	LLIN(G CONTRACTOR Parratt Wolff Syracuse, NY G FOREMAN R. Trask G METHOD Direct Push G EQUIPMENT Geoprobe 6610DT		OFFIC	REPRE CE LOC STAR FINIS	CATIC RT		IVE	Sy 07	Reynolds/ /racuse, N //17/2017 //17/2017	′ T. Daniluk Y
ľ	HO	rizoi	NTAL DATUM (NAD 1983 StatePlane New York East (US Feet)))	BORE	HOLE	DEP	TH		20	.5 ft	
			RTHING 1078028.61 STING 672332.97		BORE	HOLE	DIAN	1ETI	ER	2 i	n	
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 605.93 ft									
							Ċ	ш				NG DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	uscs	0	SAMPLE TYPE	SPT	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-	_	subangular, wet to saturated, brown (10YR 4/3)	_ 2	20 G	P-SP		М	120	6/6	0	
	-	= 585	GRAVELLY SAND (GP-SP) fine to medium grained SAND; subangular, fine to medium grained GRAVEL; firm, wet, dark brown (10YR 3/3), [EOB @ 20.5ft.]	2(0.5							-
	- - -	-		-								-
	— 22 - -	-	-	-								
	-			- - -								
	-	_	-	-								-
	— 24 - -	-										
	-		-	-								-
	- - - 26	- - 580-		- - -								-
	-	-	-	-								-
5/18	-	-		-								-
re.gdt 4/	- - 28		-	_ _ 								- -
V TEMPLAT	-	-		-								- - -
ERM DATA	-			-								-
GPJ E	-			_								-
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18	REN	MAR ^k Hano	S:									
JRING LOG												
Ы												

		5788 Widewaters Pkwy PROJECT: G.W. Lis		_			во	RING	;# MV	/-01S/D
F	RM	Syracuse, New York 13214 Site Characte P: 1-315-445-2554	rizatio	n				M PRO	JECT # OF 5	0346372
D	RILLIN	G CONTRACTOR Parratt Wolff Syracuse, NY G FOREMAN R. Trask G METHOD Direct Push	0	RM REPR FICE LO ATE: STAF	CATIC			J. Sy		′ T. Daniluk Y
D	RILLIN	G EQUIPMENT CME-55		FINIS				07.	/19/2017	
	NC EA	INTAL DATUM (NAD 1983 StatePlane New York East (US Feel RTHING 1078013.64 STING 672361.09 AL DATUM (NAVD 88 (US Feet)) ELEVATION 606.43 ft	<i>``</i>	DREHOLE			ΞR	45 2 ir		
									SAMPLI	NG DATA
DEPTH	ELEVATION	STRATA DESCRIPTION	рертн	NSCS	GRAPHIC LOG	SAMPLE TYPE	SPT	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
-	- - -	[asphalt] GRAVELLY SAND (GP-SP) fine to medium grained SAND; subangular, fine to coarse grained GRAVEL; loose, dry, reddish brown (5YR 4/3), [asphalt]	0.3 	GP-SP					0	-
-	605-	GRAVELLY SAND (GP-SP) fine grained SAND; subangular, fine to coarse grained GRAVEL; loose, some silt, some brick fragments, some cobbles; dry to moist, reddish brown (5YR 4/3)	- - - - 2	GP-SP					0.3	-
	-	SILTY SAND (SM) fine grained SAND; loose, some fine to medium subangular gravel, dry to moist, reddish brown (5YR 4/3)	2 	SM				60/60	0.1	- - - - - - -
	4	SAND (SP) fine grained SAND; loose, some gravel, some cobbles, dry to moist, brown (10YR 4/3)	4 	SP						
-	6 600-	GRAVELLY SAND (GP-SP) poorly graded, fine to medium grained SAND; subangular, fine grained GRAVEL; loose, dry to moist, brown (10YR 4/3)	- 5 - - - - -	GP-SP			1 2 2 3	23/24	0	- - - - - - - - -
ERM DATA TEMPLATE.GDT 4/5/18	8 -	SAND (SW) poorly graded, fine to medium grained SAND; soft, dry to moist, brown (10YR 4/3)	- 7 - - - - - - -	SW			4 5 6	13/24		- - - - - - - -
GPJ ERM DAT	-	SILTY SAND (SM) fine to medium grained SAND; soft, saturated, brown (10YR 4/3)	- 9 - - -	SM			3 2 1 1	24/24		- -
	<u> </u>	KS: d Auger Split Spoon Recovery Rock Core								

ER	9 M	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 Site Characteri					ERI	M PRO		0346372
DRI DRI DRI	LLIN LLIN LLIN	G CONTRACTOR Parratt Wolff Syracuse, NY G FOREMAN R. Trask G METHOD Direct Push G EQUIPMENT CME-55	OF DA	M REPR FICE LO TE: STAI FINIS	CATIO RT SH	NC	VE	S <u>y</u> 07	Reynolds. yracuse, N 7/17/2017 7/19/2017	/ T. Daniluk IY
	NOI EAS	NTAL DATUM (NAD 1983 StatePlane New York East (US Feet)) RTHING 1078013.64 STING 672361.09 AL DATUM (NAVD 88 (US Feet)) ELEVATION 606.43 ft		REHOLE			R	45 2		
DEPTH	ELEVATION	STRATA DESCRIPTION	DEPTH	USCS	GRAPHIC LOG	SAMPLE TYPE	SPT	RECOVERY	PID (ppm) 11.7 eV Lamp	NG DATA Observations / Remar
- - -	=	SANDY SILT (MLS) fine grained SAND; firm, wet, brown (10YR 4/3) SILTY SAND (SM) fine to medium grained SAND; firm, wet, brown (10YR 4/3), [well sorted] SANDY SILT (MLS) fine grained SAND; firm, wet, brown (10YR 4/3)	10.2 · 10.5 · 10.7 · 11 ·	MLS SM MLS SM		X	3 2 1 1	24/24	_	- - - -
- - - 12		SILTY SANDY SILT (MLS) fine grained SAND; firm, wet, brown (10YR 4/3) SILTY SAND (SM) fine to medium grained SAND; firm, some fine subangular gravel, wet, brown (10YR 4/3) SANDY SILT (MLS) fine grained SAND; firm, trace clay, trace fine subangular gravel, wet, brown (10YR 4/3)	- 12 -	MLS SM			1 7 7 5	22/24	0	
	-	SILTY SAND (SM) fine to medium grained SAND; soft, some fine subangular gravel, saturated, brown (10YR 4/3), [well sorted] SAND (SP) fine grained SAND; firm, saturated, brown to grayish brown (10YR 5/2)	13 - 13.5	SP SP			6		-	- - - -
- 14		SAND (SP) fine grained SAND; firm, some fine subangular gravel, saturated, brown (10YR 4/3) SANDY SAND (SM) fine grained SAND; firm, saturated, grayish brown to brown	- 14 -	SM		\mathbb{N}	11 11 16	24/24	0.5	-
- 16	-	(10YR 5/2) SANDY SILT (MLS) fine grained SAND; firm, saturated, pale brown (10YR 6/3) CLAY (CL) stiff, wet, brown (10YR 4/3)	15 · 15.5 · 15.6 ·	MLS CL MLS	1/1///		4 7	23/24	0.6	- - - - -
10	 590 = =	SANDY SILT (MLS) fine grained SAND; firm, saturated, brown (10YR 4/3) SILTY SAND (SM) fine grained SAND; medium dense, saturated, brown (10YR 4/3) SANDY SILT (MLS) fine grained SAND; firm, saturated, brown (10YR 4/3)	16.7 · 17 ·	SM MLS			9 17	23	1.4	-
- 18		SILTY SAND (SM) fine grained SAND; soft, saturated, brown (10YR 4/3) SANDY SILT (MLS) fine grained SAND; soft, trace clay, wet, brown (10YR 4/3)	- 18 -	SM			18 16 21	24/24	0.1	- - - - -
		SILTY CLAY (CL-ML) medium plasticity, medium dense, wet, brown (10YR 4/3)	19 -	MLS CL-ML			20 5		0.5	- - - -
<u> </u>		CLAY (CL) high plasticity, firm, moist, brown (10YR 4/3)	19.5	CL-IVIL		\mathbb{X}	5 11 33	24/24	0.5	-
		d Auger Split Spoon Recovery Rock Core								

ſ		6	5788 Widewaters Pkwy PROJECT: G.W. Li		4:				во	RING	;# MW	/-01S/D
	FR	M	Syracuse, New York 13212 Site Characte P: 1-315-445-2554	eriza	tion					M PRO	JECT # 0	0346372
ł	DRI		G CONTRACTOR Parratt Wolff		ERM	I REPR	ESEN	TATI				' T. Daniluk
	DRI	LLIN	Syracuse, NY G FOREMAN R. Trask			ICE LO		N			racuse, N	Y
	DRI	LLIN	G METHOD Direct Push		DAT	E: STAF					/17/2017	
⊦			G EQUIPMENT CME-55 NTAL DATUM (NAD 1983 StatePlane New York East (US Fee	t))	BOR			гн		45	/19/2017 ft	
	1101		RTHING 1078013.64	· ·		EHOLE			R	2 ir		
		EAS	STING 672361.09									
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 606.43 ft									
							ر ې	ш				NG DATA
	_	TION			_		\subseteq	E TYPI		/ERY	(ppm) r eV Lamp	Observations / Remarks
	DEPTH	ELEVATION	STRATA DESCRIPTION			uscs	BRAPH	SAMPLE	SPT	RECOVERY	PID (pp 11.7 eV	
ŀ	<u> </u>	<u>ш</u> –	SANDY SILT (MLS) fine grained SAND; firm, wet, brown (10YR 4/3)		20 20				<u>ഗ</u> 5		ц -	-
ŀ	-			F		MLS		X	5 11	24/24		-
	-	=	SAND (SP) fine to medium grained SAND; soft, trace silt, saturated, brown (10YR 4/3)		0.7 — 21 —	SP		Д	33	5		-
-	-	585-	SILTY SAND (SM) fine grained SAND; medium dense, some fine to medium	F				\mathbb{N}			0.5	-
-	-	_	subround gravel, trace silt, saturated, brown (10YR 4/3), [minor oxidation]	-		SM		V	35 35	18/24		-
E	- 22	-		E				Λ	24 19	18/		-
ł	-	_	LIMESTONE FRAGMENTS	F	2.5 — 2.8 —			$\left(\right)$				-
	-	=	GRAVELLY SILT (GM) angular, fine to medium grained GRAVEL; firm, some	L	2.0 3.1 -	GM		×	50	1/1.2		-
-	-	_	\fine sand, saturated, brown (10YR 4/3), [limestone in shoe, EOB @ 23.1ft.]	F								-
	-	_	LIMESTONE, bedded, horizontal, gray (10YR 5/1), microcrystalline, [drilled through to set casing]	F								-
F	- 24	-		F				\bigcirc		0/26.4		-
	-	_		F						Ő		-
	-	-		F								-
ļ	-	_										-
	-	-	LIMESTONE, bedded, horizontal, gray (10YR 5/1), microcrystalline, medium		5.5							-
ŀ	- 26	_	fracture spacing, 90° bedding angle, Layer RQD = 0.4% [irregular dark gray chert, calcite lined veins and fractures, trace styrolites, pyrite stringers parallel to	-						4.		-
	-	580-	bedding @27ft.]	L						.2/26.	0	-
	-	_		L						0		-
/18	-	-		L								-
T 4/5	-	_	LIMESTONE, bedded, horizontal, fossiliferous, gray (10YR 5/1), microcrystalline,	27	7.5			H				- -
E.GD	28	-	medium fracture spacing, 90° bedding angle, Layer RQD = 3.3% [biomicrite with	F								-
IPLAT	-	_	coarse crinoid disc with fine shell fragments, irregular bedding, fine framboidal pyrite and styolites, large open bedding fracture @ 31.1ft at upper bed cotact]	F								-
A TEN		-		F						.5/60		-
1 DAT,	-	_		F						4		-
I ERN	-			F								-
SC.GP.	REN	MARK	(S:	F								-
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18												
9 90.	H		d Auger Split Spoon Recovery Rock Core									
SING L	\square	NU R										
BOR												

	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 PROJECT: G.W. Lis Site Character		1			ERM	1 PRO	5 # MW JECT #	
DRILLI	NG CONTRACTOR Parratt Wolff Syracuse, NY NG FOREMAN R. Trask NG METHOD Direct Push	OF	M REPR FICE LC	CATIC			Sy		′ T. Daniluk Y
	NG EQUIPMENT CME-55		FINI		T 11			/19/2017	
NO EA	DNTAL DATUM (NAD 1983 StatePlane New York East (US Feet DRTHING 1078013.64 ASTING 672361.09 CAL DATUM (NAVD 88 (US Feet)) ELEVATION 606.43 ft		REHOLI REHOLI			R	45 2 ii		
								SAMPLI	NG DATA
DEPTH	STRATA DESCRIPTION	DEPTH	USCS	GRAPHIC LOG	SAMPLE TYPE	SPT	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
- 575 - 32 - 32 - 34 - 34 - 36 - 570	SANDY LIMESTONE, interbedded, interbedded, fossiliferous, light gray (10YR 7/1), microcrystalline, medium fracture spacing, 90° bedding angle, Layer RQD = 3.75% [minor dark chert]	32.5					5/60 4.5/60	0	
	LIMESTONE, bedded, lenticular, fossiliferous, dark gray (10YR 4/1), microcrystalline, medium fracture spacing, 90° bedding angle, Layer RQD = 3.6% [increased styolites and oxidized pyrite framboids]	- - - - - - - - - - - - - - - - - - -				-	4/60		- - - - - - - - - - -
Ha No	nd Auger Split Spoon Recovery Rock Core								

	R	2	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 Site Characte		on				ERM		G # MW	
) RIL	LING	G CONTRACTOR Parratt Wolff Syracuse, NY G FOREMAN R. Trask G METHOD Direct Push G EQUIPMENT CME-55	(OFFI	REPR CE LO E: STAI FINIS	CATIC RT			J. Sy 07		′ T. Daniluk Y
		NOF EAS	NTAL DATUM (NAD 1983 StatePlane New York East (US Feet RTHING 1078013.64 TING 672361.09 IL DATUM (NAVD 88 (US Feet)) ELEVATION 606.43 ft			ehole Ehole			ER	45 2 i		
							(1)				SAMPLI	NG DATA
ЛЕРТЦ		ELEVATION	STRATA DESCRIPTION	DEPTH		NSCS	\subseteq	SAMPLE TYPE	SPT	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	42	 565	LIMESTONE, bedded, lenticular, fossiliferous, dark gray (10YR 4/1), microcrystalline, medium fracture spacing, 90° bedding angle, Layer RQD = 3.6% [increased styolites and oxidized pyrite framboids] <i>(Continued)</i>							4/60		
	42		LIMESTONE, bedded, horizontal, fossiliferous, dark gray (10YR 4/1), microcrystalline, medium fracture spacing, 90° bedding angle, Layer RQD = 2% [abundant styolites, EOC @ 45ft.]	- - - - - - - - - - -	5					2.2/30	0	
	46	- - - - 560-		- 45 - 45 	5 —							- - - - - - - -
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18	48											- - - - - - - - -
CGPJ ERM D												-
BORING LOG GW LISK SC			S: Auger Split Spoon ecovery Rock Core									

EF) RM	PR 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554	OJECT: G.W. Lisk Site Characteriz				E	ERM	I PRC	G # MW DJECT # OF 4	
DR DR DR DR	ILLING ILLING ILLING	CONTRACTOR Parratt Wo Syracuse, I FOREMAN I. Larasse METHOD Direct Push EQUIPMENT Geoprobe	NY 1 5712DT	OFFI DATE	CE LC E: STA FINI	SH	l		Sy 09 10	yracuse, N 9/23/2017 0/22/2017	′ T. Daniluk Y
	NOF EAS	ITAL DATUM (NAD 1983 StateP RTHING 1078121.73 TING 672663.84 L DATUM (NAVD 88 (US Feet))	3			E DEPTH E DIAME			30 2 i).5 ft in	
										SAM	IPLING DATA
DEPTH	ELEVATION	STRATA I	DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remark
-		[concrete] GRAVELLY SAND (GP-SP) coarse grained	I SAND; subrounded, coarse grained GRA	/EL; –	0.7 -					11.8	-
-		loose, moist, brown (10YR 4/3)		-		GP-SP		> { { } { } { } { } { } { } { } { } { }		55.3	- - - -
2 	2 – 605– –	GRAVELLY SAND (SM) fine grained SAND); loose, little silt, moist, brown (10YR 4/3)	-	- 2 -	SM	00		60/60	11.7	
-	-	SILTY SAND (SM) fine grained SAND; loos (10YR 4/4)	se, some medium subround gravel, moist, b	rown	3	SM				25	-
- - 4 -	- - -	SILTY SAND (SM) fine grained SAND; loos	se, some clay, moist, gray (10YR 6/1)	-	- 4	SM				30.4	-
-	-	SILTY SAND (SM) fine grained SAND; hard	d, some cobbles, dry, reddish brown (5YR 4	-/4)	5	SM		}}		61.1	- - - -
- 6 -) _ _ 	SILTY SAND (SM) fine grained SAND; med (10YR 4/4)	dium dense, some rock fragments, dry, brov	vn	- 6 6.5 -	SM			36/36	92	-
-	- - 600-	SAND (SP) fine to medium grained SAND; dry, brown (10YR 4/4)	firm, some fine to medium subangular grave	el,		SP			ĕ	152.9	-
- - - 8					_	01				102.0	- - - -
	-	SAND (SP) fine to medium grained SAND; SAND (SP) fine to coarse grained SAND; fi			8.5 9	SP			42/48	70.9	- - -
- - - - - - - -		light brown (10YR 6/3), [water table @ 9.5ff	.]	-		SP				82.1	-
RE	-	Auger D	irect push geoprobe sample ock Core								

ERN	Syracuse, New York 13214 P: 1-315-445-2554	V. Lisk racteriza	ation		E	RM		ECT #	V-02S/D 0346372
DRILL DRILL DRILL	ING CONTRACTOR Parratt Wolff Syracuse, NY ING FOREMAN I. Larasse ING METHOD Direct Push ING EQUIPMENT Geoprobe 6712DT ZONTAL DATUM (NAD 1983 StatePlane New York East (US	Feet))	ERM REPR OFFICE LC DATE: STA FINI BOREHOLI	CATION RT SH			Syra 09/2	cuse, N 3/2017 2/2017	:/ T. Daniluk NY
N	NORTHING 1078121.73 EASTING 672663.84 ICAL DATUM (NAVD 88 (US Feet)) ELEVATION 607.3		BOREHOLI				2 in		
								SAN	MPLING DATA
DEPTH	STRATA DESCRIPTION		DEPTH) USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remark
- - -	COBBLES GRAVEL (GP) subangular, medium grained GRAVEL; loose, wet, brown (10)	YR 4/4)	10.25 - 10.4 -	SP				147.1	-
- - - - - 12	 SAND (SP) fine grained SAND; firm, some coal, wet, gray/brown mottling, light brown (10YR 6/2), [refusal @ 12.4ft.] 	ht grayish		GP SP			42/48	170.6	- -
-	95BOULDERS [limestone pieces]		12.4 - 			0	0/12	63	
- - -	 SILTY SAND (SM) fine grained SAND; firm, some fine to medium subangular grayish brown (10YR 5/2), organic-like odor 	r gravel, we	et, 13 -					21.6	-
- 14				SM			1/48	26.5	
- 16	SANDY GRAVEL (GP-SP) fine grained SAND; firm, wet, grayish brown (10YI organic-like odor, [some black rock fragments from 16 to 16.5ft., till-like]	R 5/2),	15.5 - 				Ø	24	-
- 10			-	GP-SP				44.4	-
	 SILTY SAND (SM) fine grained SAND; firm, wet, grayish brown (10YR 5/2), o odor SILTY SAND (SM) medium grained SAND; firm, wet, brown (10YR 4/3), orga 	-	_ 17.5	SM SM				6.4	
- 18	 SILTY SAND (SM) medium grained SAND; firm, some fine to medium subang wet, brown (10YR 4/3), organic-like odor 	gular grave	el, 18 	SM			19/30	5.5	
- - -	[bedrock @ 19.5ft] LIMESTONE, [drilled to 20.5ft. to set casing]						0/12	5	-
<u> </u>	ARKS: and Auger Direct push geoprobe sam o Recovery Rock Core	ple							

FR	9 M	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 1-315-445-2554				E	ERN		G # MW DJECT # 0 OF 4	
DRI	LLING	G CONTRACTOR Parratt Wolff	ERM	REPR	ESENTA					' T. Daniluk
		Syracuse, NY G FOREMAN I. Larasse	-					-	racuse, N	Y
		G METHOD Direct Push G EQUIPMENT Geoprobe 6712DT	DAT	E: STAF FINIS)/23/2017)/22/2017	
HO	RIZOI	NTAL DATUM (NAD 1983 StatePlane New York East (US Feet))	BOR	EHOLE		ł			.5 ft	
		RTHING 1078121.73	BOR	EHOLE	DIAME	TER		2 i	n	
		STING 672663.84 NL DATUM (NAVD 88 (US East)) ELEVATION 607.27.4								
VER	RHCA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 607.37 ft					r		SAM	IPLING DATA
						g	Ш			
DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
_	-	[bedrock @ 19.5ft] LIMESTONE, [drilled to 20.5ft. to set casing](Continued)	_				Π	0/12		-
F	_	LIMESTONE, slightly weathered, medium, fossiliferous, dark gray (10YR 4/1),		20.5			H	0		-
-	_	microcrystalline, medium fracture spacing, 90° bedding angle, Layer RQD = 3.79% [da					1			-
-		gray chert nodules, slightly fractured, some weathering in fractures, mechanical breaks along chert boundaries, some styolites]	· -							-
- 22 		LIMESTONE, slightly weathered, medium, fossiliferous, dark gray (10YR 4/1), microcrystalline, medium fracture spacing, 90° bedding angle, Layer RQD = 3.91% [da gray chert nodules, some weathering in fractures, mechanical breaks along chert boundaries, mechanical break from 29.3-29.7ft., EOC @ 30.5ft.]		25.5				53/60 53/60	0	
		Auger Direct push geoprobe sample Recovery Rock Core								-

		6	5788 Widewaters	Pkwy	PROJECT:	G.W. Lisk				E	301	RING	6# MV	/-02S/D
	ED		Syracuse, New Yo P: 1-315-445-255	ork 13214		Site Characteriz	ation					I PRO	JECT #	0346372
ł	DRI		G CONTRACTOR	Parratt			ERM	1 REPR	ESENTA					′ T. Daniluk
	DRI	LLIN	G FOREMAN	Syracu I. Lara	ise, NY sse					I			/racuse, N	Y
	DRI	LLIN	G METHOD G EQUIPMENT	Direct Geopre	Push obe 6712DT		DAT	E: STAF FINIS)/23/2017)/22/2017	
ł			NTAL DATUM (NAD			East (US Feet))	BOF			1			.5 ft	
			RTHING	10781			BOF	REHOLE	DIAME	TER		2 i	n	
				67266		007.07.0								
ŀ	VEF	RTICA	AL DATUM (NAVD 8	8 (US Fe	et)) ELEVATION	607.37 ft					1		SAM	IPLING DATA
										g	Ш			
		ELEVATION								GRAPHIC LOG	SAMPLE TYPE	ERΥ) (ppm) 7 eV Lamp	Observations / Remarks
	DEPTH	EVA		STRA	TA DESCRIPTION	l		рертн	nscs	APH	MPL	COV) (pp	Observations / Remarks
	DE	ELF						DE	SN	ЯЯ	SAI	53/60 RECOVERY	PID (11.7	
	-	_					-	- - 30.5 -				53/6(0	-
	-	_						_ 50.5						-
	-	_					-	-						-
	-	-					-	-						-
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T 4/5/	-							-						-
TE.GD	- 38	-					-	_						
MPLA ⁻	-						-	_						-
TA TE	-	-					-	_						-
3M DA	-	_					-	_						-
PJ EF	-	_						_						-
(SC.G	REN	/ARK	(S:								1			
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18														
JG GV	Ш		d Auger		Direct push geo	probe sample								
ING LC	\bigcirc	No R	Recovery		Rock Core									
BOR														

ERM	5788 Widewaters Syracuse, New Yo P: 1-315-445-255	ork 13214 Site Characteri				E	RM		5 # MW JECT # OF 3	
DRILLIN DRILLIN DRILLIN	IG CONTRACTOR IG FOREMAN IG METHOD IG EQUIPMENT	Parratt Wolff Syracuse, NY I. Larasse Direct Push Geoprobe 6712DT 1983 StatePlane New York East (US Feet))	OFFI DATI	CE LC E: STA FINI		TIVE		Sy 09	racuse, N /29/2017 /21/2017	/ T. Daniluk IY
NC EA	ORTHING STING	1078015.23 672662.31 8 (US Feet)) ELEVATION 607.26 ft			E DIAMET	ER		2 i		
									SAN	IPLING DATA
DEPTH ELEVATION		STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarl
	(10YR 5/2) SAND (SW) fine to mediu	r, medium to coarse grained GRAVEL; loose, dry, grayish b m grained SAND; loose, dry, brown (10YR 4/3), [well sorted medium grained SAND; medium dense, some coarse prown (10YR 4/3)	/	0.8 - 1 -	GP SW SM			60/60	1	- - - - - - - - - - - - - - - - - - -
4	SANDY SILT (MLS) fine g gravel, moist, reddish brov	rrained SAND; firm, trace clay, some fine to coarse angular wn (5YR 4/4)		- 4 -	MLS				2.2 1.6	- - - - - - -
	-		-						2.1	-
- 6 -	sorted]	AND; firm, trace silt, moist, reddish brown (5YR 4/4), [poorly moist, reddish brown (5YR 4/4), [poorly moist, reddish brown fine sand, some fine to medium gravel, moist, reddish brown fine to medium gravel, moist, moist, moist, moist, moist,		6.5	SP CL-ML			36/36	3.8	-
600-	4/4)	plasticity, stiff, some coarse gravel, moist, reddish brown (5	-	7	CL-ML CL-ML				7.7	- - - - -
-	(5YR 4/4) SAND (SW) fine grained S	dium plasticity, stiff, some coarse gravel, moist, reddish brow SAND; loose, trace clay, some silt, dry, reddish brown (5YR	/ [SW			48	8.8	
		plasticity, firm, some fine sand, moist, reddish brown (5YR a ained SAND; firm, moist, pale brown (10YR 6/2), [well sorte		9 -	CL-ML SM			48/48	12.5	- -
	KS: ld Auger lk Core	Direct push geoprobe sample								

ERM.	5788 Widewaters Pkwy Syracuse, New York 13 P: 1-315-445-2554	PROJECT: G.W. Lisl 214 Site Characteri				E	RM		5 # MW JECT # OF 3	
DRILLING DRILLING DRILLING	S FOREMAN I. L G FOREMAN I. L G METHOD Dire G EQUIPMENT Geo	ratt Wolff acuse, NY arasse ect Push oprobe 6712DT StatePlane New York East (US Feet)	OFFI DATE	CE LO STAI				Sy 09/	racuse, N /29/2017 /21/2017	′ T. Daniluk Y
EAS		8015.23 8662.31 5 Feet)) ELEVATION 607.26 ft	BORE	EHOLE	E DIAME	TER		2 ir	ı	
						(J)	ш			IPLING DATA
DEPTH ELEVATION	ST	RATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remar
	COBBLES SANDY SILT (MLS) fine grained gravel, moist, reddish brown (5Y	SAND; firm, some clay, some fine to coarse subang R 4/4)		10.5 -	MLS			48/48	13.8	- - GWL-MW-03D(9-11) [(9-11ft)] - - -
	COBBLES			11.5 -					9.8	-
- 12 - - 595- 	CLAYEY SILT (CL-ML) firm, son (10YR 4/3)	n	- 12 -	CL-ML				9.2		
	subangular gravel, wet, brown (1	SAND; medium dense, trace clay, some fine to med 0YR 4/3) SAND; medium dense, some fine to coarse subang		13 -	MLS			42/48	9.7	- - - - -
	gravel, trace cobbles, wet, brown	n (10YR 4/3)			MLS			-	6.9	-
- 16 - 	GRAVELLY SILT (GM) subangu sand, saturated, brown (10YR 4,	lar, fine to coarse grained GRAVEL; loose, some fine 3)	- - - -	- 16 -	GM				2.2	- - - -
	COBBLES SANDY SILT (MLS) fine grained	SAND; firm, some fine to medium subangular grave	, wet	17 - 17.5 -				~	1.6	-
- 18 - - -	to moist, brown (10YR 4/3)			-	MLS			18/48	3.1	- GLW-MW-03D(17-19) [(17-19) - - -
	COBBLES			19 -					4 7	- - -
REMARK	cobbles, moist to wet, gravish br	SAND; firm, some fine to coarse subangular gravel, own (10YR 5/2), [EOB on bedrock @ 21ft.]	trace _	19.5 -	MLS				1.7	-
	Auger	Direct push geoprobe sample								

FF) M	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 Site Characteriz	ation			E	RM		G # MW DJECT # 0 OF 3	
DR	RILLING	G CONTRACTOR Parratt Wolff	ERM	REPR	ESENTA					' T. Daniluk
DR		Syracuse, NY G FOREMAN I. Larasse			CATION			-	vracuse, N	Y
DR	RILLING	G METHOD Direct Push	DATE	E: STAF FINIS					/29/2017 /21/2017	
		G EQUIPMENT Geoprobe 6712DT NTAL DATUM (NAD 1983 StatePlane New York East (US Feet))	BOR			1		29		
		RTHING 1078015.23						 2 i		
	EAS	STING 672662.31								
VE	RTICA	L DATUM (NAVD 88 (US Feet)) ELEVATION 607.26 ft								
						(J)				IPLING DATA
DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
_		SANDY SILT (MLS) fine grained SAND; firm, some fine to coarse subangular gravel, tra-						0		-
F	-	cobbles, moist to wet, grayish brown (10YR 5/2), [EOB on bedrock @ 21ft.](Continued)			MLS			12/12	1.4	-
È.	_			21 –						-
F		LIMESTONE, gray (10YR 5/1), microcrystalline, medium fracture spacing, 90° bedding angle, Layer RQD = 2.63% [dark gray chery nodules, calcite lined fractures, styolites	-							-
-	_	throughout, massive component, slightly fractured]	_							-
- 22				-				ß		-
-	585— _		_					33/34.8		-
-	_		_					33		-
-	_		-							-
È	_		-							-
- 24	4 _	LIMESTONE, gray (10YR 5/1), microcrystalline, close fracture spacing, 90° bedding an		23.9			H			-
-		Layer RQD = 2.4% [dark gray to black chert, abundant breaks withing chert, mechanica	-							-
-	_	broken chert zone 25.8-26.1ft., weathered fracture @ ~27ft., up to 50% of run is chert,	_							
-	_	some calcium recrystallization in fractures, EOC @ 29ft.]	F							-
F			-							-
È										-
- 26	6 –			-				2		-
-	_		_					54/61.2		-
╞	_		F					54		-
18	- 580-		F							-
- 4/5/	_		-							-
105 - 28	в –		F	_						-
	_		F							-
TEM	_		L							-
DATA	-		—	29 –			┍			-
ERM	_		F							-
.GPJ	-		F							-
	MARK	S:								
۲۲ الا	1									
g }		Auger Direct push geoprobe sample								
	ROCK	Core								
BOR										

	FR) M	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 Site Characteriza	ation				ERN		G # MW DJECT # OF 3	
	DRII DRII	LLING	G CONTRACTOR Parratt Wolff Syracuse, NY G FOREMAN M. Eaves G METHOD Direct Push G EQUIPMENT Little Beaver Drilling Rig	OFF			ATIVE		J. Sy 07		′ T. Daniluk Y
		NOF EAS	NTAL DATUM (NAD 1983 StatePlane New York East (US Feet)) RTHING 1078344.18 STING 672547.78 NL DATUM (NAVD 88 (US Feet)) ELEVATION 598.99 ft			DEPTH DIAME			23 2 i	3.5 ft in	
Γ										SAN	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
2.GPJ EPM DATA TEMPLATE GDT 4/5/18	- 2 - 4	5995	[concrete] SANDY GRAVEL (GP-SP) fine to medium grained SAND; angular, fine to coarse graine GRAVEL; loose, dry, brown (10YR 4/3) SILTY SAND (SM) fine grained SAND; loose, some fine subround gravel, dry, brown (1 4/3) SILTY SAND (SM) fine grained SAND; loose, some fine to coarse subround gravel, dry moist, brown (10YR 4/3) SANDY SILT (MLS) fine grained SAND; firm, some clay, some fine subround gravel, tra coal; dry to moist, brown (10YR 4/3) SANDY SILT (MLS) fine grained SAND; firm, some clay, some fine to medium subround gravel, moist, brown (10YR 4/3) SANDY SILT (MLS) fine grained SAND; firm, some clay, some fine to medium subround gravel, moist, brown (10YR 4/3) SANDY SILT (MLS) fine grained SAND; firm, some fine to medium subround gravel, moist, brown (10YR 4/3), [minor oxidation] SANDY SILT (MLS) fine grained SAND; firm, some fine to medium subround gravel, tra cobbles, moist, brown to pale brown (10YR 5/4)	to	- 0.8 - - 1 - 	GP-SP SM SM MLS MLS			11/24 96/96	0 1 1.8 1.4 0.8 1.2	
BORING LOG GW LISK	<u>}</u>	Hand	I Auger Split Spoon								

0	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 Site Characteriz						G # MW DJECT #	
ERM	P: 1-315-445-2554					EET 2		
DRILLIN DRILLIN	G CONTRACTOR Parratt Wolff Syracuse, NY G FOREMAN M. Eaves G METHOD Direct Push G EQUIPMENT Little Beaver Drilling Rig	OFF			TIVE	Sy 07	Reynolds/ yracuse, N 7/21/2017 3/01/2017	′ T. Daniluk Y
NO EA	NTAL DATUM (NAD 1983 StatePlane New York East (US Feet)) RTHING 1078344.18 STING 672547.78 AL DATUM (NAVD 88 (US Feet)) ELEVATION 598.99 ft			DEPTH DIAMET	ĒR	23 2 i	3.5 ft in	
							SAM	IPLING DATA
DEPTH ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	SANDY SILT (MLS) fine grained SAND; firm, trace fine subangular gravel, moist, brow (10YR 4/3)	'n	-	MLS		10/24	1.1	- - - -
	-	-	- - - 11.9 —				1.2	-
	SILTY SAND (SM) fine to medium grained SAND; firm, some fine subangular gravel, v brown (10YR 4/3) SILTY SAND (SM) fine to medium grained SAND; soft, some fine subangular gravel, saturated, brown (10YR 4/3) SANDY SILT (MLS) fine grained SAND; firm, some fine to coarse subangular gravel, v saturated, pale brown (10YR 6/3), [some oxidation] SILTY SAND (SM) fine to medium grained SAND; medium dense, saturated, brown to brown (10YR 3/3), organic-like odor, [some oxidation, EOB @ 13.7ft on bedrock] LIMESTONE, dark gray (10YR 4/1), microcrystalline, [TD @ 23.5ft.]	vet to	- 12 - 13 - - 13.5 - - 13.5 - - 13.7 - 	SM SM MLS SM		13/24	0.8	
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18		- - - - - - - - - - - - - - - - - - -				0/114		
C.GP		_	-					-
	kS: d Auger Split Spoon Recovery							

	ED	9	5788 Widewaters Syracuse, New Yo P: 1-315-445-255	ork 1321	PROJECT:	G.W. Lisk Site Characteriz				E	ERM		G # MW	
ŀ	DRI		G CONTRACTOR	Parrat	t Wolff		FRI	1 REPRI						/ T. Daniluk
				Syracu	use, NY			ICE LO					racuse, N	
			G FOREMAN G METHOD	M. Eav Direct				E: STAF					/21/2017	
			G EQUIPMENT		Beaver Drilling Rig			FINIS	ЯН			08	/01/2017	
ľ	HO	rizoi	NTAL DATUM (NAD	1983 St	atePlane New York	(East (US Feet))	BOF	REHOLE	DEPTH	ł		23	.5 ft	
		NO	RTHING	10783	44.18		BOF	REHOLE	DIAME	TER		2 i	n	
			STING	67254										
	VEF	RTICA	AL DATUM (NAVD 88	8 (US Fe	eet)) ELEVATION	598.99 ft					i			
										(J)	ш			IPLING DATA
	DEPTH	ELEVATION		STRA	TA DESCRIPTION	I		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-	_	LIMESTONE, dark gray (10YR 4/1),	microcrystalline, [TD @ 23	3.5ft.](Continued)		-						-
	-	_						-						-
ł	-	_						-						-
	-	-						-						-
ŀ	-	-						-			\frown	4		-
	- - 22	_						-			Μ	0/114		-
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	-							-						-
	-	-												-
ľ	-	_						_ 23.5 -						-
ŀ	- 24	575-						-						
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	— 26 -							-						-
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-	-	-						-						-
18	-	_						-						-
4/5/	-	_						-						-
GDT	- - 28	_						-						-
LATE	-	-						_						-
TEMF	-	-						-						-
ATA	-	570-						-						-
RM D	-	_						-						-
PJ E	-	-						-						-
BORING LOG GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/5/18	REI	MARK	(S:											1
V LISK														
ND CN	$\left\{ \right\}$	Hand	d Auger	\triangleright	Split Spoon									
G LO($\overline{\bigcirc}$	No R	Recovery											
ORIN														
m														

Appendix B Well Construction Logs

		~	5788 Widewaters	PROJEC Pkwy	T:	G.W. Lisk				BORI	NG # MW -	-01D
	V	J	Syracuse, New Yo P: 1-315-445-255	ork 13214	Site C	Characteriz	ation			ERM F	PROJECT # 0)346372
	ER	M									T 1 OF 5	
	DRII	LINC	CONTRACTOR	Parratt Wolff Syracuse, NY					ESENTATI CATION	IVE	J. Reynolds/ Syracuse, N	
			G FOREMAN	J. Percy Direct Push			DATE				07/17/2017	I.
			EQUIPMENT	CME-55				FINIS	н		07/19/2017	
			PHIC COORDINATE			WELL C		UCTIO				WELL EVELOPMENT
	(NAI		3 StatePlane New Y RTHING) Material:	Rise Carbon			Screen Open Hol			Surge and Pump - mechanical
			TING	1078013.64 672361.09	Diameter (ID): Coupling:	4-inc Threa			4-inch None			1 hours
			VATION	606.43 ft								
				STRATA DESCF						ري ا		CONSTRUCTION
		N		STRATA DESCR						C LOC	WELL C	ONSTRUCTION
	Ξ	ATI(E	(A)	DHIC		Casing Type: 12-inch Flushmount
	DEPTH	ELEVATION						DEPTH	nscs	GRAPHIC LOG		Traffic-Rated Manhole
E		-	[asphalt]					0.3				
E		-	GRAVELLY SAND subangular, fine to	. ,	-				GP-SP	$^{\circ}$		
-		_	brown (5YR 4/3), [a	-	(AVLL, 10056, (iry, reduisi	-	1				
_		605—	GRAVELLY SAND	(GP-SP) fine grain	ned SAND; sub	angular, fir	ne		GP-SP			
E	- 2	=	to coarse grained C fragments, some co					2	Ċ	$^{\bigcirc}$ $^{\bigcirc}$ $^{\circ}$		
_		_	SILTY SAND (SM)	-								
-		-	medium subangula	-		/3)						
-		-					-		SM			
_		_					-					
_	- 4	=	SAND (SP) fine gra		somo gravel	somo		4				
_		_	cobbles, dry to moi		-	Some	-		SP			
_		-						5				
_		_	GRAVELLY SAND			-	ned _	5		$^{\circ}$		
-		-	SAND; subangular, brown (10YR 4/3)	, line grained GRA	VEL, loose, dry	to moist,	_			20		
-	- 6	_					_		GP-SP	\circ		
3/18		600-					-		ģ			
DT 4/		-						7				
ATE.G.		_	SAND (SW) poorly dry to moist, brown	•	edium grained S	SAND; soft	, –					
EMPL/		-	, <u> </u>	(-					
ATA TI	- 8	-					-		SW			
RM D/												
E L L L		=	SILTY SAND (SM)	fine to modium arr		off cotures	h	9				
< SC.C		_	brown (10YR 4/3)	inte to medium gra	anieu SAND, SC	ກເ, ຣaເບເສີຍ			SM			
W LISH		_										
WELL CONSTRUCTION GW LISK SC. GPJ ERM DATA TEMPLATE.GDT 4/6/18	REM None		S:						ALLATION			
RUCTI							Casin	g set 2	tt into bed	rock, 20ft	of bedrock co	red.
ONSTI												
ELLO												
≥L												

	6	5788 Widewaters Pl	kwy	PROJEC		G.W. Lisk				BORI	NG # MW-0	1D		
ED		Syracuse, New York P: 1-315-445-2554	Characteriz	zation				PROJECT # 034	6372					
DRI		G CONTRACTOR	Parratt \	Nolff			ERM	REPRE	ESENTAT		J. Reynolds/ T.	Daniluk		
DRI		:	Syracus J. Percy	e, NY			OFF	CE LOO	CATION		Syracuse, NY			
DRI	LLING	6 METHOD	Direct P	ush			DAT	E: STAF			07/17/2017			
		BEQUIPMENT	CME-55)		WELL (CONST	FINIS			07/19/2017 WELL			
		3 StatePlane New Yo		(US Feet))	Rise			Screen		DE\	/ELOPMENT		
			1078013	3.64	Material: Diameter (ID):	Carbon 4-ino	ch		Open Ho 4-inch	le	Duration: 1 hours			
		-	672361. 606.43 f		Coupling:	Threa	ded		None		Gals. Purged: 22.5			
		VALION	000.431	L										
	7		STRAT	A DESCR	RIPTION					Ő	WELL CO	NSTRUCTION		
—	ELEVATION							Ŧ		GRAPHIC LOG				
DEPTH	EV ^A							DEPTH	USCS	RAPI				
	<u> </u>	SANDY SILT (MLS)	fine ara	ined SAN	ID: firm. wet. br	own (10YF	२	10.2 -	MLS	0				
-		4/3)	- 0 -		, ,, -	- (-	_/_	10.5 -	SM MLS					
-	=	SILTY SAND (SM) fi		edium gra	ained SAND; fir	m, wet, br	own	10.7 - 11 -	SM					
-	- 595-	(10YR 4/3), [well sor SANDY SILT (MLS)		ined SAN	ID: firm wet br	own (10YF	╗╢╞		MLS					
-	-	4/3)		00001 (1011	<u> </u>									
- 12 -	-	SILTY SAND (SM) fine to medium grained SAND; firm, some subangular gravel, wet, brown (10YR 4/3) SANDY SILT (MLS) fine grained SAND; firm, trace clay, trac subangular gravel, wet, brown (10YR 4/3)					ine	- 12 -						
E	_								SM			 Carbon Steel Riser 		
-	-							13 -	SP			 Cement/Bentonite Grout 		
-	_	SILTY SAND (SM) fi		-			ine	13.5				Clout		
- 14	=	subangular gravel, s			<i>,</i> -	-		- 14 -	SP					
-	_	SAND (SP) fine grain brown (10YR 5/2)	ned SAr	ND; firm, s	saturated, brow	in to grays			SM					
-	-	SAND (SP) fine grain	ned SAN	ND; firm, s	some fine suba	ngular gra	vel,							
_	-	saturated, brown (10	,				_/[15 -	MLS					
_	=	SANDY SAND (SM) brown to brown (10Y	-	ined SAN	ID; firm, satura	ted, grayis	n /F	15.5 15.6	CL					
— 16 —	=	SANDY SILT (MLS)		ined SAN	ID; firm, saturat	ed, pale		- 16 -						
6/18	590-	brown (10YR 6/3)						16.7 -	SM					
DT 4/	=	CLAY (CL) stiff, wet,				ad brown	—/ +	10.7	MLS					
ATE.G	_	SANDY SILT (MLS) (10YR 4/3)	ine gra	ineu SAN	id, IIIII, Saturat	ed, brown	// F		SM					
WELL CONSTRUCTION GWLISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18 U M M M M M M M M M M M M M M M M M M M	-	SILTY SAND (SM) fi brown (10YR 4/3)	ine grair	ned SANE); medium dens	se, saturat	ed,	- 18 -						
J ERM DA	_	SANDY SILT (MLS) (10YR 4/3)	fine gra	ined SAN	ID; firm, saturat	ed, brown		19 -	MLS					
SC.GP	_	SILTY SAND (SM) fi (10YR 4/3)	ine grair	ned SANE); soft, saturate	d, brown			CL-ML					
I	-	SANDY SILT (MLS)	fine gra	ined SAN	ID; soft, trace c	lay, wet,	/[_	19.5 -	CL					
	/ARK	1	-				WEL	L INST/		NOTES:				
OLTIO Non	e.										of bedrock cored	d.		
ONSTR														
ELL CC														
Ň														

0	PROJEC 5788 Widewaters Pkwy Syracuse, New York 13214	T: G.W. Lisk Site Characteriz	ation			NG # MW-01D
ERM	P: 1-315-445-2554					PROJECT # 0346372 T 3 OF 5
DRILLIN DRILLIN DRILLIN	G CONTRACTOR Parratt Wolff Syracuse, NY G FOREMAN J. Percy G METHOD Direct Push G EQUIPMENT CME-55		OFFICE L DATE: ST/ FIN	ART ISH	VE	J. Reynolds/ T. Daniluk Syracuse, NY 07/17/2017 07/19/2017
			ONSTRUCT			WELL DEVELOPMENT
``	83 StatePlane New York East (US Feet) RTHING 1078013.64) Rise Material: Carbon		Screen Open Hol	е	Method: Surge and Pump - mechanical
	RTHING 1078013.64 STING 672361.09	Diameter (ID): 4-inc Coupling: Thread		4-inch None		Duration: 1 hours Gals. Purged:22.5
	EVATION 606.43 ft					
DEPTH ELEVATION	STRATA DESCF	RIPTION	рертн	nscs	GRAPHIC LOG	WELL CONSTRUCTION
	brown (10YR 4/3)		20	MLS		
	SILTY CLAY (CL-ML) medium plastic brown (10YR 4/3)	ity, medium dense, wet,	20.7	SP		
	CLAY (CL) high plasticity, firm, moist,	brown (10YR 4/3)				
- 585- - 22 ⁻	SANDY SILT (MLS) fine grained SAN 4/3)		2	SM		
	SAND (SP) fine to medium grained S saturated, brown (10YR 4/3)		22.5			
	SILTY SAND (SM) fine grained SANE to medium subround gravel, trace silt, 4/3), [minor oxidation]		ne 22.0 23.1	GM		
	LIMESTONE FRAGMENTS					
- 24 	GRAVELLY SILT (GM) angular, fine t firm, some fine sand, saturated, brow shoe, EOB @ 23.1ft.]	•		-		
 	LIMESTONE, bedded, horizontal, gra microcrystalline, [drilled through to se		_ 			
- 26 - - 26 - - 580- 8 - 580- -	LIMESTONE, bedded, horizontal, gra microcrystalline, medium fracture spa Layer RQD = 0.4% [irregular dark gra and fractures, trace styrolites, pyrite s @27ft.]	cing, 90° bedding angle, y chert, calcite lined veins				
MELL CONSTRUCTION GW LISK SC. GPJ ERM DATA TEMPLATE.GDT 691	LIMESTONE, bedded, horizontal, fos microcrystalline, medium fracture spa Layer RQD = 3.3% [biomicrite with co shell fragments, irregular bedding, fin styolites, large open bedding fracture cotact]	cing, 90° bedding angle, arse crinoid disc with fine e framboidal pyrite and				
— — — — — — — — — — — — — — — — — — —	-		F			
			-			
REMAR	(6)			TALLATION		
WELL CONSTRUCT			Casing set	. ∠it mto dedr	υςκ, ζυπ	of bedrock cored.

1			5788 Widewaters	PROJEC	T:	G.W. Lisk				BORI	ING # MW-0	1D		
	0	D	Syracuse, New Yo P: 1-315-445-255	ork 13214		Site Characterization ERM PROJECT #								
]	ER	M	1. 1-313-443-230	J .						SHEE	T 4 OF 5			
	DRII	LINC	G CONTRACTOR	Parratt Wolff Syracuse, NY					SENTAT	IVE	,			
			G FOREMAN	J. Percy				CE LOC E: STAR		Syracuse, NY 07/17/2017				
			G METHOD G EQUIPMENT	Direct Push CME-55			DAIL	FINIS		07/19/2017				
	GEC	GRA	PHIC COORDINAT	ËS		WELL C	ONSTR	RUCTIO	N		WELL			
	(NAI		33 StatePlane New \) Material:	Rise Carbon			Screen			/ELOPMENT rge and Pump - mechanical		
			RTHING	1078013.64	Diameter (ID): Coupling:	4-inc Thread	ch		Open Ho 4-inch None	le		ours		
			TING VATION	672361.09 606.43 ft	ooupiing.	111100			None		Guis. 1 diged.22			
F														
		7		STRATA DESCR	RIPTION					Ö	WELL CO	NSTRUCTION		
	-	ELEVATION						-		GRAPHIC LOG				
	DEPTH	EVA						DEPTH	nscs	ZAPI				
┝	B	Ц		ded, horizontal, fos				DE	ŝ	ö				
F		_		ded, norizontal, toss nedium fracture spa		•	,, - -							
F		_	Layer RQD = 3.3%	6 [biomicrite with co	arse crinoid dis	sc with fine								
-		_	-	regular bedding, fine en bedding fracture			-							
-		575— _	cotact](Continued)	-	e on ne de opp		-							
F	- 32	-					-	-						
-		_			-	32.5								
-		_	SANDY LIMESTO		-	02.0								
F		_		nicrocrystalline, me yer RQD = 3.75% [r		-	-							
F		_					-							
F	- 34	-					-	-						
F		_					-							
Ē		-					-							
F							-							
F							-							
F	- 36	_					-	-						
8		- 570-					-							
4/6/18		-					-							
: GDT		_					-							
		_	LIMESTONE bed	ded, lenticular, foss	iliferous dark o	urav (10Y₽		37.5						
TEM	- 38	-	4/1), microcrystalli	ine, medium fracture	e spacing, 90° l	bedding	F	-						
DATA		_	• •	= 3.6% [increased	styolites and ox	kidized pyr	ite							
ERM		-	framboids]				- -							
CGPJ		_					- -							
SK SC		_					- -							
GW LISK SC.GPJ ERM DATA TEMPLATE.GDT			· C.				F							
LION	REN Non	1ARK e.	.5.							NOTES:	: of bedrock core	ч		
WELL CONSTRUCTION							Casir	y set Zi	t into bed	ιυυκ, Ζυπ		J.		
ISNO:														
ELL C														
≥														

	9	5788 Widewaters Syracuse, New Yo	PROJEC	T: G.W. Lisl Site Characteri					ING # MW-0			
EF	RM	P: 1-315-445-255	54						PROJECT # 034 T 5 OF 5	6372		
DR	ILLING	G CONTRACTOR G FOREMAN G METHOD	Parratt Wolff Syracuse, NY J. Percy Direct Push		OFFI		SENTAT CATION T	IVE	J. Reynolds/ T. Syracuse, NY 07/17/2017	Daniluk		
DR	ILLING	EQUIPMENT	CME-55			FINIS	Н		07/19/2017			
		PHIC COORDINAT			CONST	RUCTIC				WELL /ELOPMENT		
(NA		3 StatePlane New Y) Ris Material: Carbor			Screen Open Ho	le		rge and Pump - mechanical		
		rthing Ting	1078013.64 672361.09	Diameter (ID): 4-ir Coupling: Threa	nch		4-inch None	-		ours		
		VATION	606.43 ft							-		
			000.101									
DEPTH	ELEVATION		STRATA DESCI	RIPTION		DEPTH	nscs	GRAPHIC LOG	WELL CO	NSTRUCTION		
	ш	LIMESTONE bed	ded lenticular foss	iliferous, dark gray (10Y	R							
E	_	4/1), microcrystalli	ne, medium fractur	e spacing, 90° bedding								
-			-	styolites and oxidized py	rite							
-	_	framboids](Continu	ued)									
_	565-											
- 42	2 -					_						
-	_				E							
-		LIMESTONE, bed	ded, horizontal, fos	siliferous, dark gray (10Y	'R	42.5						
-	-			e spacing, 90° bedding	F							
_	_	angle, Layer RQD	yolites, EOC @ 45ft.]									
_	_											
- 44	+ _					_						
-	_				-							
-					-							
-	=				_	45 –						
_												
- 46	, –				_	_						
46 -	-											
/6/18 1 1	560											
DT 4,	_											
ТЕ G	_											
APLA.	_				\vdash							
	3 -				F	_						
DAT.					F							
ERM 	-				F							
GPJ					F							
X - 00 -	_				E							
M LIS	_											
4	MARK	S:			WEL			I NOTES:	:			
NOI NOI	ne.				Casir	ng set 21	ft into bed	rock, 20ft	t of bedrock cored	1.		
ISTR												
CO												
WELI												

ſ			5788 Widewaters	PROJEC s Pkwy		G.W. Lisk				BORI	NG# M V	<i>N-</i> 01S
	N	Ų	Syracuse, New Y P: 1-315-445-25		Site (Characteriz	ation				ROJECT #	0346372
-	EK	M					FDM				1 OF 3	
	DRI		G CONTRACTOR	Parratt Wolff Syracuse, NY					ESENTAT	IVE	J. Reynolds Syracuse, I	s/ T. Daniluk
			G FOREMAN	I. Grasse			-				07/17/2017	
			G METHOD G EQUIPMENT	Direct Push CME-55			DAIL	FINIS			07/19/2017	
ŀ						WELL C					01/10/2011	WELL
				York East (US Feet))	Rise			Screen			DEVELOPMENT
	(RTHING	1078013.64	Material:	Schedule	40 PVC	Sched	ule 40 PVC,	0.010-slot		Surge and Pump - mechanica
		EAS	STING	672361.09	Diameter (ID): Coupling:	2-ind Threa			2-inch Threade	d	Duration: Gals. Purge	0.25 hours ed:2.07
		ELE	VATION	606.43 ft								
		7		STRATA DESCR	RIPTION					GRAPHIC LOG	WELL	CONSTRUCTION
		ELEVATION								ICL		Casing Type:
	TH	LAN						тн	တ္လ	ΗΗ		12-inch Flushmount
	DEPTH	ELE						DEPTH	nscs	GRV		Traffic-Rated Manhole
	-	-	[asphalt]				_	0.3 -				
	-		GRAVELLY SAN	D (GP-SP) fine to m	edium grained	SAND;		0.0	GP-SP			
	-		-	o coarse grained GF	RAVEL; loose,	dry, reddis	h –	1		\sim \sim		
-	-	_	brown (5YR 4/3),	[asphalt]			-					
_	-	605-		D (GP-SP) fine grain		-	ne 📋		GP-SP			
	- - 2	=	-	I GRAVEL; loose, so cobbles; dry to mois			» / -	- 2 -		$\sim \bigcirc \bigcirc \circ$		
	-	-	<u> </u>				<u>"</u>					
-	-	_	•	 fine grained SANE lar gravel, dry to moi 			/3)					
	-	_	modiamodobanga	iai gravel, aly te me			-		SM			
	-	-										
	-	_										
ŀ	- 4	=	SAND (SP) fine o	rained SAND; loose	some gravel	some		- 4 -				
	-	_		oist, brown (10YR 4/	-	Some	F		SP			
	-	_		, , , , , , , , , , , , , , , , , , ,	,							
	-	11 11	GRAVELLY SAN	D (GP-SP) poorly gr	aded, fine to m	edium ara	ined –	5 -		$\sim 0 \circ$		
-	-			ar, fine grained GRA			-			$\mathcal{O}^{\mathcal{O}}_{\mathcal{O}}$		
-	-	_	brown (10YR 4/3))			F			$\circ \bigcirc \bigcirc \circ$		
	- 6	_					_	-	GP-SP	$^{\circ}$		
/18	-	600-								$\sim \bigcirc \bigcirc \circ$		
T 4/6	-	-					-	7 -)		
E GD	-			ly graded, fine to me	dium grained S	SAND; soft	, –	/ -				
PLAT	-		dry to moist, brow	vn (10YR 4/3)			_			· · · · · · · · · · · · · · · · · · ·		
TEMF	- 8	_						-	SW			Cement/Bentonite
ATA	-	_					L					Grout
RMD	-	_					_					Schedule 40 PVC
Ъ	-	=		A) 6		- A		9 -				
SC.G	-	-	SILTY SAND (SM brown (10YR 4/3)	 fine to medium gra 	ained SAND; so	oft, saturat	ed,					
LISK	-	_		,			F		SM			
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18	RF	/ARK	(S:				14/51	IN IOT			\searrow	
TION	Non		- 1				WELL None		ALLATION	INUTES:		
RUC												
LSNC												
LL C(
Ň												

	5788 Widewaters Pkwy	G.W. Lisk				BORI	NG # MW-018	6	
FRM	Syracuse, New York 13214 P: 1-315-445-2554	Site Characteriz	ation				ROJECT # 0346	372	
DRILLING	G CONTRACTOR Parratt Wolff		ERM	REPRE	SENTATI		J. Reynolds/ T. D	aniluk	
	Syracuse, NY				ATION		Syracuse, NY		
	G FOREMAN I. Grasse G METHOD Direct Push		DATE	: STAR	т		07/17/2017		
	GEQUIPMENT CME-55		FINISH				07/19/2017		
GEOGRA	PHIC COORDINATES	WELL C	ONSTR	RUCTIC	N			WELL	
(NAD 198	3 StatePlane New York East (US Feet	,		0.1.1	Screen	0.040		LOPMENT	
	RTHING 1078013.64	Material: Schedule Diameter (ID): 2-inc	ch	Scheal	lle 40 PVC, 2-inch		Duration: 0.25	e and Pump - mechanical hours	
	5TING 672361.09	Coupling: Thread	ded		Threadeo		Gals. Purged:2.07		
ELE	VATION 606.43 ft								
z	STRATA DESCI	RIPTION				GRAPHIC LOG	WELL CONS	STRUCTION	
ATIC				т		HIC			
DEPTH ELEVATION				рертн	nscs	ßRAF			
	SANDY SILT (MLS) fine grained SAN	ID [.] firm wet brown (10YF	2	10.2 -					
	(4/3)			10.2	SM				
	SILTY SAND (SM) fine to medium gra	ained SAND; firm, wet, bro	own	10.7 -	MLS SM				
	(10YR 4/3), [well sorted]			11 –					
- 595— -	SANDY SILT (MLS) fine grained SAN	ID; firm, wet, brown (10YF	ર ∥ [MLS				
- 12 -	4/3)			12 -					
	SILTY SAND (SM) fine to medium gra		ine _	12					
	subangular gravel, wet, brown (10YR		/ F		SM				
	SANDY SILT (MLS) fine grained SAN subangular gravel, wet, brown (10YR	•		13 -					
	SILTY SAND (SM) fine to medium gra			10.5	SP				
	subangular gravel, saturated, brown (13.5	SP				
— 14 [—] -	SAND (SP) fine grained SAND; firm,	saturated, brown to grayis	sh /	14 -					
	brown (10YR 5/2)				SM				
	SAND (SP) fine grained SAND; firm,	some fine subangular gra	vel,	15 -				Bentonite Seal	
	saturated, brown (10YR 4/3)		<u> </u>		MLS				
	SANDY SAND (SM) fine grained SAN brown to brown (10YR 5/2)	ND, IIIII, Saturateu, grayis	"/Æ	15.5 <u>–</u> 15.6 –	CL				
- 16 -	SANDY SILT (MLS) fine grained SAN	ID [,] firm saturated pale		16 -	IVILS				
 ∞ - 590-	brown (10YR 6/3)		∥ F		SM				
. 4/6/1	CLAY (CL) stiff, wet, brown (10YR 4/3	3)		16.7 -	MLS				
	SANDY SILT (MLS) fine grained SAN	ID; firm, saturated, brown		17 –					
LATE	(10YR 4/3)		[‡		SM				
WELL CONSTRUCTION GW LISK SC. GPJ ERM DATA TEMPLATE.GDT 4/6/18	SILTY SAND (SM) fine grained SANE brown (10YR 4/3)); medium dense, saturate	ed, -	- 18 -					
DAT/	SANDY SILT (MLS) fine grained SAN	ID [,] firm saturated brown			MLS				
ERM	(10YR 4/3)				IVILO				
	SILTY SAND (SM) fine grained SANE); soft, saturated, brown	一	19 –	CL-ML			#00 Morie Gravel Pack	
×	(10YR 4/3)			19.5 -				0.010-slot Schedule	
	SANDY SILT (MLS) fine grained SAN	ID; soft, trace clay, wet,			CL			40 PVC Screen	
REMARK	S:				LLATION	NOTES:			
SUCT			None.						
NSTF									
T CC									
WEI									

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		5	5788 Widewaters			G.W. Lisk				BORI	NG # MW-01	S
	FR	M	Syracuse, New Yo P: 1-315-445-255	ork 13214 54	Site C	Characteriz	ation				PROJECT # 0346	6372
	DRIL DRIL	LING	G CONTRACTOR G FOREMAN G METHOD G EQUIPMENT	Parratt Wolff Syracuse, NY I. Grasse Direct Push CME-55			OFF			IVE	J. Reynolds/ T. I Syracuse, NY 07/17/2017 07/19/2017	Daniluk
			APHIC COORDINAT			WELL C	ONST				1	WELL
	(NAE	0 198	33 StatePlane New Y	ork East (US Feet)	Rise			Screen	1		ELOPMENT
		NOF	RTHING	1078013.64	Material: Diameter (ID):	Schedule 2-inc		Sched	ule 40 PVC 2-inch	, 0.010-slot		ge and Pump - mechanical hours
		EAS	TING	672361.09	Coupling:	Threa			Threade		Gals. Purged:2.07	
		ELE	VATION	606.43 ft					1			
	DEPTH	ELEVATION		STRATA DESCI	RIPTION			DEPTH	uscs	GRAPHIC LOG	WELL CON	ISTRUCTION
	_		brown (10YR 4/3)					20				
	-		SILTY CLAY (CL-I brown (10YR 4/3)	ML) medium plastic	city, medium dei	nse, wet,		20.7 -	MLS SP			
	-	-	CLAY (CL) high pl	asticity, firm, moist	, brown (10YR 4	4/3)	_//_	21 -				
	- - - 22	585— — —	SANDY SILT (MLS 4/3)	S) fine grained SAN	ID; firm, wet, br	own (10YF	2		SM			– Bottom Cap
		-	SAND (SP) fine to saturated, brown (-	AND; soft, trace	e silt,		22.5 -				
		-	SILTY SAND (SM) to medium subrou 4/3), [minor oxidati	nd gravel, trace silt			ne	22.8 - 23.1 -	GM			
	_	_	LIMESTONE FRA				—// E					
	- 24	_		(GM) angular, fine f	o modium aroin			_				
	-			nd, saturated, brow	-							
	-	_										
	_	_										
	- 26 -	_					-					
6/18	_	580-					-					
DT 4/	_	_					_					
TE.GI	_	_										
APLA	_	_										
A TEN	- 28	_					-	_				
DAT	-											
ERN	-	_					_					
GPJ	-	_					-					
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18	-						-					
N GW	REN	IARK	S:				WEI	I INST		NOTES:	1	1
CTIO	None	Э.					None					
STRUC												
CONS												
VELL												
_												

		9	5788 Widewaters Pkwy		G.W. Lisk				BORI	NG # MW-02D
	FR	M	Syracuse, New York 13214 P: 1-315-445-2554	Site C	Characteriz	zation				ROJECT # 0346372 「1 OF 4
	DRI	LLINC	G CONTRACTOR Parratt Wolff Syracuse, NY					SENTATI	IVE	J. Reynolds/ T. Daniluk
			G FOREMAN I. Grasse G METHOD Direct Push					CATION RT		Syracuse, NY 09/23/2017
			G EQUIPMENT Geoprobe 6712D1	Г			FINIS	Н		10/22/2017
			APHIC COORDINATES)	WELL C		UCTIC	ON Screen		WELL DEVELOPMENT
	(11/4)		RTHING 1078121.73	Material: Diameter (ID):	Carbon 5-ind	Steel		Open Hoi 5-inch	le	Method: Surge and Pump - mechanical Duration: 1 hours
			STING 672663.84	Coupling:	Threa			None		Gals. Purged:25
		ELE	VATION 607.37 ft							
		z	STRATA DESCR	RIPTION					DOG	WELL CONSTRUCTION
	Т	ATIO					Т		HIC	Casing Type:
	рертн	ELEVATION					DEPTH	uscs	GRAPHIC LOG	12-inch Flushmount Traffic-Rated Manhole
	_		[concrete]							
	_	=	GRAVELLY SAND (GP-SP) coarse gr		ubroundo	-	0.7 -	: ; ;		
	_	_	coarse grained GRAVEL; loose, moist	-		u,		GP-SP)	
	_	_				-		GP-SP	$^{\circ}$	
	2 	-	GRAVELLY SAND (SM) fine grained S	SAND; loose, li	ttle silt, m	oist, _	2 -			
	_	605— —	brown (10YR 4/3)			-		SM		
	_	_	SILTY SAND (SM) fine grained SAND	: loose, some i	medium		3			
	_	_	subround gravel, moist, brown (10YR			_		SM		
	- 4	-	SILTY SAND (SM) fine grained SAND	· loose some	clav moist	. –	4			
	_	_	gray (10YR 6/1)	, 10030, 30110	oldy, 110131	, _		SM		
	_	_				-	5			
	_	_	SILTY SAND (SM) fine grained SAND reddish brown (5YR 4/4)	; nard, some c	obbles, ar	y, _		SM		
	- 6	_				-	6			
18	_	_	SILTY SAND (SM) fine grained SAND fragments, dry, brown (10YR 4/4)	; medium dens	se, some r	ock _	6.5 -	SM		
T 4/6/	_	_	SAND (SP) fine to medium grained SA		e fine to	Ē				
TE.GD	_	- 600-	medium subangular gravel, dry, brown	i (10YR 4/4)		_		SP		
EMPLA	_	_				-		55		
ΑΤΑ Τ	- 8 -	_				E		-		
ERM D	_	-	SAND (SP) fine to medium grained SA	ND; firm, som	e silt, dry,	_	8.5	SP		
C.GPJ	_	_	reddish brown (5YR 4/4) SAND (SP) fine to coarse grained SAN	ND [.] firm_trace	fine to	_	9			
LISK S	_	-	medium subangular gravel, wet, light b			_		SP		
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18		/ARK	<u>table @ 9.5ft.]</u> :S:			WELL	INST		NOTES:	
RUCTIC	Non	e.				None.				
ONSTE										
VELL C										
>										

		2	5788 Widewaters Pk Syracuse, New York P: 1-315-445-2554			G.W. Lisk Characteriz	ation			ERM P	NG # MW-02 PROJECT # 034	
]	ER	M									Г 2 OF 4	
	DRII DRII	LLING	S FOREMAN I. S METHOD D	Parratt Wolff Syracuse, NY Grasse Direct Push Geoprobe 6712D	т			E LOC		VE	J. Reynolds/ T. Syracuse, NY 09/23/2017 10/22/2017	Daniluk
	GEC	DGRA	PHIC COORDINATES			WELL C	ONSTR	UCTIC	N			WELL
	(NAI		3 StatePlane New York	< East (US Feet)) Material:	Rise Carbon			Screen Open Hol	1 0		ELOPMENT
				078121.73	Diameter (ID): Coupling:	5-inc Thread	:h		5-inch None	e		ge and Fump - mechanical ours
				72663.84 07.37 ft	ooupiing.	111/04			None		Gais. Furged.20	
	DEPTH	ELEVATION	S	STRATA DESCF	RIPTION			DEPTH	nscs	GRAPHIC LOG	WELL COM	NSTRUCTION
_							_	10.25 -	SP .			 Carbon Steel Riser
-		-	COBBLES GRAVEL (GP) subany brown (10YR 4/4)	gular, medium g	rained GRAVE	L; loose, w		10.4 -	GP			Cement/Bentonite
-	12	- - 595-	SAND (SP) fine grain mottling, light grayish	brown (10YR 6/			/n	11.5 -	SP			
-		-	BOULDERS [limestor), firme a como firm		-	13 -				
	14		SILTY SAND (SM) fin subangular gravel, we odor	-			- m. - - - - - - - - -		SM			
- 4/6/18	16		SANDY GRAVEL (GF brown (10YR 5/2), org from 16 to 16.5ft., till-	ganic-like odor, [H 1	15.5 –	GP-SP			
LATE.GD1		 590—	SILTY SAND (SM) fin (10YR 5/2), organic-lil	-); firm, wet, gra	yish browr		17 – 17.5	SM			
ATA TEMF	18	_	SILTY SAND (SM) me 4/3), organic-like odor)YR - -	18	SM					
SC.GPJ ERM D		-	SILTY SAND (SM) me medium subangular g odor				SM					
LISK		-	[bedrock @ 19.5ft] LI	MESTONE, [drill	ed to 20.5ft. to	set casing	1	19.5 -				
4	REN Non	 /ARK e.	S:				WELL None.	INSTA	ALLATION	NOTES:		
WELL CONST												

ſ		•	5788 Widewaters Pkwy	T: G.W. Li	sk				BORI	NG # MW-02	D
	N	2	Syracuse, New York 13214 P: 1-315-445-2554	Site Characte	eriza	ation				PROJECT # 034	6372
╞	ER	M	G CONTRACTOR Parratt Wolff					SENTAT		T 3 OF 4	Doniluk
	DRI	LLINC	CONTRACTOR Parratt Wolff Syracuse, NY				CE LOC	-	IVE	J. Reynolds/ T. I Syracuse, NY	Daniiuk
			G FOREMAN I. Grasse G METHOD Direct Push				STAR			09/23/2017	
			G EQUIPMENT Geoprobe 6712D	т			FINISI	Н		10/22/2017	
	GEC	DGRA	PHIC COORDINATES	WELI	LC	ONSTR	RUCTIO	N			WELL
	(NA		3 StatePlane New York East (US Feet) F Material: Carb	Rise			Screen Open Ho			ELOPMENT ge and Pump - mechanical
			RTHING 1078121.73	Diameter (ID): 5-	-inci read	h		5-inch None	le	Duration: 1 hc Gals. Purged:25	ours
			TING 672663.84 VATION 607.37 ft		eau	eu		None		Gais. Furgeu.25	
ŀ			007.57 It								
			STRATA DESCR	RIPTION					Ŋ	WELL CON	ISTRUCTION
		ELEVATION							GRAPHIC LOG		
	ΤH	VAT					TH	S	Η		
	DEPTH	ELE					DEPTH	uscs	GR/		
F	-	_	[bedrock @ 19.5ft] LIMESTONE, [drill	ed to 20.5ft. to set		-					
F	-	7	casing](Continued)			F	20.5				
	-	_	LIMESTONE, slightly weathered, med (10YR 4/1), microcrystalline, medium		< gr	ay –					
	-	_	bedding angle, Layer RQD = 3.79% [c		5,	-					
	-		slightly fractured, some weathering in	fractures, mechanical		F					
	- 22		breaks along chert boundaries, some	styolites]		-	-				
	-	585-				L					
	-	_				L					
	-					F					
	-	_				F					
	- 24					F	-				
	-					-					
	-	_				-					
	-	_				-					
	-	_	LIMESTONE, slightly weathered, med	lium fossiliferous dark	ar	- -	25.5				
	- 26	-	(10YR 4/1), microcrystalline, medium		(gi	ay _	_				
		_	bedding angle, Layer RQD = 3.91% [c	lark gray chert nodules		F					
4/6/18	-	-	some weathering in fractures, mechan boundaries, mechanical break from 29			, E		-			
5DT	-		boundaries, mechanical break nom 2	9.3-29.71L, LOC @ 30.	JIL.	1 -					
ATE.(-	580-				F					
EMPL	-	_				F					
TAT	- 28	-				-	-				
MD/	-					F					
Ш С	-	-				F					
SC.G	-	_				F					
LISK	-					F					
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT	REN	<i>I</i> ARK	S:			WEU				<u> </u>	1
ICTIO.	Non	e.				None					
STRU											
CON											
WELL											

		9	5788 Widewaters Syracuse, New Y P: 1-315-445-258	Pkwy ork 13214	PROJEC		G.W. Lisk Characteriz					NG # MW-02 PROJECT # 0346	
	ER	M	8								SHEE	T 4 OF 4	
	DRII DRII	LLIN(LLIN(G CONTRACTOR G FOREMAN G METHOD G EQUIPMENT	Parratt W Syracuse I. Grasse Direct Pu Geoprob	e, NY e ish	т		OFFIC DATE:	E LOC		VE	J. Reynolds/ T. I Syracuse, NY 09/23/2017 10/22/2017	Daniluk
	GEC)GR/	APHIC COORDINAT	ES			WELL C	ONSTR	UCTIC	N			WELL
	(NA		33 StatePlane New) Material:	Rise Carbon			Screen Open Hol	le		ELOPMENT ge and Pump - mechanical
			RTHING STING	1078121 672663.8		Diameter (ID): Coupling:	5-inc Threa	ch		5-inch None	•	Duration: 1 ho Gals. Purged:25	urs
			VATION	607.37 ft									
	DEPTH	ELEVATION		STRAT#	A DESCF	RIPTION			DEPTH	nscs	GRAPHIC LOG	WELL CON	ISTRUCTION
									30.5 –				
	- 32 	- - 575						-					
	- - -	-						-					
	34 - - -							-					
		-											
T 4/6/18	36 												
TEMPLATE.GL	- - - - 38	570- - - 38											
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18													
BW LISK SC.	-							-					
RUCTION C	REN Non	//AR⊭ e.	(S:					WELL None.	INSTA	LLATION	NOTES:		
WELL CONSTF													

ERM P. 1:319:443-2534 SHEET 1 OF 3 DRILLING CONTRACTOR Paratt Wolff Syracuse, NY DRILLING FOREMAN I. Grasse I. Reynolds/T. Daniluk OFFICE LOCATION J. Reynolds/T. Daniluk OFFICE LOCATION Syracuse, NY DIVELL DRILLING SCOURPMENT Geoprobe 6712DT Item REPRESENTATIVE FINISH J. Reynolds/T. Daniluk OFFICE LOCATION Syracuse, NY DIVELL CECOGRAPHIC COORDINATES WELL CONSTRUCTION WELL CONSTRUCTION WELL DIVELT WELL DIVELT (NAD 1983 StatePlane New York East (US Feet) Bitset Materiatic Schedule 40 PVC Diverter			9	5788 Widewaters Pkwy Syracuse, New York 13214	PROJEC		G.W. Lisk Characteriz					NG # MW	
Syracuse, NY OFFICE LOCATION Syracuse, NY DRILLING FOREMAN L Grasse 09232017 DRILLING EQUIPMENT Geoprobe 6712DT FINISH 10/22/2017 CECORAPHIC COORDINATES WELL CONSTRUCTION WELL (NAD 1983 StatePlane New York East (US Feet) Biser Stream DeveloPMENT NORTHING 1078121.73 Biser Stream DeveloPMENT EASTING 672663.84 Material: Stream 2-inch DeveloPMENT Damafer (ID): Schedule 40 PVC. 0.016.bit DeveloPMENT DeveloPMENT ELEVATION 607.37 ft Material: Stream 2-inch DeveloPMENT GRAVELLY SAND (SP): poarse grained SAND; subrounded, coarse grained GRAVEL; loose, mist, brown (10YR 4/3) 0.7 GP-SP Gerament/Bendu SILTY SAND (SM) fine grained SAND; loose, some medium subround gravel, molst, brown (10YR 4/4) 5 SM SM SM 4 SILTY SAND (SM) fine grained SAND; hard, some cobbles, dry, redish brown (5YR 4/4) 5 SM SM SM		ER	M	P: 1-315-445-2554									5540572
(NAD 1983 StatePlane New York East (US Feet) Biser Screen DEVELOPMENT NORTHING 1078121.73 Easting 672663.84 Caping Schedule 40 PVC, 0.010-skt Method: 2-inch Surge and Pump - mec EASTING 672663.84 ELEVATION 607.37 ft Well Construction 0.5 Thours Method: 2-inch Surge and Pump - mec Weild STRATA DESCRIPTION Threaded Weild Weild Surge and Pump - mec Method: STRATA DESCRIPTION Threaded Weild Weild Casing Type: H G G G G G G G G GRAVELLY SAND (GP-SP) coarse grained SAND; subrounded, coarse grained GRAVEL; loose, moist, brown (10YR 4/3) SM G G G G G G G G G G G G G G G G G G G G G G G G G G G G G G G G G G G G G G G		DRI DRI	LLING	Syracus FOREMAN I. Grasse METHOD Direct Po	e, NY e ush	т		OFFI	CE LOO	CATION T	IVE	Syracuse, N 09/23/2017	
Image: Constraint of the start of the s									RUCTIC				
Note STRATA DESCRIPTION WELL CONSTRUCTION Hand Image: Strata Description Image: Strata Description Casing Type: Trained Flushing Image: Strata Description Image: Strata Description Image: Strata Description Casing Type: Trained Flushing Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Casing Type: Trained Flushing Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Casing Type: Trained Flushing Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: Strata Description Image: St		(NA	NOF	RTHING 1078121	.73	Material: Diameter (ID):	Schedule 2-inc	40 PVC ch	Schedi	ule 40 PVC 2-inch	, 0.010-slot	Method: Duration:	Surge and Pump - mechanical 0.5 hours
Image: state of the state			ELE	VATION 607.37 ft	t							I	
GRAVELLY SAND (GP-SP) coarse grained SAND; subrounded, coarse grained GRAVEL; loose, moist, brown (10YR 4/3) GP-SP GRAVELLY SAND (SM) fine grained SAND; loose, some medium subround gravel, moist, brown (10YR 4/4) SILTY SAND (SM) fine grained SAND; loose, some medium subround gravel, moist, brown (10YR 4/4) SILTY SAND (SM) fine grained SAND; loose, some clay, moist, gray (10YR 6/1) SILTY SAND (SM) fine grained SAND; loose, some clay, moist, gray (10YR 6/1) SILTY SAND (SM) fine grained SAND; hard, some cobbles, dry, reddish brown (5YR 4/4) GRAVELLY SAND (SM) fine grained SAND; hard, some cobbles, dry, reddish brown (5YR 4/4) GRAVELLY SAND (SM) fine grained SAND; hard, some cobbles, dry, reddish brown (5YR 4/4) GRAVELLY SAND (SM) fine grained SAND; medium dense, some rock GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-SP GP-		DEPTH	ELEVATION	STRAT	A DESCF	RIPTION			DEPTH	NSCS	GRAPHIC LOG	WELL C	Casing Type: 12-inch Flushmount Traffic-Rated
GRAVELLY SAND (GP-SP) coarse grained SAND; subrounded, coarse grained GRAVEL; loose, moist, brown (10YR 4/3) GP-SP GRAVELLY SAND (SM) fine grained SAND; loose, little silt, moist, brown (10YR 4/3) SILTY SAND (SM) fine grained SAND; loose, some medium subround gravel, moist, brown (10YR 4/4) SILTY SAND (SM) fine grained SAND; loose, some clay, moist, gray (10YR 6/1) SILTY SAND (SM) fine grained SAND; hord, some cobbles, dry, reddish brown (5YR 4/4) 6 SILTY SAND (SM) fine grained SAND; medium dense, some rock SILTY SAND (SM) fine grained SAND; medium dense, some rock SILTY SAND (SM) fine grained SAND; medium dense, some rock SILTY SAND (SM) fine grained SAND; medium dense, some rock		-	_	[concrete]				-					
GRAVELLY SAND (SM) fine grained SAND; loose, little silt, moist, brown (10YR 4/3) SILTY SAND (SM) fine grained SAND; loose, some medium subround gravel, moist, brown (10YR 4/4) SILTY SAND (SM) fine grained SAND; loose, some clay, moist, gray (10YR 6/1) SILTY SAND (SM) fine grained SAND; hard, some cobbles, dry, reddish brown (5YR 4/4) SILTY SAND (SM) fine grained SAND; hard, some cobbles, dry, reddish brown (5YR 4/4) Grout Schedule 40 F Riser		- - - - - -		, ,	-			d,		GP-SP			
 SILTY SAND (SM) fine grained SAND; loose, some medium subround gravel, moist, brown (10YR 4/4) SILTY SAND (SM) fine grained SAND; loose, some clay, moist, gray (10YR 6/1) SILTY SAND (SM) fine grained SAND; hard, some cobbles, dry, reddish brown (5YR 4/4) SILTY SAND (SM) fine grained SAND; hard, some rock SILTY SAND (SM) fine grained SAND; medium dense, some rock SILTY SAND (SM) fine grained SAND; medium dense, some rock 		2 	-		grained	SAND; loose, l	ittle silt, m	oist,		SM			
Riser		- - -	-				medium	-	- 1	SM			
SILTY SAND (SM) fine grained SAND; hard, some cobbles, dry, reddish brown (5YR 4/4) SILTY SAND (SM) fine grained SAND; medium dense, some rock SILTY SAND (SM) fine grained SAND; medium dense, some rock SM		-	-		ed SAND); loose, some	clay, moist	t, _ _ _		SM			
SILTY SAND (SM) fine grained SAND; medium dense, some rock		-	-	–	ed SAND); hard, some c	obbles, dr	y, _	5	SM			
SAND (SP) fine to medium grained SAND; firm, some fine to medium subangular gravel, dry, brown (10YR 4/4) 8 SAND (SP) fine to medium grained SAND; firm, some silt, dry, reddish brown (5YR 4/4) SAND (SP) fine to coarse grained SAND; firm, trace fine to medium subangular gravel, wet, light brown (10YR 6/3), [water table @ 9.5ft.] REMARKS: None. WELL INSTALLATION NOTES: None.	1/6/18			fragments, dry, brown (10YR	4/4)			ock		SM			✓ Bentonite Seal
VOTING CONTINUENT OF CONTINUENT. CONTINUE CONTINUE CONTINUE	A TEMPLATE.GDT 4	- - - - - 8	- 600- - -			ie fine to		-	SP				
SAND (SP) fine to coarse grained SAND; firm, trace fine to medium subangular gravel, wet, light brown (10YR 6/3), [water table @ 9.5ft.] SP SP REMARKS: None. WELL INSTALLATION NOTES: None.	GPJ ERM DAT			reddish brown (5YR 4/4)		-	-		SP				
REMARKS: WELL INSTALLATION NOTES: None. None.	3W LISK SC.	-		medium subangular gravel, v table @ 9.5ft.]				-		SP			
WELL CONST	RUCTION 6	REN Non		S:						ALLATION	NOTES:		
	VELL CONST												

ſ			5788 Widewaters	PROJEC		G.W. Lisk				BORI	NG # MW-02	S
		2	Syracuse, New Yo P: 1-315-445-255	ork 13214	Site C	Characteriz	ation				PROJECT # 034	
	ER	M	1. 1-515-445-255							SHEET	T 2 OF 3	
	DRIL	LINC	G CONTRACTOR	Parratt Wolff Syracuse, NY					ESENTAT	IVE	J. Reynolds/ T. I	Daniluk
			G FOREMAN	I. Grasse				CE LOO	CATION		Syracuse, NY 09/23/2017	
			G METHOD G EQUIPMENT	Direct Push Geoprobe 6712D	т		DAIL	FINIS			10/22/2017	
ł	GEC	GRA	PHIC COORDINAT			WELL C	CONSTR	RUCTIO	ON			WELL
	(NAI	D 198	3 StatePlane New Y	′ork East (US Feet	·	Rise			Screen			ELOPMENT
			RTHING	1078121.73	Material: Diameter (ID):	Schedule 2-inc Threa	ch	Schea	ule 40 PVC, 2-inch Threade		Duration: 0.5	ge and Pump - mechanical hours
			TING VATION	672663.84 607.37 ft	Coupling:	ninea.	ueu		IIIeaue	u	Gals. Purged:7	
ł			Witten	001.07 11								
		-		STRATA DESCR	RIPTION					g	WELL CON	ISTRUCTION
	_	ELEVATION						_		GRAPHIC LOG		
	рертн	EVA						DEPTH	nscs	APF		
	DE	Ш						DE		Ъ	r.:	1
	-	-						10.25 - 10.4 -	SP			
	-	-	GRAVEL (GP) sub	angular, medium g	rained GRAVE	L; loose, w	vet,					
	-	-	brown (10YR 4/4)				-		GP			
	-		SAND (SP) fine or	ained SAND; firm, s	some coal wet	aray/brow	- vn	11.5 -		• ^° _°		
	- 12	-		ish brown (10YR 6/		• •	-	-	SP			
	-	595-						12.4 -				
	-	_	BOULDERS [limes	stone pieces]			F					
	-	-	SILTY SAND (SM)) fine grained SANE); firm, some fir	ne to medi	um –	13 -				
	-	_		wet, grayish brown	i (10YR 5/2), or	ganic-like	-					◄#00 Morie Gravel
	- 14	-	odor				-	-				Pack - 0.010-slot Schedule
	-	_					_		SM			40 PVC Screen
	-	_					-					
	-	_					_					
	-		SANDY GRAVEL	(GP-SP) fine graine	d SAND: firm	wet aravis	- 2h	15.5 -		5000		
	- 16	-		organic-like odor, [-)		
	-	_	from 16 to 16.5ft.,	till-like]			-		GP-SP			
4/6/18	-	_					-			$\sum_{i=1}^{n}$		
GDT	-	-	SILTY SAND (SM)) fine grained SANE); firm, wet, gra	yish browr	1	17 -	SM	$\left(\right) $		
LATE	-	590- -	(10YR 5/2), organi	c-like odor			-	17.5	-			
TEMF	- 18	-) medium grained S	AND; firm, wet	, brown (10	OYR -	- 18	SM			
DATA	-	_	4/3), organic-like o		AND: firm ac-	no fino to	F					
ERM	-	_) medium grained S ar gravel, wet, brow			, -		SM			
.GPJ	-	-	odor			-	F					
SK SC	-							19.5 -				
3W LI		-					-					– Bottom Cap
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT	REM None		S:						ALLATION	NOTES:		
RUCT							None.					
DNST												
ELL C												
ŝ												

		2	5788 Widewaters Syracuse, New Yo P: 1-315-445-255	ork 13214		G.W. Lisk Characteriz					NG # MW-02 PROJECT # 0346	
	ER	M	P: 1-315-445-255	94							T 3 OF 3	
	DRI	LLIN	G CONTRACTOR	Parratt Wolff Syracuse, NY					SENTATI	VE	J. Reynolds/ T. I	Daniluk
				I. Grasse				STAR	ATION T		Syracuse, NY 09/23/2017	
			G METHOD G EQUIPMENT	Direct Push Geoprobe 6712	ЭT		27.112	FINIS			10/22/2017	
			APHIC COORDINATI			WELL (CONSTR	RUCTIC	N			WELL
	(NA		33 StatePlane New Y) Material:	Rise Schedule		Schedu	Screen Ile 40 PVC,	0.010-slot		ELOPMENT ge and Pump - mechanical
			rthing Sting	1078121.73 672663.84	Diameter (ID): Coupling:	2-ind Threa	ch		2-inch Threaded		Duration: 0.5 Gals. Purged:7	hours
			VATION	607.37 ft								
		N		STRATA DESC	RIPTION					DOL	WELL CON	ISTRUCTION
	DEPTH	ELEVATION						DEPTH	nscs	GRAPHIC LOG		
	 					-			0			
	_	_					-					
	_						-					
	22	_					_	_				
	-	 585					_					
	-	-					-					
	_	-					-					
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	- 24	_					-	-				
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	_	_					_					
	_	_					_					
	_	_					-					
	26	-					-	-				
1/6/18	_	_					F					
3DT 4	_	_					F					
LATE.(-	580-					E					
TEMP	- 28	_				F						
DATA	_					F						
ERM	_	-					+					
C.GPJ	_	_					F					
LISK S	-	-					E					
CTION GWL	REN Non	/ARk e.	KS:				WELL None		LLATION	NOTES:	I	
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18												

			5788 Widewaters Pkwy	PROJEC		G.W. Lisk				BORI	NG # MW-0	3D
	N	Ľ	Syracuse, New York 13214 P: 1-315-445-2554		Site C	haracteriz	zation				PROJECT # 034	46372
	ER	M		14/-155							T 1 OF 3	Devellede
			CONTRACTOR Parratt Syracus	se, NY					ESENTAT CATION	IVE	J. Reynolds/ T. Syracuse, NY	Daniluk
	DRII	LLING	G FOREMAN I. Grass G METHOD Direct F	Push			DAT	E: STAF			09/29/2017	
			EQUIPMENT Geopro	be 6712D	Т	WELL (FINIS			10/21/2017	
			3 StatePlane New York East	(US Feet))	Rise		RUCTIC	Screen		DE	WELL VELOPMENT
		NOF	RTHING 107801	5.23	Material: Diameter (ID):	Carbon 5-ind	ch		Open Ho 5-inch	le	Duration: 1 h	rge and Pump - mechanical nours
			TING 672662 VATION 607.26	-	Coupling:	Threa	ded		None		Gals. Purged:13	
			VATION 007.20	it.								
		z	STRAT	TA DESCF	RIPTION					LOG	WELL CO	NSTRUCTION
	т	ATIO						т		HIC		Casing Type:
	рертн	ELEVATION						DEPTH	nscs	GRAPHIC LOG		12-inch Flushmount Traffic-Rated
	_	<u> </u>	[concrete]									Manhole
	-	_					-					
	-	-	GRAVEL (GP) subangular,		o coarse grained	GRAVE	L; /	0.8 - 1 -	GP			
	_	_	\loose, dry, grayish brown (1 SAND (SW) fine to medium		AND [.] loose dry	, brown			SW	• • • • • • • • • • • • • • • • • • •		
	- 2	-	(10YR 4/3), [well sorted]	granica c	, 110, 10000, urj	y, brown		- 2				
	-	605-	SILTY SAND (SM) fine to m	-			nse,					
	-	_	some coarse subangular, di	ry to moisi	l, DIOWII (101R 4	4/3)			SM			
	_	_					_		SIM			
	-	-					_					
	4	_	SANDY SILT (MLS) fine gra			•	fine	- 4 -				
	-	_	to coarse angular gravel, me	oist, reddi:	sh brown (5YR 4	4/4)		-				
	_	-						- -	MLS			
	_	_					_	- -				
	- 6	-						- 6 -				
18	-		SAND (SP) fine grained SA brown (5YR 4/4), [poorly so		trace silt, moist,	reddish		- - 6.5 -	SP	лалалала		
T 4/6/	-		CLAYEY SILT (CL-ML) firm	-		ne to med	lium	- 7	CL-ML			
TE.GC	_	600-	gravel, moist, reddish brown SILTY CLAY (CL-ML) low p			o aravol	-	-	CL-ML			
EMPLA	_	_	moist, reddish brown (5YR	-	un, some coarse	e gravel,	_	7.5	CL-ML			
ATA TE	- 8		SILTY CLAY (CL-ML) media	•	ity, stiff, some c	oarse gra	vel,	- 8 -				
ERM D	-	_	\moist, reddish brown (5YR 4 SAND (SW) fine grained SA		trace close set	ma ailt dr			SW			
GPJ E	-	_	$\sqrt{\text{reddish brown (5YR 4/4), [w]}}$		•	ne siit, ul	y,	- 9 - -	CL-ML			
SK SC.	_	-	SILTY CLAY (CL-ML) low p	lasticity, fi	rm, some fine s	and, mois	st,	9.5 -				
GW LI		/ ARK	\reddish brown (5YR 4/4)				/	-	SM			
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18	Non		0.						ALLATION ge (dry dur			
STRUC									-			
L CON.												
WEL												

		9	5788 Widewaters Syracuse, New Y P: 1-315-445-25	ork 13214		G.W. Lisk Characteriz	ation				NG # MW-03D PROJECT # 0346372	
	ER	M		т						SHEE	T 2 OF 3	
	DRII DRII	LLING	G CONTRACTOR G FOREMAN G METHOD G EQUIPMENT	Parratt Wolff Syracuse, NY I. Grasse Direct Push Geoprobe 6712D	Т		OFFIC			VE	J. Reynolds/ T. Daniluk Syracuse, NY 09/29/2017 10/21/2017	
		-	PHIC COORDINAT	-		WELL C		RUCTIO			WELL DEVELOPMEN	т
	(NAI		3 StatePlane New ` RTHING	York East (US Feet) 1078015.23) Material:	Rise Carbon			Screen Open Hoi	le	Method: Surge and Pump	
			TING	672662.31	Diameter (ID): Coupling:	5-ind Thread			5-inch None		Duration: 1 hours Gals. Purged:13	
		ELE	VATION	607.26 ft							1	
	DEPTH	ELEVATION		STRATA DESCF	RIPTION			DEPTH	NSCS	GRAPHIC LOG	WELL CONSTRUCTION	NC
	_	_	1	l) fine grained SANE); firm, moist, p							
	-	-	(10YR 6/2), [well s	sonedj				10.5				
	-		<u></u>	S) fine grained SAN	D; firm, some	clay, some			MLS		 Carbon S 	Steel Riser
	-	-		angular gravel, mois		-		11.5			Cement/ Grout	Bentonite
	- 12	-	COBBLES					· 12 ·			Crout	
	-	595— _ _	CLAYEY SILT (CI gravel, moist, brov	L-ML) firm, some fin wn (10YR 4/3)	e sand, some f	fine subrou	ind		CL-ML			
	- - -			S) fine grained SAN medium subangula			R -	13	MLS			
	14 - - -		,	S) fine grained SAN ular gravel, trace col				• 14				
	- - -	-							MLS			
	— 16 -	_		(GM) subangular, fi	-			16				
4/6/18	-	_	GRAVEL; loose, s	some fine sand, satu	ırated, brown (10YR 4/3)	-		GM			
GDT ∠	-	-	COBBLES					17		7.4.9		
EMPLATE.	-	590— — —	SANDY SILT (ML	S) fine grained SAN , wet to moist, brow		fine to mec	lium	17.5				
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18	— 18 - -		Sasangular graver	,			-		MLS			
3PJ E	-	-	COBBLES					19				
K SC.(-							19.5 ·				
W LIS	_	_							MLS			
UON G	REM Non	/IARK e.	S:									
TRUCT							SIUWI	ecnar	ge (dry dur	nig devel		
CONS												
VELL (
~												

ſ		9	5788 Widewaters Syracuse, New Yo	PROJEC Pkwy ork 13214		G.W. Lisk Characteriz					NG # MW-03	
	ER	M	P: 1-315-445-255	54							PROJECT # 034 F 3 OF 3	6372
	DRIL DRIL	LING	G CONTRACTOR G FOREMAN G METHOD G EQUIPMENT	Parratt Wolff Syracuse, NY I. Grasse Direct Push Geoprobe 6712D	Т			ELOC		IVE	J. Reynolds/ T. I Syracuse, NY 09/29/2017 10/21/2017	Daniluk
ŀ			PHIC COORDINAT		•	WELL C	CONSTR					WELL
			3 StatePlane New Y	′ork East (US Feet)	·	Rise Carbon			Screen			ELOPMENT
			RTHING	1078015.23	Material: Diameter (ID): Coupling:	5-inc Threa	ch		Open Ho 5-inch None	le	Method: Sur Duration: 1 ho Gals. Purged:13	ge and Pump - mechanical ours
			TING VATION	672662.31 607.26 ft	oouping.							
	-	TION		STRATA DESCF	RIPTION			Ŧ		GRAPHIC LOG	WELL CON	ISTRUCTION
	DEPTH	ELEVATION						DEPTH	uscs	GRAPI		
			subangular gravel, (10YR 5/2), [EOB	S) fine grained SAN trace cobbles, moi on bedrock @ 21ft.	st to wet, grayi (Continued)	sh brown	-	21 –	MLS			
-	- 22	-	spacing, 90° beddi	ng angle, Layer RC ed fractures, styolit	D = 2.63% [da	irk gray ch						
-		585— — — —					-					
-	- 24	-		v (10YR 5/1), microo	crystalline clos	e fracture		23.9				
-			spacing, 90° beddi chert, abundant br zone 25.8-26.1ft.,	ing angle, Layer RC eaks withing chert, weathered fracture	D = 2.4% [darl mechanically b @ ~27ft., up to	k gray to b proken che p 50% of ru	rt – in is _					
-	- 26		chert, some calciu	m recrystallization i	n fractures, EC	JC @ 29π.						
3DT 4/6/18												
EMPLATE.(580— — —					-					
ERM DATA T	- 28	-					-					
-ISK SC.GPJ								29 –				
I GW	REM	ARK	S:				\ <u>\</u>			I NOTES:		
ICTION	None									ing develo		
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18												

ſ			5788 Widewater	PROJEC s Pkwy	G	6.W. Lisk				BORI	NG# N	IW-03	6
			Syracuse, New Y P: 1-315-445-25		Site Ch	naracteri	zation				ROJECT #	# 0346	372
	EK			Dorrott Wolff						-	F1OF2		opiluk
			G CONTRACTOR	Parratt Wolff Syracuse, NY					ESENTAT	IVE	J. Reynol Syracuse		Panliuk
			G FOREMAN G METHOD	I. Grasse Direct Push				E: STAF			09/29/201	-	
			GEQUIPMENT	Geoprobe 6712D	Т			FINIS	SH		10/21/201	7	
			APHIC COORDINA	-		WELL (RUCTIO			-		WELL LOPMENT
	(NA			York East (US Feet)	,	Ris Schedule		Sched	Screei Iule 40 PVC	n C, 0.010-slot	Method:		e and Pump - mechanical
			rthing Sting	1078015.23 672662.31	Diameter (ID): Coupling:	1-in Threa			2-inch Thread	i i	Duration: Gals. Purg	1 hou	
			EVATION	607.26 ft									
ſ													
		Z		STRATA DESCR	RIPTION					GRAPHIC LOG	WEL	L CON	STRUCTION
	т	ATIC						т		HIC			Casing Type:
	DEPTH	ELEVATION						DEPTH	nscs	RAP			12-inch Flushmount Traffic-Rated
ł		Ш	[concrete]							U A A A A A			Manhole
ł	_	-	[]				_					, ,	
	-	=	GRAVEL (GP) su	Ibangular, medium to	o coarse grained	GRAVE	L: _	0.8	GP				
	-	_	1	h brown (10YR 5/2)		-							
	_	-		to medium grained S	AND; loose, dry	, brown	_		SW	• • • • • • • • • • • • • • • • • • • •			
	_ 2		(10YR 4/3), [well					- 2					
	_	605	•	 fine to medium gra angular, dry to moist 			nse,						
	-	-		0		,			SM				
	_	_											
	-	-					_						Cement/Bentonite Grout
ŀ	- 4	-	SANDY SILT (ML	S) fine grained SAN	D; firm, trace cla	iy, some	fine	- 4					- Schedule 40 PVC Riser
	_	_	to coarse angular	gravel, moist, reddi	sh brown (5YR 4	/4)	-						
ł	_	-					-		MLS				
	_	_					-						
	_	-					-						
	- 6	-	SAND (SP) fine g	grained SAND; firm, t	race silt, moist, i	reddish		— 6 ·	SP				
6/18	-	-	brown (5YR 4/4),	[poorly sorted]				6.5					Bentonite Seal
DT 4/	-	-	•	L-ML) firm, some fin		e to me	dium	7	CL-ML		· · ·	1 - 1.	
VTE.G	-	600-	-	ldish brown (5YR 4/4 -ML) low plasticity, s		aravel	-	7.5	CL-ML				
EMPLA	-	-	moist, reddish bro			9.000,			CL-ML				
VTA TE	- 8	_	1	-ML) medium plastic	ity, stiff, some co	oarse gra	vel,	- 8 -					
AM DA	-	_	moist, reddish bro				/		SW				
ЪIJЩ	_	-	. ,	grained SAND; loose YR 4/4), [well sorted]		ne silt, di	у,	• 9 •					
SC.G	_		<u> </u>	-ML) low plasticity, fi		and. mois		9.5	CL-ML				
V LISK	-	_	reddish brown (5)			,			SM				
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18		MARK	(S:				WEL	L INST	ALLATIO	N NOTES:		- -	
UCTIC	Non	ie.					Slow	rechar	ge (dry du	iring develo	opment).		
NSTR													
LL CO													
WEI													

	ED	2	5788 Widewaters Syracuse, New Yo P: 1-315-445-255	ork 13214	(G.W. Lisk Characteriz	ation			ERM F	ING # MW-03S PROJECT # 0346372 T 2 OF 2	
	DRIL DRIL	LINC	G CONTRACTOR G FOREMAN G METHOD	Parratt Wolff Syracuse, NY I. Grasse Direct Push			OFFI	CE LOO			J. Reynolds/ T. Daniluk Syracuse, NY 09/29/2017	
╞				Geoprobe 6712D	T			FINIS			10/21/2017	
			PHIC COORDINATI)	WELL C		RUCTIC	ON Screen		WELL DEVELOPMENT	
	,		RTHING	1078015.23	Material: Diameter (ID):	Schedule 1-ind		Sched	ule 40 PVC, 2-inch	0.010-slot	t Method: Surge and Pump - mechan Duration: 1 hours	nical
			TING	672662.31	Coupling:	Threa			Threade	d	Gals. Purged:7	
ŀ		ELE	VATION	607.26 ft								
	DEPTH	ELEVATION		STRATA DESCF	RIPTION			ЭЕРТН	nscs	GRAPHIC LOG	WELL CONSTRUCTION	
ŀ	-	ш	SILTY SAND (SM)	fine grained SANE); firm, moist, pa	ale brown	7-					
4/6/18			SILTY SAND (SM) (10YR 6/2), [well so COBBLES SANDY SILT (MLS fine to coarse suba COBBLES CLAYEY SILT (CL gravel, moist, brow SANDY SILT (MLS clay, some fine to r 4/3) SANDY SILT (MLS to coarse subangul GRAVELLY SILT (GRAVELLY SILT (GRAVELLY SILT (S) fine grained SAN angular gravel, mois -ML) firm, some fin (10YR 4/3) S) fine grained SAN medium subangula S) fine grained SAN lar gravel, trace col GM) subangular, fi	ID; firm, some c st, reddish brow e sand, some fi ID; medium den r gravel, wet, br ID; medium den bbles, wet, brow	clay, some rn (5YR 4/ ine subrou nse, trace rown (10Y nse, some vn (10YR 4	4) nd 	10.5 - 11.5 - - 12 - 13 - - 14 - 14	MLS CL-ML MLS MLS		 #0 Morie Gravel Pack 0.010-slot Sched 40 PVC Screen 	lule
GDT	-							17 -			Bottom Cap	
PLATE	-	-					F					
A TEM.	- 18	_					F	-				
1 DAT/	-	_					F					
J ERN	_	_					E					
SC.GF	-	_					F					
/ LISK	-	_					F					
N GV	REM		S:				WELL			I NOTES:	· · ·	
UCTIC	None	Э.					Slow	recharg	ge (dry dur	ing devel	lopment).	
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18												

			5788 Widewaters	PROJEC	T:	G.W. Lisk				BORI	NG # N	/W-04D
	V	D	Syracuse, New Yo P: 1-315-445-255	ork 13214		Characteriz						# 0346372
	ER	M	1. 1-313-443-230	74						SHEE	T 1 OF 3	
	DRI	LLING	G CONTRACTOR	Parratt Wolff Syracuse, NY					ESENTAT	IVE	-	lds/ T. Daniluk
			G FOREMAN	M. Eaves							Syracuse 07/21/20	,
			G METHOD G EQUIPMENT	Direct Push Little Beaver Drill	ina Ria		DATE	STAF: SINIS			07/21/20 08/01/20	
						WELL C	CONSTR					WELL
	(NA	D 198	33 StatePlane New Y	York East (US Feet	,	Rise		1	Screen		-	DEVELOPMENT
		NOF	RTHING	1078344.18	Material: Diameter (ID):	Carbon 5-ind	ch		Open Ho 5-inch	le	Method: Duration:	
			STING	672547.78	Coupling:	Threa	ded		None		Gals. Pur	ged:18
		ELE	VATION	598.99 ft								
				STRATA DESCI	RIPTION					g	WEL	LL CONSTRUCTION
		NO								GRAPHIC LOG		
	Η	ELEVATION						Ŧ	က္	HH		Casing Type: 12-inch Flushmount
	DEPTH	ĒLĒ						рертн	nscs	GRA		Traffic-Rated Manhole
	-		[concrete]				-					
	-	_					-					
	_		SANDY GRAVEL	(GP-SP) fine to me	dium grained S	AND; ang	ular,	0.8 - 1 -	GP-SP			
	_	_		ned GRAVEL; loos			_/ [
	_	_) fine grained SANE); loose, some	fine subrou	und –					
	2		gravel, dry, brown	(101R 4/3)			-					
	_	_					F					
	_	_					F		SM			
	_	_					_		_			
	_	_					_					
	- 4	595-					-					
	_	_					L					
	-	_					_	5				
	_	-	• •) fine grained SANE		fine to coa	rse –	Ū				
	_	_	subround gravel, d	lry to moist, brown	(101R 4/3)				SM			
	6	_	SANDY SILT (MLS	S) fine grained SAN	ID [.] firm some (clav some		6 -				
18	_	_		vel, trace coal; dry t					MLS			
T 4/6	_	_					E	7				 Carbon Steel Riser
E.GD	-	_		S) fine grained SAN				1				
IPLAT	_	_	fine to medium sul oxidation]	bround gravel, mois	st, brown (10YF	t 4/3), [min	lor		MLS			Cement/Bentonite Grout
A TEN	- 8		-	S) fine grained SAN	ID: firm some f	ine to mor	lium	8				
1 DAT/	_	_		race cobbles, moist								
ERN	_	_	5/4)		·		F					
C.GPJ	_	590— —					F		MLS			
SK S(-	-					-					
GWL	-		· · ·									
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18	Non	//ARK ie.					WELL None.		ALLATION	NOTES:		
-RUC							NOTIC.					
SNO												
ELL C												
≥												

		1	5700 M/i davasta	Diama	PROJEC	T:	G.W. Lisk				BORI	NG # MW-0 4	1D
	19		5788 Widewaters Syracuse, New Yo	ork 13214			Characteriz					PROJECT # 034	
F	RM	1	P: 1-315-445-255	4								T 2 OF 3	001E
D	RILLIN	IG (CONTRACTOR	Parratt	Wolff			ERM	REPRE	SENTAT	IVE	J. Reynolds/ T.	Daniluk
			FOREMAN	Syracu M. Eav	,			OFFI	CE LOC	CATION		Syracuse, NY	
			METHOD	Direct l				DATE	STAR	Т		07/21/2017	
			EQUIPMENT		eaver Drill	ing Rig			FINIS			08/01/2017	
_			HIC COORDINATE	-			WELL C		RUCTIC				WELL /ELOPMENT
(N			StatePlane New Y) Material:	Rise Carbon			Screen Open Ho			ge and Pump - mechanical
			'HING ING	107834 672547		Diameter (ID): Coupling:	5-ind Threa	ch		5-inch None			ours
			ATION	598.99									
				STRA	TA DESCR	RIPTION					g	WELL CO	NSTRUCTION
	ELEVATION										GRAPHIC LOG		
Ŧ	VAT								Η	S	HΗ		
DEPTH	ELE								DEPTH	nscs	GR/		
F	-		SANDY SILT (MLS			ID; firm, trace fi	ine subang	jular –					
F	-	9	gravel, moist, brow	n (10YR	4/3)			F					
-	_							-		MLS			
	-	1											
E	-												
_	12 —	- 5	SILTY SAND (SM)	fine to n	nedium gra	ained SAND; fir	m, some f	ine	11.9 - 12	SM			
-	-	s	subangular gravel,	wet, bro	wn (10YR	4/3)		F		SM			
-	-		SILTY SAND (SM)		-		oft, some fi	ine 🗌					
-	-	_ `	subangular gravel,					-/†	13 –	MLS			
-	-		SANDY SILT (MLS subangular gravel,	-					13.5 – 13.7 –	SM			
E	- -14 585	111	oxidation]	wet to 5	aturateu, p		11 0/07, [00		-				
E	-		SILTY SAND (SM)	fine to n	nedium gra	ained SAND; m	edium der	nse,					
	-		saturated, brown to				ike odor,						
E	_		some oxidation, E			-		F					
E	-		LIMESTONE, dark 23.5ft.]	gray (10)YR 4/1), n	nicrocrystalline	, [ID @	L					
╞	-	1 -	20.010.]					-					
-	16 -							-	-				
6/18	-	1						-					
DT 4	_							-					
LE C	-	-						-					
MPLA	-							-					
A TE	18 —	-							-				
	-	1						F					
Ē Ē	-							F					
C.GP.	-580 -	1						F					
SK S	-							F					
GWL	-												
4	EMARI one.	KS:								LLATION	NOTES:		
RUCI								None					
TSNC													
ILL CC													
WE													

		9	5788 Widewaters Syracuse, New Yo	ork 13214	ECT		G.W. Lisk Characteriz					NG # MW-04 PROJECT # 0340	
	ER	M	P: 1-315-445-255	54								T 3 OF 3	JJIZ
	DRI DRI	LLING	G CONTRACTOR G FOREMAN G METHOD G EQUIPMENT	Parratt Wolff Syracuse, NY M. Eaves Direct Push Little Beaver D	Drillir	ng Rig		OFFI	REPRE CE LOC E: STAR FINIS	Т	IVE	J. Reynolds/ T. I Syracuse, NY 07/21/2017 08/01/2017	Daniluk
ľ			PHIC COORDINAT				WELL C	ONST	RUCTIC				WELL
	(NA		3 StatePlane New Y	Material:	Rise Carbon			Screen Open Ho		Method: Surg	ELOPMENT ge and Pump - mechanical		
			TING	1078344.18 672547.78		Diameter (ID): Coupling:	5-ind Threa			5-inch None		Duration: 1 hd Gals. Purged:18	burs
		ELEVATION 598.99 ft											
	рертн	ELEVATION		IPTION			DEPTH	nscs	GRAPHIC LOG	WELL CON	ISTRUCTION		
	_	_	LIMESTONE, dark), m	icrocrystalline,	, [TD @	-					
	-		23.5ft.](Continued)					-					
	- - 22 - - -	-							_				
	- - - - - 24	- - 575-							23.5 -				
	-	-						-					
/18	- - - 26 - -							-	_				
MPLATE.GDT 4/6	-							-					
PJ ERM DATA TE	- 28 - - - -	- - - 570-						-	_				
GW LISK SC.GI	- - -	REMARKS:						-					
LION		None.					WEL None		LLATION	I NOTES:			
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18													

	5788 Widewaters Pkwy	PROJEC	T:	G.W. Lisk				BORI	NG # MV	V-04S
\bigcirc	Syracuse, New York 132 P: 1-315-445-2554		Site C	Characteriz	ation			ERM P	ROJECT #	0346372
ERM									1 OF 2	
DRILLING		att Wolff acuse, NY					SENTATI	VE	-	s/ T. Daniluk
	FOREMAN M. E	aves				: STAR	ATION T		Syracuse, N 07/21/2017	NY
DRILLING DRILLING		ct Push e Beaver Drilli	ng Rig		BATE	FINIS			08/01/2017	
GEOGRAF	PHIC COORDINATES			WELL C	ONSTR	UCTIC	N			WELL
	3 StatePlane New York E	ast (US Feet)	,	Rise Schedule		Sahadi	Screen	0.010 alat		DEVELOPMENT
		8344.18	Material: Diameter (ID): Coupling:	Schedule 2-ind Thread	:h	Scheal	2-inch Threaded		Method: Duration: Gals. Purge	Surge and Pump - mechanical 0.25 hours
EAST FLEV		547.78 .99 ft	Couping.	111/240			IIIEaueu	1	Gais. Fuige	
		.00 11								
7	ST	RATA DESCF	RIPTION					Ю О	WELL	CONSTRUCTION
DEPTH ELEVATION								GRAPHIC LOG		Casing Type:
DEPTH ELEVAT						DEPTH	uscs	APF		12-inch Flushmount Traffic-Rated
						DE	SN		/// 0400000000	Manhole
	[concrete]				- -					
						0.8 -	GP-SP			
1	SANDY GRAVEL (GP-S		-	-	ular,	1 –	GP-SP			
	SILTY SAND (SM) fine g				und –					
	gravel, dry, brown (10YF	-	,		-					
					_					
					_					Cement/Bentonite Grout
					_		SM			
					_					
_					-					
					_					 Schedule 40 PVC Riser
					_					
	SILTY SAND (SM) fine g	prained SAND): loose. some t	fine to coa	rse –	5				
	subround gravel, dry to r				_		SM			- Deuteuite Or el
					_	- 6 -				 Bentonite Seal
	SANDY SILT (MLS) fine	-		-		0				
4/6/18	fine subround gravel, tra	ce coal; dry to	d moist, brown	(10YR 4/3)		MLS			
	SANDY SILT (MLS) fine	grained SAN	D [.] firm some (clav some	_	7	-			
ATE.	fine to medium subround						MLS			
	oxidation]				_	0				
ATATE	SANDY SILT (MLS) fine	-				8				
	subround gravel, trace c 5/4)	obbles, moist	, brown to pale	brown (10	YR					
ш – Г – 590 –							MLS			
<pre>\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$</pre>										
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -										
	S:				WELL	INSTA	LLATION	NOTES:		
OL None.					None.					
NSTR										
LL CC										
ME										

		6	5788 Widewaters	Pkwy	PROJEC		G.W. Lisk				BORI	NG # MW-04	6
	FP	M	Syracuse, New Yo P: 1-315-445-255	ork 13214 4		Site C	Characteriz	สแอท				ROJECT # 0346	372
	DRI		CONTRACTOR	Parratt				ERM	REPRE	SENTATI		J. Reynolds/ T. D	aniluk
	DRI	LLING	FOREMAN	Syracu M. Eav						ATION		Syracuse, NY	
			G METHOD G EQUIPMENT	Direct F	Push eaver Drill	ing Rig		DATE	: STAR FINIS			07/21/2017 08/01/2017	
	GEO	DGRA	PHIC COORDINATI			0 0	WELL C	ONSTR	UCTIC	N			WELL
	(NA		3 StatePlane New Y) Material:	Rise Schedule		Schedu	Screen	0.010-slot		ELOPMENT e and Pump - mechanical		
			rthing Ting	107834 672547		Diameter (ID): Coupling:	2-ind Thread			2-inch Threaded	d		hours
		ELE	VATION	598.99	ft								
	DEPTH	ELEVATION		STRA	TA DESCF	RIPTION			DЕРТН	nscs	GRAPHIC LOG	WELL CON	STRUCTION
			SANDY SILT (MLS gravel, moist, brow			D; firm, trace fi	ne subang	ular		MLS			 #00 Morie Gravel Pack 0.010-slot Schedule 40 PVC Screen
	12 		SILTY SAND (SM) subangular gravel, SILTY SAND (SM) subangular gravel,	wet, brov fine to m saturate	wn (10YR nedium gra d, brown (4/3) ained SAND; so 10YR 4/3)	oft, some fi	ne	11.9 - 12 13 -	SM SM MLS			- Bottom Con
	- - - - - - - -	- 585- - - - -	SANDY SILT (MLS subangular gravel, oxidation]						13.5 –				- Bottom Cap
4/6/18	- - - 16 - -	-											
MPLATE.GDT		-											
ERM DATA TE	— 18 — — —							-					
V LISK SC.GPJ	 	580— — — —											
ICTION GV		REMARKS: None.						WELL None	. INSTA	LLATION	NOTES:	· · · · ·	
WELL CONSTRUCTION GW LISK SC.GPJ ERM DATA TEMPLATE.GDT 4/6/18													

Appendix C Sampling Forms

Site Name:GW LiskProject No.:0346372



Monitoring Wel	1:	GWL-N		Area:			Water I	Building	
Date:		8-May-17		Sampling l	Device:	Fre	om spigot u	under press	ure
Sampling Person	nnel:	M. Fox/T. Daniluk					10	-	
Weather Condit		48°F Partly cloudy, calm							
Time:		1635							
Total Depth (TD)) ¹ :	NA		Screen Len	oth:		NA		
	epth to Water (DTW): NA			Well Diam					
	otal Volume Purged: 13			Casing Ty	pe:		NA		
Purge Rate:	urge Rate: 1600 mL				pace (ppm):	NA		
Tubing Type:	ubing Type: NA			Measuring	; Point:		NA		
Pump Intake (fe	ump Intake (feet below MP): NA			Color:	cle	ear	Odor:	nc	one
Time:	DTW:		Temp	SpC	DO	pН	Turb	ORP	Flow
(min)	(feet)	Comments:	(°C)	(uS/cm ³)	(mg/L)	(std units)	NTU	mV	(mL/min)
Stabilization		Commentor	+/-	+/-	+/-	+/-	+/	+/-	
Criteria ² 1640	NT A		3%	<u>3%</u> 706	10% 7.35	0.1 unit	10% ³	10 mV	100-400
1640	NA		10.0			7.34	1.49	90.6	1600
	NA		9.9	628.1	7.16	7.32	0.21	94.7	1600
1650	NA		9.9	647.6	7.13	7.34	0.57	95.0	1600
1655 1700	NA		9.9	648.7	7.97	7.35	0.32	91.6	1600
1700	NA		9.8 9.8	677.5	8.77	7.51	0.13	101.3	1600
1705	NA		9.8	681.2	9.03	7.53	0.30	102.2	1600
		Sampled due to flow cycle. Unable to decrease flow rate							
		Unable to decrease flow rate							
								+	
				1				1	

Sampling Time:

1705

<u>Sample ID:</u>	<u>Analysis R</u>	equested: <u>Fi</u>	ltered Y/N:	Preservative	<u>:</u>
GWL-N(05082017)	VOC Met	als N	Ν	HCl	HNO ₃
	PFC 1,4-Di	oxane N	Ν	None	None
	Cyanide	Ν		NaOH	

Additional Field Measurements

Notes:

 $\frac{1}{2}$ Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

 2 = Stabilization criteria based on three most recent consecutive measurements.

Site Name:GW LiskProject No.:0346372



Monitoring Wel	1:	GWL-S		Area:			Water I	Building	
Date:		9-May-17		Sampling l	Device:	Fre	om spigot u	under press	ure
Sampling Person	nnel:	M. Fox							
Weather Condit	ions:	45°F Cloudy							
Time:		805							
Total Depth (TD	\mathbb{N}^1 .	NA		Screen Len	orth.		NA		
Depth to Water		NA		Well Diam					
Total Volume P	urged:	9 gal		Casing Ty			NA NA		
Purge Rate:	argear	600 mL/n	nin	PID Heads		ı):	NA		
Tubing Type:		NA		Measuring		/	NA		
Pump Intake (fe	et below MP):	NA		Color:		ear	Odor:	no	one
Time:	DTW:		Temp	SpC	DO	pН	Turb	ORP	Flow
(min)	(feet)	Comments:	(°C)	(uS/cm^3)	(mg/L)	(std units)	NTU	mV	(mL/min)
Stabilization		Comments.	+/-	+/-	+/-	+/-	+/-	+/-	
Criteria ²			3%	<u>3%</u> 776	10% 7.71	0.1 unit	10% ³	10 mV	100-400
810 815	NA		9.8			6.88	0.63	228.4	600
815	NA NA		9.8 9.9	757 729	7.60 7.52	7.13 7.33	2.75 2.92	217.8 208.9	600
825	NA NA		9.9	729	7.52	7.33	3.53	208.9	600 600
025	INA	pump cycle off	9.9	730	7.17	7.39	3.33	202.0	000
1400	NA	pump cycle on							
1405	NA	pump cycle on	9.1	694.2	9.30	7.37	1.79	159.0	600
1410	NA		9.3	665.1	8.35	7.44	1.76	151.5	600
1415	NA		9.4	656.9	7.52	7.49	2.62	146.8	600
1420	NA		9.5	655.4	7.44	7.51	1.70	144.1	600
1425	NA		9.5	657.4	7.40	7.51	2.31	141.9	600

Sampling Time:

1430

<u>Sample ID:</u>	Analysis Requested:	Filtered Y/N	<u>N:</u> <u>Preservative:</u>	
GWL-S(05092017)	VOC Metals	N N	HCI HNO	3
	PFC 1,4-Dioxane	N N	None None	ć
	Cyanide	Ν	NaOH	

Additional Field Measurements

Notes:

 $\frac{1}{2}$ Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

 2 = Stabilization criteria based on three most recent consecutive measurements.

Site Name:GW LiskProject No.:0346372



Monitoring Wel	11:	MW-01S		Area:			Exte	erior	
Date:		11/20/2017		Sampling I	Device:		Peristal	tic Pump	
Sampling Perso	nnel:	Cal Payne							
Weather Condit	tions:	40, overcast							
Time:		15:40							
Total Depth (TI	D) ¹ :	21.44		Screen Len	gth (feet):				
Depth to Water	(DTW):	20.81		Well Diam	eter (inche	s):	2		
Total Volume P	urged (USG):	0.1		Casing Typ	pe:		PVC		
Average Purge	Rate:	150		PID Heads	pace (ppm	ı):	30.7		
Tubing Type:		HDPE		Measuring			TOC		
Pump Intake (fe	,	-21		Color:		urbid	Odor:		one
(min)	DTW:		Temp	SpC	DO	pH	Turb	ORP	Flow
Stabilization	(feet)	Comments:	(°C) +/-	(uS/cm ³) +/-	(mg/L) +/-	(std units) +/-	NTU +/-	mV +/-	(mL/min)
Criteria ²			3%	3%	10%	0.1 unit	$10\%^{3}$	10 mV	100-400
15:43		well dry @ 14:45	13.0	17620.0	1.44	6.78		64.3	150
		-							
		Recharged, VOC and 1							
		Trizma bottle filled @ 16:40.							
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Sampling Time: 16:40 Sample ID: GWL-MW-01S(11202017)

Analysis Requested: VOC PFC Filtered Y/N: No HCl Trizma

Additional Field Measurements

Notes:

 1 = Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

 2 = Stabilization criteria based on three most recent consecutive measurements.

Site Name:GW LiskProject No.:0346372



Monitoring We	11:	MW-01D		Area:			Ext	erior	
Date:		11/20/2017		Sampling l	Device:		Peristal	tic Pump	
Sampling Perso	onnel:	Cal Payne		1 0				1	
Weather Condit		38, overcast							
Time:		13:50							
Total Depth (TI)) ¹ ·	44.61		Screen Len	oth (feet).				
Depth to Water		22.43		Well Diam					
Total Volume P		1.5		Casing Ty			4 Steel		
Average Purge		170		PID Heads	pace (ppm	າ):	4.3		
Tubing Type:		HDPE		Measuring		1	TOC		
	ump Intake (feet below MP): ~42			Color:	Cl	ear	Odor:	N	one
Time:	DTW:		Temp	SpC	DO	pН	Turb	ORP	Flow
(min)	(feet)	Comments:	(°C)	(uS/cm ³)	(mg/L)	(std units)	NTU	mV	(mL/min)
Stabilization Criteria ²			+/- 3%	+/- 3%	+/- 10%	+/- 0.1 unit	$^{+/-}$ 10% ³	+/- 10 mV	100-400
16:18	22.28		10.2	1422.0	6.03	9.31	6.81	78.8	250
16:23	22.20		10.2	1422.0	5.42	8.74	3.92	111.3	150
16:28	22.35		10.1	1437.0	5.12	8.34	1.84	121.0	150
16:33	22.34		10.2	1436.0	5.32	8.14	2.53	125.3	150
16:38	22.34		10.1	1436.0	5.31	8.09	2.41	126.5	150
16:43	22.39		10.1	1436.0	5.19	7.92	1.52	126.5	150
16:48	22.51		10.1	1429.0	5.31	7.81	1.38	130.2	150
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<u>Sampling Time:</u> <u>16:51</u> <u>Sample ID:</u> GWL-MW-01D(11202017)

Analysis Requested: VOC PFC 1 4-dioxane

<u>Filtered Y/N:</u> No HCl Trizma

Additional Field Measurements

Notes:

 2 = Stabilization criteria based on three most recent consecutive measurements.

 $^{^{1}}$ = Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

Site Name:GW LiskProject No.:0346372



Monitoring Wel	1:	MW-02S		Area:			Inte	erior	
Date:		11/20/2017		Sampling I	Device:		Peristalt	ic Pump	
Sampling Person	nnel:	Tim Daniluk							
Weather Condit									
Time:		9:50							
Total Depth (TE)) ¹ :	19.48		Screen Len	gth (feet):				
Depth to Water		12.9		Well Diam		s):	2		
Total Volume P		2		Casing Typ	pe:		PVC		
Average Purge	Rate:	175 ml/m	in	PID Heads	pace (ppm	ı):	2000		
Tubing Type:		HDPE		Measuring			TOC		
Pump Intake (fe	et below MP):	~18.5		Color:	colo	rless	Odor:	org	anic
Time: (min)	DTW: (feet)		Temp	SpC	DO (mg/L)	pH (std units)	Turb NTU	ORP mV	Flow (mL/min)
Stabilization	(reet)	Comments:	(°C) +/-	(uS/cm ³) +/-	(mg/L) +/-	(std units) +/-	+/-	mv +/-	(mL/min)
Criteria ²			3%	3%	10%	0.1 unit	$10\%^{3}$	10 mV	100-400
9:55	13.65		18.0	3229.0	0.89	6.86	1.46	-139.7	250
10:00	13.87		18.2	3299.0	0.55	6.78	1.20	-175.4	175
10:05	14.05		18.3	2965.0	0.53	6.82	1.20	-172.6	175
10:10	14.12		18.3	2919.0	0.49	6.81	0.32	-169.3	175
10:15	14.25		18.3	2952.0	0.42	6.83	1.83	-165.5	175
10:20	14.37		18.3	2976.0	0.39	6.84	0.89	-162.7	175
		1		1		L			1

Sampling Time:

10:30

Analysis Requested:	Filtered Y/N:	Preservative:
1 4-dioxane	No	Unpreserved
Cyanide	No	NaOH
VOC	No	HC1
PFC	No	Trizma
РСВ	No	Unpreserved
Metals + Hg	No	HNO3
	1 4-dioxane Cyanide VOC PFC PCB	1 4-dioxaneNoCyanideNoVOCNoPFCNoPCBNo

Additional Field Measurements

¹ = Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
 ² = Stabilization criteria based on three most recent consecutive measurements.
 ³ = Plus or minus 10-percent when turbidity is over 10 NTUs.

Site Name: GW Lisk Project No.: 0346372



Monitoring Wel	1:	MW-02D		Area:			Inte	erior	
Date:		11/20/2017		Sampling I	Device:		Peristal	tic Pump	
Sampling Person	nnel:	Tim Daniluk							
Weather Condit	ions:	30 snow 10 mph nw							
Time:		11:18							
Total Depth (TD)) ¹ :	30.13		Screen Len	oth (feet):				
Depth to Water		14.24			eter (inche	s):	4		
Total Volume P		2		Casing Ty		/	Open Wel	1	
Average Purge	Rate:	175 ml/m	nin	PID Heads	space (ppm):	245.7		
Tubing Type:		HDPE		Measuring	; Point:		TOC		
Pump Intake (fe	et below MP):	: 25		Color:	colo	rless	Odor:	slight	organic
Time:	DTW:		Temp	SpC	DO	pН	Turb	ORP	Flow
(min)	(feet)	Comments:	(°C)	(uS/cm^3)	(mg/L)	(std units)	NTU	mV	(mL/min)
Stabilization		Commenter	+/-	+/-	+/-	+/-	+/-	+/-	100,100
Criteria ² 11:23	14.55		3% 18.8	<u>3%</u> 2414.0	10% 0.33	0.1 unit 11.82	10% ³ 8.28	<u>10 mV</u> -106.5	<u>100-400</u> 200
11:23	14.55		18.8	2414.0	0.33	11.82	8.28 7.67	-106.5	175
11:33	15.18		18.8	2424.0	0.29	12.05	8.67	-102.8	175
11:38	15.31		18.8	2435.0	0.27	12.03	6.58	-93.9	175
11:43	15.61		18.8	2445.0	0.31	12.06	6.39	-88.3	175
11:48	15.78		18.8	2444.0	0.32	12.06	4.53	-87.0	175

Sampling Time:

11:53

<u>Sample ID:</u>	Analysis Requested:	Filtered Y/N:	Preservative:
GWL-MW-02D(11202017)	1 4-dioxane	No	Unpreserved
	Cyanide	No	NaOH
	VOC	No	HCl
	PFC	No	Trizma
	РСВ	No	Unpreserved
	Metals + Hg	No	HNO3

Additional Field Measurements

Notes: ¹ = Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

 2 = Stabilization criteria based on three most recent consecutive measurements.

Site Name:GW LiskProject No.:0346372



Monitoring Wel	1:	MW-03S		Area:			Inte	erior	
Date:		11/20/2017		Sampling I	Device:		Peristal	ic Pump	
Sampling Person	nnel:	Cal Payne							
Weather Condit		2							
Time:		10:09							
Total Depth (TD	$))^{1}$:	16.1		Screen Len	gth (feet):				
Depth to Water		13.64		Well Diam	s):	2			
Total Volume Pr		2.5							
Average Purge I		200		PID Heads	pace (ppm	ı):	665		
Tubing Type:		HDPE		Measuring	Point:		TOC		
Pump Intake (fe	et below MP)	-15		Color:	Cl	ear	Odor:	nc	one
Time:	DTW:		Temp	SpC	DO	pН	Turb	ORP	Flow
(min) Stabilization	(feet)	Comments:	(°C)	(uS/cm ³)	(mg/L)	(std units)	NTU	mV	(mL/min)
			+/- 3%	+/- 3%	+/- 10%	+/-	+/- 10% ³	+/- 10 mV	100-400
Criteria ² 11:13	14.11		18.9	2811.0	0.66	0.1 unit 8.53	3.30	10 mV 14.8	250
11:18	14.29		18.6	2756.0	0.00	7.71	8.10	35.1	200
11:23	14.50		18.7	2742.0	0.35	7.32	11.28	46.9	200
11:28	14.57		18.7	2711.0	0.31	7.16	5.58	51.3	200
11:33	14.63		18.7	2699.0	0.25	7.10	5.31	53.2	200
11:38	14.68		18.7	2688.0	0.22	7.07	4.90	55.5	200
11:43	14.70		18.7	2683.0	0.22	7.01	3.66	57.6	200
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Sampling Time: <u>11:46</u> Sample ID: GWL-MW-03S(11202017)

Analysis Requested: VOC PFC vletals + H_§ Cyanide 1 4-dioxane

<u>Filtered Y/N:</u> No Preservative: Trizma HNO3

HC1

NaOH

Additional Field Measurements

Notes:

 1 = Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

 2 = Stabilization criteria based on three most recent consecutive measurements.

Site Name:GW LiskProject No.:0346372



Monitoring Wel	11:	MW-3D		Area:			Inte	erior	
Date:		11/20/2017		Sampling I	Device:		Peristal	tic Pump	
Sampling Person	nnel:	Cal Payne						•	
Weather Condit		<u> </u>							
Time:		8:25							
Total Depth (TD	$))^{1}$:	28.96		Screen Len	oth (feet):				
Depth to Water		12.94		Well Diam		s):	4		
Total Volume P		~3.0		Casing Typ		- / ·	PVC		
Average Purge		200		PID Heads	pace (ppm	ı):	151.1		
Tubing Type:		HDPE		Measuring	Point:	/	TOC		
Pump Intake (fe	et below MP)	: ~27		Color:	Cl	ear	Odor:	trace o	organic
Time:	DTW:		Temp	SpC	DO	pН	Turb	ORP	Flow
(min)	(feet)	Comments:	(°C)	(uS/cm ³)	(mg/L)	(std units)	NTU	mV	(mL/min)
Stabilization Criteria ²			+/- 3%	+/- 3%	+/- 10%	+/-	+/- 10% ³	+/-	100-400
9:38	13.13		17.5	2042.0	28.51	0.1 unit 10.81	11.03	<u>10 mV</u> -42.3	225
9:43	13.38		18.0	2209.0	0.45	11.77	3.05	-143.8	220
9:48	13.89		18.1	2191.0	0.16	11.80	4.42	-179.1	200
9:53	14.37		18.2	2177.0	0.20	11.79	4.30	-199.5	200
9:58	15.06		18.2	2168.0	0.18	11.78	4.66	-210.4	200
10:03	15.32		18.3	2166.0	0.18	11.78	4.87	-213.1	200
10:08	15.74		18.3	2159.0	0.17	11.77	4.75	-213.4	200
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<u>Sampling Time:</u> <u>10:16</u> <u>Sample ID:</u> GWL-MW-3D((11202017)

An	alysis Re	<u>quested:</u>	Filtered Y/N:
VOC	1 4-dio>	ane Cyanide	No
Metals	PFC	Pesticides	

<u>Preservative:</u> HNO3 NaOH

HC1

Trizma

Additional Field Measurements

Notes:

 1 = Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

 2 = Stabilization criteria based on three most recent consecutive measurements.

[!]

Site Name: GW Lisk Project No.:



Date:							Inte		
		11/20/2017		Sampling I	Device:		Peristaltic Pump		
Sampling Personnel:		Cal Payne		1 0					
Weather Conditions:		¥							
Time:		12:39							
Total Depth (TD) ¹ :		12.17		Screen Len	gth (feet):				
Depth to Water (DTV		10.52		Well Diam		s):	2		
Total Volume Purge	d (USG):	2		Casing Typ	,	PVC			
Average Purge Rate:	:	170		PID Heads	pace (ppm):	6.1		
Tubing Type:		HDPE		Measuring			TOC		
Pump Intake (feet be	elow MP):	~12		Color:	Cl	ear	Odor:	nc	one
	DTW:		Temp	SpC	DO	pН	Turb	ORP	Flow
(min) Stabilization	(feet)	Comments:	(°C)	(uS/cm ³)	(mg/L)	(std units)	NTU	mV	(mL/min)
Criteria ²			+/- 3%	+/- 3%	+/- 10%	+/- 0.1 unit	$^{+/-}_{10\%^3}$	+/- 10 mV	100-400
13:40	11.08		20.4	1399.0	5.88	7.89	10%	70.7	200
	11.10		20.4	1375.0	4.60	7.15	61.01	97.5	175
	11.35		20.2	1372.0	4.04	7.08	28.92	103.3	160
	11.40		20.1	1372.0	3.86	7.06	18.80	109.7	160
	11.40		20.1	1372.0	3.89	7.02	12.64	114.0	160
	11.40		20.1	1373.0	3.84	7.03	8.93	117.7	160
	11.40		20.1	1374.0	3.87	7.04	5.41	120.7	160
14:15	11.40		20.1	1375.0	3.83	7.02	5.38	123.7	160
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Sampling Time: 14:19 Sample GWL-I

Sample ID:	Anal	ysis Requ	iested:	Filtered Y/N:	-	Preservativ	<u>e:</u>
GWL-MW-04S(11202017)	VOC	PFC	SVOC	No	HC1	HNO3	Trizma
Additional Field Measurements	Metals + H _{ PCB	Cyanide	1 4-dioxane		NaOH		

Notes: ¹ = Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

 2 = Stabilization criteria based on three most recent consecutive measurements.

Site Name:GW LiskProject No.:0346372



Monitoring Wel	11:	MW-04D		Area:			Inte	erior	
Date:		11/20/2017		Sampling l	Device:		Peristal	tic Pump	
Sampling Perso	nnel:	Tim Daniluk		1 0					
Weather Condit		30 snow 10 mph nw							
Time:		13:38							
Total Depth (TD	h (TD) ¹ : 21.53 Screen Length (feet):								
Depth to Water		10.99			eter (inche	s).	4		
Total Volume P	urged (USG):	1.75		Casing Ty			Open Wel	1	
Average Purge	Rate:	175 ml/m	in	PID Heads	space (ppm):	72.8	-	
Tubing Type:		HDPE		Measuring	Point:	/	TOC		
Pump Intake (fe	eet below MP)	: 17		Color:		rless	Odor:	strong	organic
Time:	DTW:		Temp	SpC	DO	pН	Turb	ORP	Flow
(min)	(feet)	Comments:	(°C)	(uS/cm ³)	(mg/L)	(std units)	NTU	mV	(mL/min)
Stabilization			+/-	+/-	+/-	+/-	+/-	+/-	100,400
Criteria ² 13:42	11.20		3% 19.9	<u>3%</u> 1624.0	<u>10%</u> 0.92	0.1 unit 11.76	10% ³ 7.39	<u>10 mV</u> -52.5	<u>100-400</u> 150
13:42	11.20		19.9	1630.0	0.32	11.83	5.62	-61.1	150
13:52	11.29		19.8	1633.0	0.34	11.85	8.70	-67.8	175
13:57	11.32		19.8	1635.0	0.30	11.85	5.46	-70.1	175
14:02	11.35		19.8	1635.0	0.27	11.87	3.95	-72.8	175
14:07	11.39		19.8	1613.0	0.26	11.86	7.01	-72.7	175

Sampling Time:

14:10

Sample ID:	Analysis Requested:	Filtered Y/N:	Preservative:
GWL-MW-04D(11202017)	1 4-dioxane	No	Unpreserved
	Cyanide	No	NaOH
	VOC	No	HC1
	PFC	No	Trizma
	РСВ	No	Unpreserved
	Metals + Hg	No	HNO3
	SVOC	No	Unpreserved

Additional Field Measurements

¹ = Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
 ² = Stabilization criteria based on three most recent consecutive measurements.
 ³ = Plus or minus 10-percent when turbidity is over 10 NTUs.

Site Name: GW Lisk Project No.: 0346372



Monitoring Wel	1:	MW-1		Area:				pital	
Date:		11/20/2017		Sampling l	Device:		Peristal	tic Pump	
Sampling Person	nnel:	Cal Payne							
Weather Condit	ions:	~32 F, dark							
Time:		17:38							
Total Depth (TD)) ¹ :	9.38		Screen Len	igth (feet):				
Depth to Water		4.98			eter (inche	s):	2		
Total Volume Pu		4		Casing Ty	pe:		PVC		
Average Purge I	Rate:	200		PID Heads	space (ppm):	0		
Tubing Type:		HDPE		Measuring			TOC		
Pump Intake (fe	np Intake (feet below MP): ~8			Color:	Ligh	t tan	Odor:	no	one
Time:	DTW:		Temp	SpC	DO	pН	Turb	ORP	Flow
(min) Stabilization	(feet)	Comments:	(°C)	(uS/cm ³)	(mg/L)	(std units)	NTU	mV	(mL/min)
Criteria ²			+/- 3%	+/- 3%	+/- 10%	+/- 0.1 unit	$^{+/-}$ 10% ³	+/- 10 mV	100-400
17:38			13.0	1665.0	1.73	8.19	47.07	69.5	250
17:43			13.4	1398.0	1.55	7.33	46.71	93.3	200
17:48			13.5	1450.0	1.10	7.18	41.37	99.3	200
17:53			13.9	1748.0	0.47	7.06	34.38	106.1	200
17:58			14.0	1851.0	0.37	7.01	35.35	108.2	200
18:03			10.0	1924.0	0.33	6.99	34.64	110.1	200
18:08			14.1	1927.0	0.26	6.99	28.72	111.0	200
18:13			14.2	2028.0	0.19	6.95	18.56	113.8	200
18:18			14.2	2001.0	0.20	6.95	19.31	114.2	200
18:23			14.3	2021.0	0.15	6.94	19.06	116.2	200
					\sim				
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				•			<u> </u>	\sim	

Sampling Time: 18:30 Sample ID: GWL-H-MW-1(11202017)

Analysis Requested: VOC PFC 1 4-dioxane

<u>Filtered Y/N:</u> No HCl Trizma

Additional Field Measurements

Water meter malfunctioned, no depth to water readings

Notes:

 1 = Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

 2 = Stabilization criteria based on three most recent consecutive measurements.

Site Name: GW Lisk Project No.: 0346372



Monitoring Well:		MW-1SR		Area:			Hos	pital	
Date:		11/20/2017 S		Sampling Device:		Peristaltic Pump			
Sampling Personnel:		Tim Daniluk							
Weather Conditions:		28 degrees calm overcast							
Time:		17:38							
Total Depth (TI	$(0)^{1}$:			Screen Ler	igth (feet):				
Depth to Water (DTW):		8.99	Well Diameter (inches): 4						
Total Volume Purged (USG):): 1.75		Casing Ty	pe:		Open Well		
Average Purge	Rate:	200 ml/m	in	PID Heads):	0.1		
Tubing Type:		HDPE			Measuring Point: TOC				
Pump Intake (fe	eet below MP)	: 17		Color:	colo	rless	Odor:	no	one
Time:	DTW:		Temp	SpC	DO	pН	Turb	ORP	Flow
(min) Stabilization	(feet)	Comments:	(°C) +/-	(uS/cm ³) +/-	(mg/L) +/-	(std units) +/-	NTU +/-	mV +/-	(mL/min)
Criteria ²			3%	3%	10%	0.1 unit	$10\%^{3}$	10 mV	100-400
17:43	9.37		14.0	1377.0	0.84	8.07	17.10	-62.0	250
17:48	9.45		13.9	1375.0	0.76	8.04	18.70	-67.2	200
17:53	9.55		13.9	1378.0	0.72	8.01	18.60	-75.0	200
17:58	9.52		13.9	1623.0	0.66	7.69	17.90	-25.5	200
18:03	9.51		14.0	1708.0	0.74	7.47	3.95	5.9	200
18:08	9.53		14.1	1705.0	0.55	7.34	4.67	18.7	175
18:13									
				+					+
									+

Sampling Time:

14:10

<u>Sample ID:</u> GWL-H-MW-01SR(11202017)	<u>Analysis Requested:</u> 1 4-dioxane	<u>Filtered Y/N:</u> No	<u>Preservative:</u> Unpreserved	
	VOC	No	HCl	
	PFC	No	Trizma	

Additional Field Measurements

Notes: ¹ = Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

 2 = Stabilization criteria based on three most recent consecutive measurements.

Site Name:GW LiskProject No.:0346372



Monitoring Well: MW-4SR			Area:			Hos	pital		
Date:		11/20/2017		Sampling Device:		Peristaltic Pump			
Sampling Personnel:		Cal Payne						· ·	
Weather Condit		35, night							
Time:		18:56							
Total Depth (TI	$(0)^{1}$:	8.71		Screen Len	igth (feet):				
Depth to Water (DTW):		7.08		Well Diameter (inches): 4					
Total Volume Purged (USG):): 2.2		Casing Type: Steel					
Average Purge	Rate:	200		PID Heads):	0.5		
Tubing Type:		HDPE		Measuring Point: TOC					
Pump Intake (fe	et below MP)	: ~7.5		Color: Clear Odor: Nor			one		
Time:	DTW:		Temp	SpC	DO	pН	Turb	ORP	Flow
(min) Stabilization	(feet)	Comments:	(°C) +/-	(uS/cm ³) +/-	(mg/L) +/-	(std units) +/-	NTU +/-	mV +/-	(mL/min)
Criteria ²			3%	3%	10%	0.1 unit	$10\%^{3}$	10 mV	100-400
18:56	7.13		9.0	934.0	9.64	8.21	13.41	103.8;	250
19:01	7.14		10.2	890.0	8.05	7.61	7.30	111.4	225
19:06	7.14		10.2	890.0	8.10	7.51	5.00	116.9	225
19:11	7.15		10.2	890.0	7.48	7.47	5.05	121.1	225
19:16	7.16		10.2	892.0	8.07	7.47	3.94	124.0	225
19:21	7.15		10.2	892.0	8.03	7.46	3.32	127.1	225
19:26	7.15		10.1	892.0	8.02	7.46	2.88	129.9	225
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<u>Sampling Time:</u> 19:30 <u>Sample ID:</u> GWL-H-MW-4SR(11202017)

Analysis Requested: VOC PFC 1 4-dioxane

<u>Filtered Y/N:</u> No HCl Trizma

Additional Field Measurements

Notes:

 2 = Stabilization criteria based on three most recent consecutive measurements.

 $^{^{1}}$ = Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

SURFACE WATER / SEDIMENT FIELD SAMPLING RECORD

Project Name: <u>GW Lisk</u>	Project No.: <u>0346372</u>	Date: 10-May-17
Samplers Name(s): Tim Danil	ık	
Mike Fox		
SAMPLE IDENTIFICATION: GW	L-SW-01(05102017)	
Time of Collection: 1030		
Sample Type: Surface Wa	ater	
Sampling Method: SW via HDPE	tubing with peristaltic pump	
Description of Sample Location:	Sulpher Creek, upstream of GW I	lisk facility adjacent to parking area
Adjacent Sample Location(s)	: N/A	
Drainage Direction:	Stream flows south to north at sar	nple location
Upstream From:	GWL-SW-02(05102017)	
Downstream From:	N/A	
Wildlife Observed:	Birds, squirrels, insects	
Sampling Description: Sam	pled while wading in stream, down	stream of sample location
Suspended Matter:	Some organics	
Color/Strain:	Colorless	
Odor:	Organic	
Other:		
Texture:		
Preservative:	See COC.	
Analyze For:	VOC, SVOC, PCB, Pesticides, Me	tals, Hg, Cyanide, PFAS, 1,4 - Dioxane
Filtered/Unfiltered:	Unfiltered	
Field Tests:		
T (°C): <u>9.7</u> pH (su):	8.2 DO 12.06 Sp C. (μS/o	ccm ³): <u>543</u> ORP (mV): <u>51.6</u>
041 /		1.79
Weather: ± 52°F, partly cloudy	, calm	
Comments:		

SURFACE WATER / SEDIMENT FIELD SAMPLING RECORD

Project Name: <u>GW Lisk</u>	Project No.: <u>0346372</u>	Date: 10-May-17
Samplers Name(s): Tim Danilu	ık	
Mike Fox		
SAMPLE IDENTIFICATION: GWI	SW-02(05102017)	
Time of Collection: 1030		
Sample Type: Surface Wa	nter	
Sampling Method: SW via HDPE	tubing with peristaltic pump	
Description of Sample Location:	Sulpher Creek, downstream of GV	V Lisk facility
Adjacent Sample Location(s)	GWL-DUP-02(05102017	7)
Drainage Direction:	Stream flows southeast to northwe	est at sample location
Upstream From:	N/A	
Downstream From:	GWL-SW-01(05102017)	
Wildlife Observed:	Birds, insects	
Sampling Description: Sam	pled while wading in stream, downs	stream of sample location
Suspended Matter:	Some organics	
Color/Strain:	Colorless	
Odor:	Organic	
Other:		
Texture:		
Preservative:	See COC.	
Analyze For:		als, Hg, Cyanide, PFAS, 1,4 - Dioxane
Filtered/Unfiltered:	Unfiltered	
Field Tests:		
T (°C): 8.2 pH (su):	7.5 DO <u>13.22</u> Sp C. (μS/c	cm ³): <u>580.3</u> ORP (mV): <u>155.1</u>
		0.14
Weather: ± 52°F, partly cloudy,	calm	
Comments:		

SURFACE WATER / SEDIMENT FIELD SAMPLING RECORD

Project Name: GW Lisk	Project No.: 0346372	Date: 27-Jun-17
Samplers Name(s): Caldwell Pa	yne	
SAMPLE IDENTIFICATION: <u>GWL</u>	-SW-03(06272017)	
Time of Collection: 1006	_	
Sample Type: Surface Wa	er	
Sampling Method: SW via HDPE		
Description of Sample Location:	Sulpher Creek, upstream of GW	Lisk facility
Adjacent Sample Location(s):	N/A	
Drainage Direction:	Stream flows southwest to northe	east at sample location
Upstream From:	GWL-SW-02(05102017), GWL-DU	UP-02(05102017)
Downstream From:	GWL-SW-01(05102017)	
Wildlife Observed:	Birds, insects	
Sampling Description: Samp	led while wading in stream, down	nstream of sample location
Suspended Matter:	Some organics	
Color/Strain:	Colorless	
Odor:	Organic	
Other:		
Texture:		
Preservative:	See COC.	
Analyze For:	РСВ	
Filtered/Unfiltered:	Unfiltered	
Field Tests:		
T (°C): <u>14.9</u> pH (su): <u>7</u>	<u>41 DO 8.92</u> Sp C. (μS/	
		0.12
Weather: $\pm 60^{\circ}$ F, partly cloudy,	calm	
Comments:		

Appendix D VI Sub-Slab and Indoor Air Sampling Questionnaire



Site Name: G.W. Lisk Company, Inc.	Site Code: 835026 Operable Unit: 1
Building Code: Main Build	ling Name: Main Building
Address: 2 South Street	Apt/Suite No:
City: Clifton Springs State	: NY Zip: 14432 County: Ontario
Contact Information	
Preparer's Name: Tim Daniluk	Phone No: (315) 317-2044
Preparer's Affiliation: ERM	Company Code: ERM
Purpose of Investigation: VI Assessment	Date of Inspection: 5-8-17
Contact Name: Arno Bebernitz	Affiliation: MANAGER
Phone No: (315) 462-4255 Alt. Phone No:	Email: abebernitz@gwlisk.com
Number of Occupants (total):50+ Number of Child	en:0
C Occupant Interviewed?	wner Occupied? Owner Interviewed?
Owner Name (if different): G. W Lisk Company, Inc.	Owner Phone:
Owner Mailing Address:	
Building Details	
Bldg Type (Res/Com/Ind/Mixed): INDUSTRIAL	Bldg Size (S/M/L): LARGE
If Commercial or Industrial Facility, Select Operations: MANUFACTURING	If Residential Select Structure Type:
Number of Floors: _2 Approx. Year Construction:	1940 X Building Insulated? Attached Garage?
Describe Overall Building 'Tightness' and Airflows(e.g., results of	smoke tests):
Nurrage tightnood	
Average tightness Foundation Description	
Foundation Type: ABOVE GRADE	Foundation Depth (bgs): Unit: FEET
Foundation Floor Material: POURED CONCRETE	Foundation Floor Thickness: 8
Foundation Wall Material: CONCRETE BLOCK	Foundation Wall Thickness: Unit: INCHES
X Floor penetrations? Describe Floor Penetrations:	
Wall penetrations? Describe Wall Penetrations:	
Basement is: Basement is:	Sumps/Drains? Water In Sump?: N/A
Describe Foundation Condition (cracks, seepage, etc.) :	
Radon Mitigation System Installed?	DC Mitigation System Installed?
Heating/Cooling/Ventilation Systems	
Heating System: FORCED AIR Heat Fu	el Type: GAS Central A/C Present?
Vented Appliances	
Water Heater Fuel Type: GAS	Clothes Dryer Fuel Type:
Water Htr Vent Location: OUTSIDE	Dryer Vent Location:



New York State Department of Environmental Conservation

PRODUCT	INVENTORY
TRODUCT	

Building Name: Main Building

Bldg Code: Main

Date: 5/8/2017

Bldg Address: 2 South Street

Apt/Suite No:

Bldg City/State/Zip: Clifton Springs NY, 14432

Make and Model of PID: MiniRAE 3000

Date of Calibration: 5/8/2017

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
VI-02	Stoner Cleaner/Degreaser	12	U	1,1,1-trichloroethane, trichloroethene, Citrus Distillates, Petroleum distillates, ether propellant, hydrocarbon propellent		X
VI-02	Armor Dry 27		U	1,1,1-trichloroethane		$\overline{\times}$
VI-02	Autographs Activating Solvent		U	1,1,1-trichloroethane		X
VI-04	Trump Plus	12	U	1,1,1-trichlorethane, methylene chloride, zinc oxide, propane, N-butane, alyphatic hydrocarbon, napthenic distillate		X
General Use	CDC-10	32	U	water, diethylene glycol monobutyl ether, sodium tripolyphosphate, disodium cocampho dipropionatedialkyl dimethyl ammonium chloric		
Flammables R +	TCE drum	drum	U	trichloroethene		$\overline{\times}$
General Use	Clorox	19	U	ethanol, isobutane, propane, sodium nitrite, n-alkyl benzyl ammonium chloride, octyl decyl dimethyl ammonium chloride		
General Use	Dykem Remover and Prep	12	U	acetone, ethanol, n-propyl acetate, isopropyl alcohol		
General Use	Flux Remover	16	U	1,1,1,2,2,3,4,5,5,5-decafluoropentane, 1,2- transdichloroethylene, 1,1,1,2-tetrafluoroethane, ethanol, carbon dioxide		X
General Use	Orange Tough 15	32	U	triethanolamine dodecybenzene sulfonate, dipropylene glycol monobutyl ether, triethanolaminesoybean oil, methyl esters, d- 🖶		
General Use	Electro Contact Cleaner		U	ethane, 1,1,1,2-tetrafluoro-(hfc-134a),methyl nonafluorobutyl ether, perfluoro compounds, 1,2- trans dichloroethene, cyclohexylmethane,		
General Use	WD-40	7	U	alyphatix hydrocarbon, petroleum base oil, LVP alyphatic hydrocarbon, surfactant		
Degreaser	Acetone		U	acetone	0.7	
Degreaser	lso-propyl alcohol		U	lso-propyl alcohol	4.1	
Degreaser	n-propylbromide	7040	U	n-propylbromide	0.7	
Degreaser	Xylene	7040	U	xylene	4.19	

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? Yes

Were there any elevated PID readings taken on site? Yes



Site Name: G.W. Lisk Company, Inc. Site Code: 835026 Operable Unit	: 1
Building Code: Main Building Main Building	
Address: 2 South Street Apt/Suite No:	
City: Clifton Springs State: NY Zip: 14432 County: Onta:	rio
Factors Affecting Indoor Air Quailty	
Frequency Basement/Lowest Level is Occupied?: FULL TIME Floor Material: CEMENT	
Inhabited? HVAC System On? Bathroom Exhaust Fan? Kitchen Exhaust Fan?	haust Fan?
Alternate Heat Source: OTHER Is there smoking in the bu	lding?
Air Fresheners? Description/Location of Air Freshener:	
Cleaning Products Used Recently?: Description of Cleaning Products:	
Cosmetic Products Used Recently?: Description of Cosmetic Products:	
New Carpet or Furniture? Location of New Carpet/Furniture:	
Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics:	
Recent Painting/Staining? Location of New Painting:	
Solvent or Chemical Odors? Describe Odors (if any): organic	
X Do Any Occupants Use Solvents At Work? If So, List Solvents Used: acetone, iso-propyl alcohol	
Recent Pesticide/Rodenticide? Description of Last Use:	
Describe Any Household Activities (chemical use,/storage, unvented appliances, hobbies, etc.) That May Affect Indoor Air Chemical Use Degreasing Plating Waste Storage	Quality:
Any Prior Testing For Radon? If So, When?:	
Any Prior Testing For VOCs? If So, When?: 4/2016	
Sampling Conditions	
Weather Conditions: PARTLY CLOUDY Outdoor Temperature: 60	°F
Current Building Use: MANUFACTURING Barometric Pressure: 29.97	in(hg)
Product Inventory Complete? Yes 🗵 Building Questionnaire Completed?	



Building Code: Main Address: 2 South Street Clifton Springs, NY 14432									
Sampling Information									
Sampler Name(s):	Tim Daniluk, Mik	ce Fox	Sampler Comp	Dany Code: ERM					
Sample Collection Date	e: 5/9/2017		Date Samples	Sent To Lab:5/1	0/2017				
Sample Chain of Custo	dy Number:		Outdoor Air Sa	ample Location ID:	GWL-AA(050 😭				
SUMMA Canister II	nformation								
Sample ID:	GWL-VI-02-SS(05音	GWL-VI-02-I₽	GWL-VI-03-SF	GWL-VI-03-I	GWL-AA(0509 <mark></mark>				
Location Code:	VI-02-SS	VI-02-IA	VI-03-SS	VI-02-IA	GWL-AA				
Location Type:	SUBSLAB	FIRST FLOOR	SUBSLAB	FIRST FLOOR	OUTDOOR				
Canister ID:	766	939	1515	787	1709				
Regulator ID:	0292	0347	0589	0723	0811				
Matrix:	Subslab Soil Vap	Indoor Air	Subslab Soil	Indoor Air	Ambient Outd				
Sampling Method:	SUMMA AIR SAMPLII	SUMMA AIR SA	SUMMA AIR SA	SUMMA AIR SA	SUMMA AIR SA				
Sampling Area Info	0								
Slab Thickness (inches):	9		9						
Sub-Slab Material:	FILL		DIRT						
Sub-Slab Moisture:	DRY		DRY						
Seal Type:	MECHANICAL		MECHANICAL						
Seal Adequate?:	\times		\times						
Sample Times and	Vacuum Readings								
Sample Start Date/Time:	05/09/2017 12:	05/09/2017 📫	05/09/2017 📫	05/09/2017 📫	05/09/2017 🛔				
Vacuum Gauge Start:	-28.55	-29.35	-29.25	-29.21	-29.74				
Sample End Date/Time:	5/10/2017 12:15	05/10/2017 📫	05/10/2017 📫	05/09/2017 📫	05/10/2017 📫				
Vacuum Gauge End:	-6.52	-7.92	-11.53	-7.73	-9.07				
Sample Duration (hrs):	24	24	24	24	24				
Vacuum Gauge Unit:	in(hg)	in(hg)	in(hg)	in(hg)	in(hg)				
Sample QA/QC Rea	adings								
Vapor Port Purge:	\times		\times						
Purge PID Reading:	0.0		0.0						
Purge PID Unit:	ppm		ppm						
Tracer Test Pass:	\times		\times						
Sample start	and end times should	be entered using	a the followina forr	nat: MM/DD/YYY)	Y HH: MM				



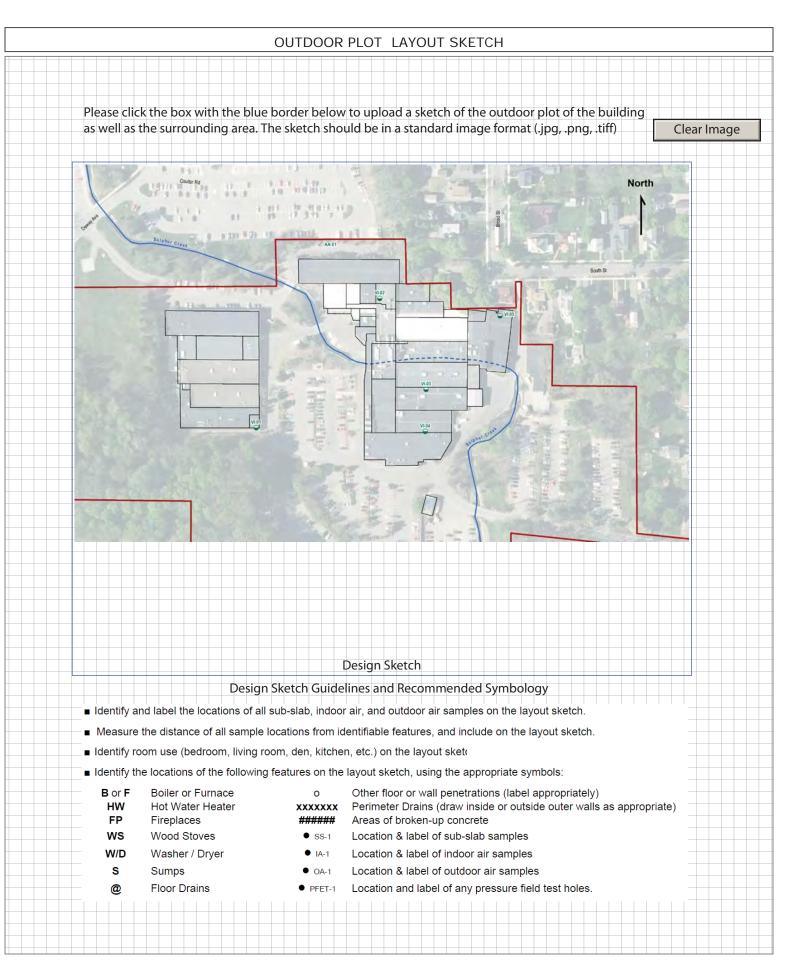
			LOWEST BUILD	DING LEVEL LAYOUT SKET	
				low to upload a sketch of the lo prmat (.jpg, .png, .tiff)	west building level . Clear Image
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				Design Sketch	
L		Des		lines and Recommended Symbo	
	 Identify a 			r air, and outdoor air samples on the	
				dentifiable features, and include on th	
				n, etc.) on the layout sket	
	-	•		layout sketch, using the appropriate	symbols.
	Bor F	Boiler or Furnace	0	Other floor or wall penetrations (lab	
+++	HW	Hot Water Heater	xxxxxxx	Perimeter Drains (draw inside or ou	
\square	FP	Fireplaces	######	Areas of broken-up concrete	
	WS W/D	Wood Stoves	• SS-1	Location & label of sub-slab sample	
+	W/D S	Washer / Dryer Sumps	 IA-1 OA-1 	Location & label of indoor air sampl Location & label of outdoor air sam	
	@	Floor Drains	PFET-1	Location and label of any pressure	



			ST FLOOR I	BUILDING LAYO	JISKEICH	
		click the box with the blu tch should be in a stand			h of the first floor of	the building. Clear Imag
	The ske	ten should be in a stand	aru image ioi	mat (.jpg, .png, .tm)		
_						
_						
				Design Sketch		
		Design	Sketch Guide	lines and Recommer	ded Symbology	
						+
		nd label the locations of all s				
	Measure	the distance of all sample lo	ocations from id	lentifiable features, and	include on the layout s	ketch.
	Identify ro	oom use (bedroom, living roo	om, den, kitche	n, etc.) on the layout sk	etc	
	 Identify the 	e locations of the following f	features on the	layout sketch, using the	e appropriate symbols:	
	B or F	Boiler or Furnace	0		etrations (label approp	
	HW	Hot Water Heater	XXXXXXX			er walls as appropriate)
	FP WS	Fireplaces Wood Stoves	###### ● ss-1	Areas of broken-up co Location & label of sul		
	W/D	Washer / Dryer	• 55-1 • IA-1	Location & label of ind		
	S	Sumps	• IA-1 • OA-1	Location & label of our		
	0	Floor Drains				
_			 PFET-1 	Location and label of a	any pressure field test l	noles



New York State Department of Environmental Conservation





Site Name: G.W. Lisk	Company, Inc.		Site Code:	835026	_ Operable Unit:1
Building Code: Main		_ Building Nam	e: Main Buil	ding	
Address: 2 South Stre	eet			Apt/Suite No	:
City: Clifton Springs	5	State: NY	Zip: 14432	County: 0:	ntario
Contact Information					
Preparer's Name:	aniluk			_ Phone No:	(315) 317-2044
Preparer's Affiliation: ERM	[Company Coc	le: ERM
Purpose of Investigation:	VI Assessment			Date of Inspe	ection: 5-8-17
Contact Name: Arno Be	bernitz			Affiliation:	MANAGER
Phone No: (315) 462-	4255 Alt. Phone	No:		_ Email:ab	ebernitz@gwlisk.com_
Number of Occupants (total)	: 50+ Number of	Children: 0			
Occupant Interviewed?		🔀 Owner Occ	cupied?		Owner Interviewed?
Owner Name (if different):	G. W Lisk Company, 1	Inc.		Owner Phone	:
Owner Mailing Address:					
Building Details					
Bldg Type (Res/Com/Ind/Mix	ed): INDUSTRIAL			Bldg Size (S/N	M/L): LARGE
If Commercial or Industrial Fa	acility, Select Operations:		If Residential Sel	ect Structure T	ype:
Number of Floors: 2	Approx. Year Constructio	on: 1940	🔄 🖂 Buildir	ng Insulated?	Attached Garage?
Describe Overall Building 'Tig	ghtness' and Airflows(e.g., res	ults of smoke te	ests):		
Average tightness					
Foundation Description	n				
Foundation Type: ABOV	VE GRADE		Foundation Dept	h (bgs):	Unit: FEET
Foundation Floor Material:	POURED CONCRETE		Foundation Floor	Thickness:	
Foundation Wall Material:	CONCRETE BLOCK		Foundation Wall	Thickness:	Unit: INCHES
Floor penetrations? D	escribe Floor Penetrations:				
Wall penetrations?	escribe Wall Penetrations:				
Basement is:	Basement is:		Sump	s/Drains? Wa	ater In Sump?: N/A
Describe Foundation Conditi	ion (cracks, seepage, etc.):				
Radon Mitigation System	ו Installed?	VOC Mitiga	ntion System Instal	led?	Mitigation System On?
Heating/Cooling/Vent	ilation Systems				
Heating System: FORCE	ED AIR H	leat Fuel Type:	GAS		X Central A/C Present?
Vented Appliances					
Water Heater Fuel Type:	GAS	(Clothes Dryer Fuel	Туре:	
Water Htr Vent Location:	OUTSIDE		Dryer Vent Locatio	n:	



New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: Main Building

Bldg Code: Main

Date: 5/8/2017

Bldg Address: 2 South Street

Apt/Suite No:

Bldg City/State/Zip: Clifton Springs NY, 14432

Make and Model of PID: MiniRAE 3000

Date of Calibration: 5/8/2017

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
VI-02	Stoner Cleaner/Degreaser	12	U	1,1,1-trichloroethane, trichloroethene, Citrus Distillates, Petroleum distillates, ether propellant, hydrocarbon propellent		X
VI-02	Armor Dry 27		U	1,1,1-trichloroethane		X
VI-02	Autographs Activating Solvent		U	1,1,1-trichloroethane		X
VI-04	Trump Plus	12	U	1,1,1-trichlorethane, methylene chloride, zinc oxide, propane, N-butane, alyphatic hydrocarbon, napthenic distillate		X
General Use	CDC-10	32	U	water, diethylene glycol monobutyl ether, sodium tripolyphosphate, disodium cocampho dipropionatedialkyl dimethyl ammonium chloric		
Flammables R	TCE drum	drum	U	trichloroethene		X
General Use	Clorox	19	U	ethanol, isobutane, propane, sodium nitrite, n-alkyl benzyl ammonium chloride, octyl decyl dimethyl ammonium chloride		
General Use	Dykem Remover and Prep	12	U	acetone, ethanol, n-propyl acetate, isopropyl alcohol		
General Use	Flux Remover	16	U	1,1,1,2,2,3,4,5,5,5-decafluoropentane, 1,2- transdichloroethylene, 1,1,1,2-tetrafluoroethane, ethanol, carbon dioxide		X
General Use	Orange Tough 15	32	U	triethanolamine dodecybenzene sulfonate, dipropylene glycol monobutyl ether, triethanolaminesoybean oil, methyl esters, d- 🖶		
General Use	Electro Contact Cleaner		U	ethane, 1,1,1,2-tetrafluoro-(hfc-134a),methyl nonafluorobutyl ether, perfluoro compounds, 1,2- trans dichloroethene, cyclohexylmethane,		
General Use	WD-40	7	U	alyphatix hydrocarbon, petroleum base oil, LVP alyphatic hydrocarbon, surfactant		
Degreaser	Acetone		U	acetone	0.7	
Degreaser	lso-propyl alcohol		U	lso-propyl alcohol	4.1	
Degreaser	n-propylbromide	7040	U	n-propylbromide	0.7	
Degreaser	Xylene	7040	U	xylene	4.19	

* Describe the condition of the product containers as Unopened (UO), Used (U), or Deteriorated (D)

** Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? Yes

Were there any elevated PID readings taken on site? Yes



Site Name: G.W. Lisk Company, Inc. Site Code: 835026 Operable Unit: 1
Building Code: Main Building Mame: Main Building
Address: 2 South Street Apt/Suite No:
City: Clifton Springs State: NY Zip: 14432 County: Ontario
Factors Affecting Indoor Air Quailty
Frequency Basement/Lowest Level is Occupied?: FULL TIME Floor Material: CEMENT
Inhabited? HVAC System On? Bathroom Exhaust Fan? Kitchen Exhaust Fan?
Alternate Heat Source: OTHER Is there smoking in the building?
Air Fresheners? Description/Location of Air Freshener:
Cleaning Products Used Recently?: Description of Cleaning Products:
Cosmetic Products Used Recently?: Description of Cosmetic Products:
New Carpet or Furniture? Location of New Carpet/Furniture:
Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics:
Recent Painting/Staining? Location of New Painting:
X Solvent or Chemical Odors? Describe Odors (if any): organic
X Do Any Occupants Use Solvents At Work? If So, List Solvents Used: acetone, iso-propyl alcohol
Recent Pesticide/Rodenticide? Description of Last Use:
Describe Any Household Activities (chemical use,/storage, unvented appliances, hobbies, etc.) That May Affect Indoor Air Quality: Chemical Use Degreasing Plating Waste Storage
Any Prior Testing For Radon? If So, When?: X Any Prior Testing For VOCs? If So, When?: 4/2016
Sampling Conditions
Weather Conditions: PARTLY CLOUDY Outdoor Temperature: 60 °F
Current Building Use: MANUFACTURING Barometric Pressure: 29.97 in(hg)
Product Inventory Complete? Yes 🗵 Building Questionnaire Completed?



Building Code: Main Address: 2 South Street Clifton Springs, NY 14432										
Sampling Information										
Sampler Name(s):	Tim Daniluk, Mił	ce Fox	Sampler Com	Dany Code: ERM						
Sample Collection Date	e: 5/9/2017		Date Samples	Sent To Lab:5/1	0/2017					
Sample Chain of Custo	dy Number:		Outdoor Air Sa	ample Location ID:	GWL-AA(050 😭					
SUMMA Canister II	SUMMA Canister Information									
Sample ID:	GWL-VI-04-SS(05₽	GWL-VI-DUP(GWL-VI-05-S	GWL-VI-05-I	GWL-AA(0509 					
Location Code:	VI-04-SS	VI-DUP	VI-05-SS	VI-05-IA	GWL-AA					
Location Type:	SUBSLAB	FIRST FLOOR	SUBSLAB	FIRST FLOOR	OUTDOOR					
Canister ID:	2253	1848	1863	987	1709					
Regulator ID:	0237	0341	0203	0249	0811					
Matrix:	Subslab Soil Vap	Indoor Air	Subslab Soil	Indoor Air	Ambient Outd					
Sampling Method:	SUMMA AIR SAMPLII	SUMMA AIR SA	SUMMA AIR SA	SUMMA AIR SA	SUMMA AIR SA					
Sampling Area Inf	0									
Slab Thickness (inches):	9		9							
Sub-Slab Material:	FILL		DIRT							
Sub-Slab Moisture:	DRY		DRY							
Seal Type:	MECHANICAL		MECHANICAL							
Seal Adequate?:	\times		\times							
Sample Times and	Vacuum Readings									
Sample Start Date/Time:	05/09/2017 12:	05/09/2017 📫	05/09/2017 📫	05/09/2017 📫	05/09/2017 🛔					
Vacuum Gauge Start:	-29.97	-29.54	-29.85	-29.04	-29.74					
Sample End Date/Time:	5/10/2017 12:30	05/10/2017 📫	05/10/2017 📫	05/09/2017	05/10/2017 🛔					
Vacuum Gauge End:	-8.62	-7.73	-8.52	-0.14	-9.07					
Sample Duration (hrs):	24	24	24	24	24					
Vacuum Gauge Unit:	in(hg)	in(hg)	in(hg)	in(hg)	in(hg)					
Sample QA/QC Rea	adings									
Vapor Port Purge:	$\left \times \right $		\times							
Purge PID Reading:	0.0		0.0							
Purge PID Unit:	ppm		ppm							
Tracer Test Pass:	$\left \times \right $		\times							
Sample start	and end times should	be entered usinc	the followina forr	nat: MM/DD/YYY)	(HH: MM					



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			lentifiable features, and include on the layout sketch.
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			layout sketch, using the appropriate symbols:
B or F	Boiler or Furnace	0	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	XXXXXXX	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	######	Areas of broken-up concrete
WS W/D	Wood Stoves Washer / Dryer	 SS-1 IA-1 	Location & label of sub-slab samples
-	Sumps	• OA-1	Location & label of outdoor air samples
S			
s @	Floor Drains	PFET-1	Location and label of any pressure field test holes.
	Floor Drains	PFET-1	Location and label of any pressure field test holes.



		FI	RST FLOOR	BUILDING LAYOU	JT SKETCH		
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	FP	Fireplaces	#######	Areas of broken-up co			
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	W/D	Washer / Dryer	• IA-1	Location & label of ind			
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	@	Floor Drains	PFET-1	Location and label of a	any pressure field test hol	es,	
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		OUTDOOR	PLOT LAYOUT SKETCH	
			to upload a sketch of the outdoor plot of the building uld be in a standard image format (.jpg, .png, .tiff)	r Image
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			lentifiable features, and include on the layout sketch.	
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 Identify t 	he locations of the following	g features on the	layout sketch, using the appropriate symbols:	
B or F	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)	
HW	Hot Water Heater Fireplaces	XXXXXXX #######	Perimeter Drains (draw inside or outside outer walls as appropriate) Areas of broken-up concrete	
ws	Wood Stoves	• SS-1	Location & label of sub-slab samples	
W/D	Washer / Dryer	• IA-1	Location & label of indoor air samples	
S	Sumps Floor Drains	• OA-1	Location & label of outdoor air samples	
@	FIGORITISING	PFET-1	Location and label of any pressure field test holes.	



New York State Department of Environmental Conservation

Site Name: GW Lisk	Site Code: 835026 Operable Unit: 02
Building Code: HB Building	gName: Hundreds Building
Address: 2 South Street	Apt/Suite No:
City: Clifton Springs State: N	TY Zip: 14432 County: Ontario
Contact Information	
Preparer's Name: Michael Fox	Phone No: (315) 481–9566
Preparer's Affiliation: ERM Consulting and Engineering	G Company Code: ERM
Purpose of Investigation: SV sampling / Site Characte	Date of Inspection: May 8, 2017
Contact Name: Arno Bebernitz	Affiliation: MANAGER
Phone No: (315) 462-4255 Alt. Phone No:	Email: Abebernitz@gwlisk.com
Number of Occupants (total): <u>30</u> Number of Children:	N/A
Cccupant Interviewed?	her Occupied?
Owner Name (if different):	Owner Phone:
Owner Mailing Address:	
Building Details	
Bldg Type (Res/Com/Ind/Mixed): INDUSTRIAL	Bldg Size (S/M/L): LARGE
If Commercial or Industrial Facility, Select Operations: MANUFACTURING	If Residential Select Structure Type:
Number of Floors: <u>1</u> Approx. Year Construction: <u>1</u>	Building Insulated? Attached Garage?
Describe Overall Building 'Tightness' and Airflows(e.g., results of sm	oke tests):
Tight	
Foundation Description	
Foundation Type: ABOVE GRADE	Foundation Depth (bgs): Unit: FEET
Foundation Floor Material: POURED CONCRETE	Foundation Floor Thickness:
Foundation Wall Material: CONCRETE BLOCK	Foundation Wall Thickness: Unit: INCHES
Floor penetrations? Describe Floor Penetrations:	
Wall penetrations? Describe Wall Penetrations:	
Basement is: Basement is:	Sumps/Drains? Water In Sump?:
Describe Foundation Condition (cracks, seepage, etc.) :	Whole
☐ Radon Mitigation System Installed? ☐ VOC	Mitigation System Installed?
Heating/Cooling/Ventilation Systems	
Heating System: NONE Heat Fuel 7	Type: ELECTRIC Central A/C Present?
Vented Appliances	
Water Heater Fuel Type:	Clothes Dryer Fuel Type:
Water Htr Vent Location:	Dryer Vent Location:



New York State Department of Environmental Conservation

PRODUCT INVENTORY										
Building Name: Hundreds Building	Bldg Code: HB	Date: May 8, 2017								
Bldg Address: 2 South Street		Apt/Suite No:								
Bldg City/State/Zip: Clifton Springs NY, 14432										
Make and Model of PID: MiniRae 3000		Date of Calibration: May 8, 2017								

Location	on Product Name/Description		Condition *	Chemical Ingredients	PID Reading	COC Y/N?
Cafeteria	Oil Eater	32	U	2-butoxyethanol, sodium metasilicate	1.9	
Cafeteria	Lysol	12.5	U	ethanol, isopropyl alcohol, o-phenylphenol	1.9	
Cafeteria	Clorox	32	U	sodium hypochlorite, sodium chloride, sodium carbonate, sodium hydroxide	2.0	
Cafeteria	Fast and Easy	32	U	propylene glycol n-propyl ether	1.9	

* Describe the condition of the product containers as Unopened (UO), Used (U), or Deteriorated (D)

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? Yes

Were there any elevated PID readings taken on site? Yes



Site Name: GW Lisk	Site Code: 83	5026 Op	erable Unit:	02
Building Code: HB Building Name:	Hundreds Bu	ilding		
Address: 2 South Street		Apt/Suite No):	
City: Clifton Springs State: NY	Z Zip: 14432	Count	y: Ontari	.0
Factors Affecting Indoor Air Quailty				
Frequency Basement/Lowest Level is Occupied?: FULL TIME	Floor Materia	I: CEMENT		
⊠ Inhabited? ⊠ HVAC System On? ⊡ Bath	room Exhaust Far	n?	Kitchen Exha	aust Fan?
Alternate Heat Source: OTHER		Is there smokir	ig in the build	ling?
Air Fresheners? Description/Location of Air Freshener:				
⊠ Cleaning Products Used Recently?: Description of Cleaning Products:	lysol, clo	rox		
Cosmetic Products Used Recently?: Description of Cosmetic Products				
New Carpet or Furniture? Location of New Carpet/Furniture:				
Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics:				
Recent Painting/Staining? Location of New Painting:				
Solvent or Chemical Odors? Describe Odors (if any): nail polis	n			
Do Any Occupants Use Solvents At Work? If So, List Solvents Used:				
Recent Pesticide/Rodenticide? Description of Last Use:				
Describe Any Household Activities (chemical use,/storage, unvented applian kitchen/cafeteria cleaning products use and storag) That May Affec	t Indoor Air Q	uality:
Any Prior Testing For Radon? If So, When?:				
Any Prior Testing For VOCs? If So, When?: 4/2016				
Sampling Conditions				
Weather Conditions: PARTLY CLOUDY Out	door Temperatur	e: 60		°F
Current Building Use: MANUFACTURING Bar	ometric Pressure:	29.97		in(hg)
Product Inventory Complete? Yes 🛛 🖾 Building Questionnaire	Completed?			



Building Code: HB	Ac	dress: 2 South	Street Clifton	Springs , NY 14	1432							
Sampling Informa	tion											
Sampler Name(s): Tim Daniluk / Mike Fox Sampler Company Code: ERM												
Sample Collection Date	e: May 9, 2017		Date Samples	Sent To Lab: <u>May</u>	7 10, 2017							
Sample Chain of Custo	dy Number:		Outdoor Air Sa	ample Location ID:	GWL-AA(050 🙀							
SUMMA Canister I	SUMMA Canister Information											
Sample ID:	GWL-VI-01-IA(05	GWL-VI-01-Sf	GWL-AA(0509									
Location Code:												
Location Type:	FIRST FLOOR	SUBSLAB	OUTDOOR									
Canister ID:	625	656	1709									
Regulator ID:	0699	0285	0811									
Matrix:	Indoor Air	Subslab Soil	Ambient Outd									
Sampling Method:	SUMMA AIR SAMPLII	SUMMA AIR SA	SUMMA AIR SA									
Sampling Area Inf	ō											
Slab Thickness (inches):		9 "										
Sub-Slab Material:		FILL										
Sub-Slab Moisture:		DRY										
Seal Type:		MECHANICAL										
Seal Adequate?:		X										
Sample Times and	Vacuum Readings											
Sample Start Date/Time:	05/09/2017 13:	05/09/2017 📫	05/09/2017 💼									
Vacuum Gauge Start:	-29.14	-29.48	-29.74									
Sample End Date/Time:	05/10/2017 13:	05/10/2017 📫	05/10/2017									
Vacuum Gauge End:	-9.05	-0.0	-4.07									
Sample Duration (hrs):	24	24	24									
Vacuum Gauge Unit:	in(hg)	in(hg)	in(hg)									
Sample QA/QC Re	adings											
Vapor Port Purge:		\times										
Purge PID Reading:		0.0										
Purge PID Unit:		ppm										
Tracer Test Pass:		X										
Sample start	and end times should	be entered usina	the following form	nat: MM/DD/YYY	Y HH: MM							



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		OUTDOOR	PLOT LAYOUT SKETCH	
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			lentifiable features, and include on the layout sketch.	
Identify r	oom use (bedroom, living r	oom, den, kitche	n, etc.) on the layout sket	
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B or F	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)	
HW	Hot Water Heater Fireplaces	XXXXXXX #######	Perimeter Drains (draw inside or outside outer walls as appropriate) Areas of broken-up concrete	
ws	Wood Stoves	• SS-1	Location & label of sub-slab samples	
W/D	Washer / Dryer	• IA-1	Location & label of indoor air samples	
S	Sumps Floor Drains	• OA-1	Location & label of outdoor air samples	
@	FIGOR LIPPING	PFET-1	Location and label of any pressure field test holes.	

Appendix E IDW Disposal Documentation

				(10 - hereiter)		13	76	62			Form	Approved.	OMB No. 20	160-0039
t	UNIFO	RM HAZARDOUS	1. Generator ID Num		-	2. Page 1 of	Rapic	tency Response Response Inc.	Phone	4. Manifest T	rackins Nu	inber	5 JJ	
11		TE MANIFEST alor's Name and Mail in		2217834			Generate	160-1038 Ir's Site Address (i diferent the			040	0.00	
11	5, 04inti	G.W. Lisk Corr	pany, Inc.											
		2 South Street Clifton Springs	, NY 14432											- 1
	General		5-462-4211				_			U.S. EPAID N	unter			
Ш	d. Trans	Porter 1 Company Nan Environmental	waste Minimia	ation, Inc.							PA	R00050	01577	
	7. Tosta	water 2 Company Nat	-							U.S. EPAIDN	umber	71110	70-	
		How	ith The	KS Inc	_					U.S. EPAID N		7148	18	
	8. Desig	Envirite of Per								GIAL EPHICIN				- 1
H		730 Vogelson York, PA 1740	g Road 4-1725							1	PA	D01015	4045	
н		9 US DOT Desote	846-1900 ton Enduding Proper S	hipping Name, Hazard O	lass, 1D Number		-	10. Contain	965	et, Total	12. Ukit	13	Waste Codes	
Н	9a H₩	and Packing Group (/						No.	Туре	Quantity	W1.746L			
GENERATOR -		Non-Hazarde Regulated	ous Liquids (P	urgewater) DO	D/RCRA N	lon-		008	DM	03200	P			
)Ë	H	Non Ussard	oue Solide (Pl	PE/Debris) DOT	RCRA N	ion-	_							
١ĕ	11	Regulated	oga Gobus (r i	Enocomy pro-		- Chi		002	M	0245	p		11	
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11	1													
H	14, 50	icial Handling Instructi	ons and Additional Los	mm # D238624			-				1125	59		
		1) Annenal I	- A183530EPA	ERG# NON-H	AZARDOU	S PURGE	WATE	R						
11		2.) Approval #	A183541EPA	ERG# DECON	PPPPSM	PLING DR	- HRIS				T-	155		
Ш	15. 0	ENERATOR'S OFFER	OR'S CERTIFICATIO	the 1 house developed the bit	the production of the	the second second	et any failer	and providely the	ecribed abov	e by the proper st	spoing name	e, and are d	assilied, pade	aged,
н	i n	variood and labeledlipled	carded, and are in all in	repects in proper concisio	n for transport a	coording to ap and FPS Actors	pecable intra	en of Consent.	sonal govern	Serve requirers	. H BOCOCH: B	inprimit mito		-,
11	1	certify that the waste m	inimization statement	contified in 40 CFR 282.3	(7(a) (fienaid	arge quantity p	enerator) : Sgnatutg-	sr (b) (riam a sm	el quarthy g	eneratge) is bue.			orith Dey	Year
П	Genera	DAD	BEBERRN	172		Ť		mo	B	hut			212	118
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8	5 17. Te		ent of Receipt of Matar	tals			Signalurg	1011				M	onth Day	Year
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R	18b. A	iternale Facility (or Ge	everalior)							U.S. EPAID	NUMDER			
VIII II VIII	2									1				
		y's Phone: Ignature of Alternale P	acility (or Generator)								_		Month De	ly Year
1											_	_		_
APPLICATION OF	19. H	azardous Waste Repor	t Management Method	Codes (i.e., codes for ha	zardova wasle t	reatment, citsp	ceal, and r	ecycling systems		4				
1	5 1.	LIB		1 HIL	1									
	20. D	asignated Facility Own	er ar Operator: Certific	ation of receipt of hazards	ous materials co	wared by the m	ngnifest ex	cept as noted in h	en 18a				11-12 F	the Proof
		diTyped Nam	anda	Didnar	1		Signature	Ama	da	hude	2	í.	AT Z	2118
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	FORM HAZARDOUS 1. Generator ID Number			2. Page 1 of	 Emergency Response Phone Rapid Response Inc. 			4. Kanifest T	017925456 JJK			
	WASTE MAMIFEST	NYD0022178	34	1	877-4	60-1038				545	OUN	
5.0	erstor's Name and Moling Address (If different than maling address) G.W. Lisk Company, Inc. 2 South Street Clifton Springs, NY 14432											
Generator's Phone 315-462-4211										A D Number		
6. Transporter 1 Company Name Environmental Was to Minimization, Inc.									PAR000501577			
U.S. EPA D Numb											MO	
Herwith Treas Inc									PAD/467/4878			
	espetud Facility Haine and Sta Address EQ Detroit, Inc. 1923 Prederick St. Detroit, M 48211							L	MID980991566			
	0. U.S. 207 D-164	by's Phone: 313-923-0()R0 90. U.S. DOT Description (including Proper Shipping Name, Hazard Cless, ID Number, 40. Containers							11. Total 12. Unit 13. Weste Codes			
R	and Bashing Course (F)					No.	Type	Quantity	W1/Vol	<u> </u>		
GENERATOR -	¹ Non-Hazardo Regulated	ous Solids (Soli Cutti	ngs) DOT/RCRA	Non		0'Z0	DM	010400	ρ	029L		
- GENER	2.											
I	3.											
	4.											
14. Special Handling Instructions and Additio Didlameters # D238625									112559			
	1.) Approval #: A189198DET ; ERG # NON-HAZARDOUS SOIL CUTTINGS T-15										155	
ΗL	NVSDEC Sik # 835026 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the contains of this consignment are fully and accurately described above by the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the contains of this consignment are fully and accurately described above by the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the contains of this consignment are fully and accurately described above by the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the contains of this consignment are fully and accurately described above by the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the contains of this consignment are fully and accurately described above by the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the contains of this consignment are fully and accurately described above by the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the contains of the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the contains of the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the contains of the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the contains of the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the contains of the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the proper shoping name, and are classified, package 15. GENERATOR SIGFFEROR'S CERTIFICATION: I hereby declare that the proper shopi										esilied, packaged.	
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FACILITY								1				
	Facility's Phone: New Survey of Alternation	ad ty (or Generator)									Month Day Yes	
MIE	18c. Signature of Atlamate Facility (or Generator)											
DESIGNATED	19. Hazardous Waste Repo	n Management Method Codes (k	e., codes for hezerdoue west	te treatment, dis	posal, and	recycling system	4)					
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